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MAGAZINE

The cover image shows three soldiers in camouflage uniforms and caps, equipped with large green backpacks and rifles, in a field of tall, dry grass. One soldier in the foreground is kneeling and aiming a rifle. Another soldier is kneeling in the middle ground, and a third is standing in the background. The scene is brightly lit, suggesting a sunny day.

Battlefield Airman School

The Battle-Ready F-22
The Fall of Lima Site 85
Schwalier's Second Sacking
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By Robert S. Dudney, Editor in Chief

Faith No More?

WASHINGTON, D.C., MARCH 17, 2006

IN 1995, various federal budgeteers advanced the novel idea that government-sponsored health care for service retirees was nothing more than a "contingent benefit"—in other words, it was a privilege, and not a right. We remember their words today mostly as an example of shocking ignorance.

Ninety percent of military retirees insisted they had been promised these benefits, and they papered Capitol Hill with their complaints. Chastened officials repudiated the budgeteers and accepted "the promise" as valid. Elderly retirees were by law given access to the Pentagon's Tricare medical system and related benefits. The system itself was expanded.

Yet questions persisted. Was this care supposed to be "free," "low-cost," or what? Should the country's liability be limited? Eleven years on, some officials still argue about this.

In a Feb. 6 statement, William Winkenwerder Jr., the assistant secretary of defense for health affairs, raised alarms about rising cost. In 1995, health care consumed five percent of DOD's budget; now, it's eight percent, and, unless something is done, the figure in 2015 could top 12 percent. Winkenwerder called this "unsustainable growth."

A senior official who is always ready to deliver a jab is David S.C. Chu, the undersecretary of defense for personnel and readiness, who famously declared of retiree and veteran benefits, "They are taking away from the nation's ability to defend itself."

Pentagon chief Donald H. Rumsfeld told Congress retiree care must change "because it's an enormous amount of money." That prompted a riposte from Stephen P. Condon, AFA's Chairman of the Board. "We appreciate that the Administration is attempting to make the best out of a tough fiscal situation," he said on Feb. 22, "but the budget must not be balanced on the backs of veterans."

That shouldn't happen—but it might. The Bush Administration's approach to fixing these problems, as laid out in the Fiscal 2007 budget, paints the bull's-eye on retirees. DOD would sharply raise Tricare enrollment fees—doubling or tripling some—as well as co-pay-

ments for retirees under age 65. This is supposed to yield savings of \$32 billion over 10 years, but it could anger a great many of the three million affected retirees and dependents.

"You're about to take your best recruiters and turn them into your worst nightmare," Rep. Gene Taylor (D-Miss.) warned senior defense officials at a recent House Armed Services Committee session.

Indeed, it was not that long ago that the Pentagon's penchant for bean-counting and sharp practice nearly de-

The strong bond of trust that retired service members thought they had regained is in danger of unraveling.

stroyed the faith which military people had always placed in the nation they served. Much good has happened in recent years, but the strong bond of trust that retired service members thought they had regained is in danger of unraveling.

There are some 2.1 million military retirees and survivor benefit recipients and another six to eight million dependents. If the fee increases are imposed, and many retirees revolt, it will be because Washington lost sight of some important truths. Here are some friendly reminders:

- Paying for retiree care is not a favor, but an obligation. It is unfortunate that costs have turned out to be so high, but that is not the fault of retirees. What if someone bought a car and then his gas, insurance, and repairs became more expensive than he expected? Isn't he, nevertheless, obligated to pay all of his bills?

- It is unseemly to declare (as many in the Pentagon do) that spending on retiree care drains money away from vital weapons and threatens national defense. That would be true only if the Bush Administration accepted an arbitrary ceiling on DOD spending. The remedy for a shortage of money for vali-

dated needs is to obtain more money, which the US easily could provide. As Condon pointed out, current defense spending consumes only four percent of the nation's GDP, a burden that is low by historic US standards.

- Costs must be viewed in context. Yes, spending on military health care has doubled over the past five years, and may rise (as DOD warns) from \$38 billion to \$64 billion in 10 years. That is a lot of money. Yet Americans spend nearly twice that much (\$116 billion) each year just on alcoholic beverages. Surely, paying what is required to honor a solemn promise to retirees should not be considered excessive.

- Brig. Gen. Elder Granger, a top DOD medical official, makes much of the fact that retirees in 1995 paid 27 percent of their own medical costs and today pay only 12 percent, largely because benefits have grown while fees have not changed. Yet the promise was for "free" treatment. The problem is not that retirees pay too little for care, but that they pay as much as they do.

- Much of DOD's expenditure increase stems from Tricare For Life, the program for 65-and-over retirees, but all of the new Tricare fee increases apply only to younger beneficiaries, mostly in their forties and fifties. Congress knew TFL would be a high-cost program. It is not fair and equitable to finance the program with fees extracted from under-65 retirees.

- Is the Pentagon not embarrassed that it is trying to hit up retirees for money before all Americans have been asked to make a sacrifice? If DOD is really worried about a pinch on funds, Rumsfeld should go to the White House and demand a higher budget and send it to Congress. When has Capitol Hill ever balked on a matter of importance to the uniformed military?

Let us stipulate that Rumsfeld has a very tough job to do. However, it does no one any good to pit retired military personnel who served honorably against those who now wear the uniform.

In the past, lawmakers have rejected similar efforts. They should do so again. Killing the pet projects of senior Pentagon leaders is difficult business. Congress should get on with it. ■



I am EADS

My name is Valerie Manning. I am Director of Strategy and Analysis at EADS North America. Armed with a Stanford doctorate in Aeronautics and Astronautics, I prepare EADS to participate and cooperate in the U.S. defense and advanced technology arenas. My focus is on developing and executing strategic opportunities for EADS capabilities to enhance U.S. military programs through growth and partnership. I am an international competitor in track and field. I take challenges in stride. I am a major in the U.S. Air Force Reserves. I am EADS North America.

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Behind the Numbers

The editorial in the February 2006 issue ["What It Means To Be No. 1," p. 2] quotes Secretary of Defense Donald Rumsfeld as saying the US is No. 1 in military spending and the next 15 nations combined do not spend as much as the US. I would suspect if those other countries, especially China, paid their troops as well as we do and supported a large military retiree population, the numbers would look a lot different. We can bet Defense Secretary Rumsfeld will use those numbers to justify further cuts in our military spending. As it is, 40,000 troops will be cut from the Air Force over the next six years. There is a limit to "Doing More With Less."

Col. Don Hengesh,
Michigan ANG (Ret.)
Petoskey, Mich.

No Escape

I am responding to your recent "Aerospace World" item about TSgt. Patrick Shannon ("Airman MIA From Vietnam War Identified," February issue, p. 22.) You wrote, "The others had attempted to escape down the mountain." No one tried to climb down the side of that cliff. Most of those killed were killed as they came running out of the radar van where they were on duty running a mission. The other crew was off duty and, since the bunker had been blown up earlier in the evening, they sought refuge in a trench in the cliff on the side away from the direction of the incoming fire. The trench was reachable by a short piece of cargo net which was used as a ladder. They could have not gone any farther. It is time this myth is put to rest.

Lt. Col. Gerald Clayton,
USAF (Ret.)
Parrish, Fla.

■ Colonel Clayton, who commanded the unit at Lima Site 85, is 100 percent correct; we goofed. The error stemmed from a misreading of an unclear Pentagon news release regarding the identification of Shannon's body. We regret the mistake.—THE EDITORS

Bleeding Blue

I was both amazed and pleased to read in the February issue (see "Washington Watch: Bleeding Blue," p. 16) Air Force Secretary Michael W. Wynne's comments

about supportability of F-35 aircraft. He mentions the removal and replacement of aircraft components that will be repaired at the manufacturer. That indicates that the military, or at least the Air Force, is moving away from the mandatory air logistics center repairs.

As a former logistics group commander, all I can say is, "It's about time." When the Air Force decentralized operating budgets to base level in the mid-80s, it made the repair costs of aircraft components obvious to all aircraft maintainers. In the support of the F100 Pratt & Whitney engine found in both F-15 and F-16 aircraft, we found the fuel control to be a high failure item, and its mean time between failure was about 90 days with a replacement cost of approximately \$85,000. This negatively affected our daily spend rate, and as a taxpayer, too, I felt it my responsibility to do something about it. Through channels, I was able to ship one fuel control directly back to the manufacturer for repair. They did it, at a cost of less than \$8,000, with a one-year warranty. To my knowledge, the Air Force never came up with a legal avenue to pay the bill, and that fuel control is probably on a pedestal somewhere in the manufacturer's trophy case.

My point is, things do improve over time, and I am glad to see we are spending our military budgets wisely and are not so reliant on the depot-level repair facilities.

Lt. Col. Richard P. Norton,
USAF/Oregon ANG (Ret.)
Eugene, Oregon

Warts and All: Too Risky?

The usual thoroughness of your articles was highlighted in the article

Do you have a comment about a current article in the magazine? Write to "Letters," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. (E-mail: letters@afa.org.) Letters should be concise and timely. We cannot acknowledge receipt of letters. We reserve the right to condense letters. Letters without name and city/base and state are not acceptable. Photographs cannot be used or returned.—THE EDITORS

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"Flight-Test Worries," February, [p. 56]. In fact, the article may have been too thorough.

Describing our inability to properly test weapon systems may be helpful to our enemies, who may decide to wait us out in hopes that our weapons will have problems due to lack of testing that will not be known until put to use and, therefore, too late to fix. The enemy will wait us out as the first use becomes our test.

The nature of a free society and the need to inform your readers, and other

interested critical technical and supportive industries, makes exposing our warts a risk to our defense objectives.

Capt. John K. Clark,
USAF (Ret.)
West Palm Beach, Fla.

Courage at Thai Nguyen

Regarding John Correll's otherwise excellent article "The Calculated Courage of Capt. Merlyn Dethlefsen": I received the February magazine in the mail yesterday and feel that I must comment on the erroneous perception of the Wild



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Weasel mission and a slight to another very brave man.

I'm still spitting mad at the coverage that was not given to (then Captain) Mike Gilroy, who manned the back seat of Dethlefsen's plane and, despite massive anti-aircraft fire, isolated and located two well-camouflaged SAM sites and guided the attacks.

Merle was incredibly brave that day, but so was Mike, and it was BOTH men's decision to attack.

At the core of every Wild Weasel aircraft, from the original F-100F to today's F-16CFs, the aircraft, equipment, aircrew, and mission were and are designed to locate and destroy surface-to-air missile threats to the strike force. Without Mike's calm, precise directions that day, there would have been no site kills or medals.

Merle and Mike were a formidable team that day, and both men displayed uncommon courage, yet your article reads as if Merle could have done the job alone. That was not the case.

Tom Wilson
Coldspring, Tex.

As a FAC in Vietnam in the early years, '65 to '66, and with a classmate who was a Weasel pilot, I have always been interested in [Weasel] stories. The June 2005 and February articles about the two Medal of Honor [recipients] Maj. Leo Thorsness and Capt. Mertyn Dethlefsen, described the stuff of legends. All of those crews certainly earned not only their awards but the eternal thanks of all Americans, most of whom cannot imagine the difficulty and danger of what they did. I can—but only enough, in my FAC role, to know what it's like to be fired at by ground forces.

Col. John F. Huppertz,
USAF (Ret.)
Snellville, Ga.

A tip of the hat to John T. Correll for yet another outstanding article related to the war in Southeast Asia. The sidebar on the now-famous "Pardo's Push" event (p. 70) was a welcome addition to the article. I would like to expand the latter story by recognizing the two HH-3 Jolly Green crews that rescued the F-4 crewmen, bringing a happy ending to their otherwise harrowing mission. Jolly Green 52, crewed by mission commander Capt. John A. Firse, with copilot Lt. Billy N. Privette, flight engineer SSgt. Roger Ely, and pararescueman TSgt. Charley D. Smith, picked up the crew of Cheetah 04—Captain Aman and Lieutenant Houghton. Jolly Green 09, piloted by Maj. Glen P. York, with copilot Capt. Harold W. Bradley, flight engineer SSgt. Jerry R. Johnston, and pararescueman A1C Michael P. Benno, picked up the crew of Cheetah 02—Captain Pardo

and Lieutenant Wayne. There were also four A-1E Sandy aircraft involved in the rescue.

The sidebar mentions that Captain Pardo was in "some trouble" after the incident. Questions began even before the rescue helos landed, as illustrated by the following quote from Captain Firse's after action report: "As soon as the rescue was effected, we were asked repeatedly, the reason for the pilot's flameouts. Since the egress from the pickup area is often as critical as the entry, we would recommend that this type of question be delayed until the survivors can be debriefed."

Interestingly, both of the HH-3 aircraft commanders received the Air Force Cross for other heroic actions later that year. Captain Firse was decorated for his role in saving two USAF A-1 pilots in North Vietnam on June 11, 1967, and Major York for his role in saving a Navy A-4 pilot on July 18, 1967. I hope *Air Force Magazine* will continue publishing positive and historically important stories from the Southeast Asia War just as fast as Mr. Correll and others can write them!

Col. Ron Thurlow,
USAF (Ret.)
Beavercreek, Ohio

Ground Observers, From Minneapolis to Miami

I was very impressed with the Ground Observer Corps story that Mr. Callander wrote. It brought back many fond memories [*"The Ground Observer Corps," February, p. 80*].

However I am not sure that he was aware of the training programs that were given to make the spotting of aircraft essential in protecting our country.

[Coming to] Civil Air Patrol from active duty, I was assigned to the operations section with the responsibilities of working with the GOC in assisting in their training. The main thing was to give the GOC spotters an opportunity to sight and register aircraft sighted over their post, especially in the remote areas of the state. The patrol would fly over the GOC spotter posts at various altitudes, directions, etc.

The GOC skywatchers would then forward the information to the filter center located in Minneapolis.

After the exercise was completed, I would critique their efforts and work out any problems and then proceed to correct the problem. Each time an exercise was completed, it showed the improvements that the GOC spotters had accomplished. By working together for the common cause, a great camaraderie [developed] between each volunteer; [they] showed much gratitude toward each other.

I was thankful that I had the unique opportunity to be part of a great effort

toward protecting our northern frontier from attack by a foreign country.

Lt. Col. Thomas J. O'Connor,
CAP
Farmington, Minn.

Just received my February issue of *Air Force Magazine* and read the story on ground observers, so I went to one of my "History Drawers" and found my old ID cards and arm band—we also had to have a Civil Defense ID card.

I was 14 to 15 at the time and attended Ponce de Leon High School in Coral Gables, Fla. After school and on weekends, I would ride my bike to the Biltmore Hotel in the Gables and go up the elevator to the top floor and then climb stairs to the tower where a wooden room was constructed around the columns. We were about the highest point in the Miami area.

We were in line with the north-south runway at the airport, and sometimes we had a hotshot fly by lower than our tower; it was an interesting experience. Our call sign, according to my ID card was Todd 35 and later changed to Uncle Peter 611.

We even had a set of "wings"; however I gave mine to a girl I liked and never got them back. A couple of years later, I joined the AAF.

Roy P. Gibbens
Meridian, Miss.

"The Ground Observer Corps" states that the US and USSR had ICBMs capable of delivering atomic warheads to their adversaries' homelands by the time NORAD was established in September 1957. I believe that capability was achieved a bit later. The first US ICBM, Atlas D, became operational in October 1959. The first Soviet ICBM, SS-6 Sapwood, became operational in January 1960.

Steven P. McNicoll
De Pere, Wis.

Airpower Classics

Now *that's* a great closer for the February issue: a classic aircraft featured from history, the B-17 [*"Airpower Classics: B-17 Flying Fortress," p. 96*]. This is a great addition to the magazine, one that I hope to see more often on the back page in coming issues. Take your time, don't skip over any of the prop aircraft, and work up to the jet age by about 2009. Thanks again.

Mark Petnuch
Richton Park, Ill.

"Airpower Classics" will become a classic in itself. What a brilliant idea. Many thanks.

Maj. Vern Pall,
USAF (Ret.)
Tucson, Ariz.



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Washington Watch

By John A. Tirpak, Executive Editor

QDR 2005—The Gift That Keeps on Giving; Superpowers Do Two at a Time; Keys Stands Up for the Raptor

The Show That Never Ends

If you thought the 2005 Quadrennial Defense Review was going to be the last word on national military forces and capabilities for a while, think again. Despite the fact that the Pentagon has had a “rolling” QDR for nearly two years, it will probably be another 18 months—nearly at the end of the current Administration—before the Defense Department figures out what forces, specifically, the nation needs to prosecute its military strategy.

Force structure—fighter wing equivalents, armored divisions, major warships, etc.—which was a main feature of the last three big reviews, is largely absent from this one. (See “Editorial: The QDR Has Landed, Sort Of,” March, p. 2.)

Ryan Henry, principal deputy undersecretary of defense for policy, told defense reporters in Washington in February that the QDR released that month was largely about figuring out the big ideas of what America’s military ought to be able to do. The details of how many airplanes, ships, vehicles, missiles, etc., required for the tasks envisioned are still to be worked out.

“After all that analysis, we came back and said we have to make a lot of different changes in capabilities,” Henry explained. He is the designated point man for explaining the QDR.

“So now we will go in and understand over the next year, year and a half, specifically what is the size [of the force required]. Do we need to make any adjustments?”

However, Henry allowed that the gross shape of the US military probably won’t change much.

“It looks like we will be able to do it with the current force structure or the current end strength that we’re projected to have.” What came out of the QDR’s long deliberations, he said, was simply that US forces are weighted too heavily toward large-scale conventional conflicts and not enough toward the long, drawn-out irregular conflicts such as the ones now being waged in Iraq and Afghanistan.

Henry said that the forces would be easier to calculate in a “static” world, but “it’s not a static world. It’s a dynamic world. The circumstances are different. You always have to be adjusting.”

While the world is “comfortable using numbers” and “bean counting” to understand how the military is shifting, Henry said capabilities are “a little more fuzzy” and harder to quantify.

What’s really needed, he said, is “the ability to generate this operational effect in the battlespace.”

The QDR talks about “goals” for certain missions—one mentions that the Air Force has a goal of conducting 45 percent of future long-range strike missions with unmanned systems—but many of these were grudgingly included, Henry said.

“There was some discomfort actually coming up with specific numbers,” because the Pentagon wanted to emphasize the “thrust” of the strategy, rather than the details, he asserted.

In a Pentagon briefing unveiling the QDR, Henry said that the bulk of hardware-oriented changes will be targeted for



Ryan Henry (at podium) says the details come later.

DOD photo by R.D. Ward

the years 2008-13 but that a goal is to get the plan nailed down by the end of this Administration.

He said that the deputy defense secretary and vice chairman of the Joint Chiefs of Staff will chair a group of the five undersecretaries and four service vice chiefs “that will oversee the implementation” of the QDR.

“There are ... close to 150 specific items in the report to be executed,” he said. There are “eight different areas that we thought needed further work,” and those will be figured out in what are being called “execution roadmaps,” Henry explained.

Henry told the defense writers that the QDR “wasn’t something that you do and then you stop doing. ... The QDR is actually continuing on. ... We think the QDR is just a snapshot in time across a continuum of transformation that we started in 2001 but that it should also be a document of debate among our allies, with the Congress, and among the American people.”

However, he acknowledged that the part with all the details “is classified.”

Two Wars, Now and Always

The QDR doesn’t depart much from the 1-4-2-1 strategy of the 2001 review. That shorthand refers to defending one homeland; deterring conflict in four main regions of the world; defeating two conventional enemies in simultaneous major theater conflicts; and being able to thoroughly conquer—even occupy—one of them.

The nuance of the 2005 QDR is that one of those two simultaneous wars could be a “long war,” such as the one the US military is now engaged in, which is characterized by irregular warfare, fighting insurgencies, and fighting an enemy “that’s not a nation, but we’re fighting it within nations with which we’re not at war,” as Henry summed it up at the Pentagon press conference Feb. 3.

It all still works out to being able to fight two major theater wars, or their equivalents, at once.

However, with this world scheme comes the realization,



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With the acquisition of Engineered Support Systems, Inc., DRS Technologies has become an industry leader in products, systems and services for defense, intelligence and homeland security. Now a total solutions provider of exceptional strength and expanded capabilities. DRS and ESSI. United to better serve.

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Henry said, that the major “stressor” for the US is not fighting an all-out conventional war but, rather, maintaining a rotational base to fight the long war. Major conventional conflicts cause a “surge” in military operations, but models and analyses indicate such surges should be brief—and followed by long periods of stability operations, not unlike the experience of Iraq.

The wartime “lessons learned” were heavily factored into the QDR, Henry said.

Unlike the Cold War, where both the enemy and even some of the battles could be anticipated with fairly high fidel-

USAF photo by Capt. James H. Cunningham



Gen. Ronald Keys (here in Afghanistan) still wants 381 F-22s.

ity, the world is now characterized by “unpredictability and uncertainty,” Ryan explained. The trick will be to prepare for all manner of contingencies without overpreparing for any of them, he said.

Much of the answer is to prevent problems in the first place, and the QDR puts high emphasis on deterring enemies, preventing the proliferation of weapons of mass destruction, and assuring allies. But to do all this will require a greater “collaborative” approach, both within the military, among the agencies of the government, and within alliances and coalitions, Henry said.

As a result, the QDR mandates greater interdependency of the services, requiring them to count on each other to fulfill certain aspects of the overall fight. It also will require willingness to depend on an ally or coalition partner, who can usually do a job more effectively and at less cost, especially in an anti-terrorist campaign, because the ally knows the local language and culture better, Henry said.

“We cannot win this long war by ourselves, either as a department or as a country,” Henry asserted. The military will have to be more horizontally integrated, abandoning the traditional stovepipe chain of command to obtain greater speed and effectiveness, particularly in the acquiring and disseminating of intelligence.

It’s also not possible or desirable to tailor the force for a particular type of conflict, so the Pentagon will no longer emphasize “a one-size-fits-all ... massive retaliation” concept of deterrence, Henry said, but one that can work against any enemy, from small nonstate actors all the way up to near-peers.

He asserted that the Pentagon doesn’t agree with the notion that terrorists can’t be deterred.

“There are things you can work on the cost-imposition and the benefit-denial aspects” of deterring terrorists, he said.

“You can raise the cost to them. You go out and attack their infrastructure, their capabilities; many of them are on the run right now.” He claimed that “three-quarters” of ter-

rorist leadership is “gone,” and you can “make their access to targets harder, [affect] their access to resources, [limit] their ability to recruit.”

Another strategic initiative will be to elevate the role of special operations forces to that of coequal priority with major conventional forces, since SOF units likely will be engaged as much, if not more, than conventional units in the long war.

Two main thrusts of the QDR directly affect the Air Force. One is a heightened emphasis on the ability to conduct long-range strike quickly, and the other is to more fully develop persistent intelligence-surveillance-reconnaissance capabilities.

Still My Number

Although the planned size of the F-22 fleet has officially shrunk to 183 as a result of the Quadrennial Defense Review, the Air Force’s long-held objective of 381 Raptors “is still my number,” Air Combat Command chief Gen. Ronald E. Keys said.

Keys, in an interview in February, said 381 is the vetted, analysis-derived number of F-22s the Air Force needs, and the new figure should be viewed as what it is: the number that the Office of the Secretary of Defense has decided is affordable, rather than what is needed.

“Just because I don’t have enough money to fix my roof doesn’t mean my roof isn’t leaking,” Keys said. The fighter force still needs to be modernized, because so much of it is of advanced age.

Buying only a portion of the needed F-22s is like a partial roof repair, Keys said.

“When I go to fix my roof, I’m going to shingle part of it, I’m going to put a blue tarp over part of it, and I’m going to hope that a big wind doesn’t come up before I get the rest of the roof fixed,” he observed.

With just 183 airplanes, after discounting those needed in test, training, and repair, USAF will be able to field 126 combat-coded Raptors, or seven squadrons of 18 each, Keys said. However, how many airplanes will make up a squadron—and ultimately how many squadrons there will be—will depend on how effective the F-22 is and how often it can be turned to fly again—all things that must be discovered with operating the system, he noted. Initial operational capability was declared in December of 2005, so the Raptor is still in the infancy of its deployment.

One of the Air Force’s continuous arguments for the F-22 was that the aircraft would save money by reducing the numbers and types of other aircraft needed. Now that the fleet size will be nearly halved from the required amount, the



USAF photo by TSgt. Ben Bliker

Raptors: It costs a lot to buy too few.

cost of maintaining the fighter fleet—new as well as legacy types—will go up, Keys said.

"It costs you more if you buy fewer airplanes," he said flatly. "There's no getting around that." Not only will the unit cost climb if fewer Raptors are built, but "we're going to have to maintain more of our legacy force. Now, we've got to make some of those hard choices."

Those hard choices will involve deciding which aircraft are in good enough shape to justify life-extension and capability upgrades. Some will be flown to a certain number of flying hours, then retired.

"Part of the legacy force has pretty good legs on it ... as far as life [remaining]. I'm not worried about wings coming off and things like that yet. Part of it, the older end of it, I'm worried about those unknown unknowns: Is something going to come loose, or is the wiring going bad, bulkhead cracks, things like that."

All in all, the Air Force will shrink by 10 percent of all aircraft and 25 percent in fighters. This will happen "I think by 2015," Keys said.

He noted that ACC is struggling to figure out what to do about its A-10 fleet, which is going to need rewinging to stay viable for the anticipated years of service still needed from them. The rewinging will consume money that ACC had planned to spend on a precision engagement upgrade for the Warthog. The Air Force submitted the precision engagement upgrade to Congress as an "unfunded priority" in late February.

Let My Airplanes Go

Keys defended the Air Force's decision to request that the F-117 fleet be retired and that the B-52 fleet be dramatically reduced to use the savings to upgrade the remainder.

The F-117, Keys said, is getting "long in the tooth," having entered service nearly 25 years ago.

"It's getting hard to sustain," Keys went on. "We've got airplanes coming on—F-22, B-2—that can do most of that mission. We don't need to carry on that cost and diversity in our force when we have other things that will do it." He added that the F-117 is "a great airplane. It gave us great value" but it's time to "move on."

There have been discussions of taking the B-52 out of the nuclear mission, Keys said. If that happens, then the number needed to fulfill its conventional role will be smaller, especially since the standoff jammer mission that had been planned for the aircraft has been terminated.

"I would rather have 56 all-up, maintainable, new avionics, netcentric B-52s than a larger number" that is tough to keep in a common configuration, Keys noted.

He agreed that "it's a radioactive issue" since Congress has consistently blocked efforts to reduce the B-52 fleet, but "it's



Photo by Clive Bennett

Will there be only 56 B-52s left?

got to be talked about. ... From a requirements standpoint, it makes sense to me."

Echoing remarks from Air Force Secretary Michael W. Wynne that the Air Force is prohibited by law from retiring some 839 aircraft, Keys said, "Those just happen to be the 839 that we want to retire. They're the oldest and the bad actors." They're the ones whose capability isn't needed anymore, he said, "and we're prevented from divesting ourselves of that part of the force that we don't have a requirement for."

If ACC takes the savings from operating fewer B-52s and invests it into the remaining aircraft, "I cannot make the argument that ... I then must have the same number," because each will be far more capable, he said. He wants to reduce the fleet down to an optimal number that is still sufficient for the rotation base.

The Air Force has achieved spectacular results in making its munitions ever more precise, Keys said. Now its challenge is to hit mobile targets through bad weather—and with only the bare minimum amount of destruction necessary to achieve the objective.

Toward that end, USAF will be moving toward smaller weapons—smaller even than the Hellfire missile carried by the Predator drone—that can sense targets hyperspectrally through weather or concealment techniques, Keys noted.

"Right now, I'm more accurate with my weapons than I am at finding the target," he said. And now, "not only do I have to find the target, I need to find the stuff that's around it. ... Just finding the car is not enough; I need to know if there's anybody in the restaurant next door."

The Air Force will probably build on the technology derived from the Joint Unmanned Combat Air System to build a new bomber that Keys refers to notionally as the B-3. It will probably be "a bit bigger" than the J-UCAS, and Keys doesn't know yet if it will be manned or unmanned.

The Air Force has discarded the idea of developing an interim bomber based on the YF-23 or F-22, because although it looked good on paper, "that's a lot of money for an airplane that doesn't get me where I want to be."

The B-3, meanwhile, will be "the big leap, ... maybe hypersonic." However, the technology will take some maturing, he said. Munitions delivered from a hypersonic craft would have to be slowed down to be able to do precise targeting, and communicating with a hypersonic vehicle "surrounded with this cloud of plasma" is another challenge yet to be solved.

Overall, the way ahead mapped out by the QDR means there are some "hard decisions" to make, Keys observed.

"These decisions are made with the best intent," he said. "They give us a balanced portfolio [that is] not as big as it might have been. We're going to have to accept some increased risk, but I think we're going to get the job done." ■

USAF photo by SSgt. Michael R. Holzworth



Keys says it's time for the F-117 to go.

Aerospace World

By Breanne Wagner, Associate Editor

Crash Claims Two Airmen

US officials announced Feb. 19 that two Marine Corps helicopters based in North Carolina crashed off the coast of Djibouti, in the Horn of Africa, killing 10 service members, including two airmen.

SrA. Alecia S. Good of Broadview Heights, Ohio, from the 92nd Communications Squadron at Fairchild AFB, Wash., and SSgt. Luis M. Melendez Sanchez of Bayamon, Puerto Rico, from the 1st Communications Squadron at Langley AFB, Va., were among those killed in the crash.

The two CH-53 helicopters were carrying crew members and US troops from a counterterrorism force, when they went down during a training flight Feb. 17 near Ras Siyyan in Djibouti.

Eight marines from MCAS New River, N.C., also were killed in the crash. Two crew members were rescued and taken to Landstuhl Regional Medical Center in Germany.

Air Force Civilian Killed in Blast

The Department of Defense on Feb. 21 announced the death of an Air Force civilian who was supporting Operation Iraqi Freedom.

Daniel J. Kuhlmeier of Omaha, Neb., died Feb. 20 in Baghdad when an improvised explosive device struck the convoy truck in which he was riding.



USAF photo by TSgt. Ben Bloker

Left to right, an F-16, F-22, A-10, and F-4 fly in a diamond formation over the Tucson, Ariz., desert on March 5 as part of the Air Combat Command Heritage Conference at Davis-Monthan AFB, Ariz.

Kuhlmeier was assigned to Det. 204, 2nd Field Investigations Region, Offutt AFB, Neb.

Top Chief Sets Retirement

CMSAF Gerald R. Murray, the 14th Chief Master Sergeant of the Air Force, will retire this summer after serving more

than 28 years, the Air Force announced in January.

Murray is the highest-ranking non-commissioned officer in the Air Force, providing direction to the enlisted corps and serving as personal advisor to the Chief of Staff and the Secretary of the Air Force on all issues related to the enlisted force.

Before being named Chief Master Sergeant of the Air Force in July 2002, Murray served as command chief master sergeant of Pacific Air Forces, Hickam AFB, Hawaii, from August 2001 to June 2002. He entered the Air Force in October 1977 and earned his eighth stripe in 1994. During his career, he served at Yokota AB, Japan, as well as in Turkey and Bahrain, and deployed for Operations Desert Storm and Southern Watch.

Although Murray's official retirement date will be Oct. 1, a ceremony appointing his successor is scheduled for June 30.

\$439 Billion Budget Unveiled

The Pentagon's \$439.3 billion budget for Fiscal 2007, made public on Feb. 6, was keyed to findings of the Quadrennial Defense Review (QDR), released

Aerial Tanker Competitors Edge Toward Starting Line

Competition for the contract to replace the Air Force's fleet of refueling tankers will likely begin in the middle of this year, according to Kenneth J. Krieg, Pentagon acquisition, technology, and logistics chief.

The first step is a formal request for information. The Air Force released an RFI last fall, only to call it back as "premature." A new one could be released as early as this spring. The next step, a request for proposal, is expected in early fall, and a winner could be selected in early 2007.

Krieg said the Pentagon is reviewing options in a 1,500-page RAND analysis of alternatives for the tanker.

The AOA says that "tanker recapitalization is a good thing," Krieg reported. "It didn't find that there was a 'crisis reason' to do it," but the AOA noted that existing tankers are 45 years old, he said, "and you bought them all in seven years, and you are not going to buy [all replacements] in seven years this time, so get on with it."

Boeing and the Northrop Grumman-EADS team are the two known competitors for the tanker work.

Rep. Duncan Hunter (R-Calif.), chairman of the House Armed Services Committee, is opposed to buying EADS aircraft; he believes it would give thousands of jobs to France. Hunter favors the Boeing 777 aircraft, which, if chosen, would help Boeing's Everett, Wash., plant. (See "Could Boeing Tankers Be Built at Long Beach?" p. 19.)



Side by Side with The Air Force.

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at the same time. Below are some of the Defense Department's requested amounts in the QDR's three main areas of emphasis. (See also "Defense Budget Chart Pages," p. 62.)

- **Prevail in irregular warfare operations:** The budget seeks increases in special operations forces (\$5.1 billion), adding Army capability with development of the Future Combat System (\$3.7 billion) and larger brigades (\$6.6 billion), increased language training for SOF and intelligence units (\$181 million), and a larger unmanned aerial reconnaissance force (\$1.7 billion).

- **Defend the homeland against advanced threats:** The budget highlights enhanced ability to tag, track, locate, and render safe nuclear weapons (\$1.7 billion), expanded missile defense capability with improved early warning systems (\$10.4 billion), and increased global communications through satellites (\$0.9 billion).

- **Maintain America's military superiority:** Keeping up the nation's conventional warfare edge translates to new weapons systems—the F-22 Raptor, Super Hornet, and Joint Strike Fighter (\$15.1 billion)—and investment in new destroyers and littoral combat ships, a Virginia-class submarine, an amphibious assault ship, and a logistics ship (\$11.2 billion).

C-17 Halt Brings Penalties

The Pentagon's plan to mothball C-17 production equipment after construction of the 180th aircraft could drain \$8.4 billion from the US economy, the Department of Commerce said in February.

DOC believes the plan would cause the loss of more than 25,000 American jobs, especially among suppliers that provide parts and systems to aircraft manufacturers. The Boeing-built airplane relies on 702 suppliers in 42 states.

Moreover, should the Air Force want to restart C-17 production, the cost could be enormous. The Commerce report predicts that Boeing will sell the 424-acre Long Beach, Calif., C-17 plant if it is shuttered, obliging USAF to spend \$3.2 billion to set up a new factory elsewhere.

Collateral damage would include the forced movement of other lines associated with the Long Beach plant, such as parts made for the Army's AH-64 Apache, and chances for export sales of the airlifter would be killed.

Lawmakers Line Up for C-17

The Air Force has said that its requirements trump economic considerations in the case of the C-17. However, some lawmakers have already announced their intention to keep the C-17 line intact.



The first 39-foot section of a 279-foot-high spire—one of three tall structures that will comprise the Air Force Memorial—was set into place Feb. 10 at the memorial site near Arlington National Cemetery. Dedication ceremonies are scheduled for the fall.

USAF photo by MSgt. Gary R. Coppage

Sens. Jim Talent (R-Mo.) and Joseph I. Lieberman (D-Conn.) sponsored a Senate amendment to the Fiscal 2006 defense authorization bill in November, allowing the Air Force to buy up to 42 more C-17s. Talent has pledged to fight the Pentagon's decision to terminate C-17 production.

"If we do not purchase additional transports, we will lack the capability needed to deploy and adequately sustain forces overseas," Talent said.

Lockheed In \$2 Billion Deal

Lockheed Martin was awarded a \$2.02 billion contract in January for the Transformational Satellite Communications System (TSAT) Mission Operations System (TMOS) contract.

The nine-year TMOS contract covers ground stations that will manage a new constellation of high-speed military communications satellites. The ground

stations will enhance airborne intelligence-surveillance-reconnaissance for troops in combat as well as situational awareness. The contract is part of the estimated \$18 billion TSAT program that will be the space-based part of the Global Information Grid.

Work is scheduled to be completed by September 2015.

Big UASes Get US Clearance

In January, Global Hawk became the first unmanned aerial system to receive the military airworthiness certification.

The unmanned intelligence-surveillance-reconnaissance system's certificate recognizes that the aircraft has a proven history of safe operations. Global Hawk was first authorized to fly in national airspace in 2003 when it was awarded a Certificate of Authorization.

Cost of the War on Terror

The Congressional Research Service recently published a report estimating that the Department of Defense has spent \$326 billion in Iraq and Afghanistan since 2001, which includes spending on military operations, reconstruction, and for enhanced security at bases.

The following table shows both monthly and total estimates of costs for Operations Iraqi Freedom and Enduring Freedom. Estimates were taken from the CRS report.

Monthly average rate for 2005

Iraq (OIF)	Afghanistan (OEF)	Total OIF and OEF
\$6 billion	\$1 billion	\$7 billion

Each country and total, as of June 2005

\$226 billion	\$76 billion	\$302 billion
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*All amounts include costs of military operations and reconstruction and exclude enhanced base security costs. Starting Oct. 31, 2005, DOD is not required to report costs for base security.



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"The aircraft was evaluated against over 500 technical criteria in order to get this certification," said Randy Brown, Global Hawk Systems Group Director.

Global Hawk was assessed against various safety risks and found to be of acceptable reliability.

Five Global Hawks have been delivered to the Air Force, and two of those have begun flying missions in support of the Global War on Terror. Global Hawk aircraft have flown more than 5,000 hours in combat operations.

C-130Js Put on Military Contract

The C-130J, which the Air Force had been buying under a commercial contract, was converted to a traditional

military procurement under a \$136.4 million contract awarded to Lockheed Martin on Feb. 10.

The move was made in response to concerns from Congress that USAF had not gotten the best possible deal on the C-130J and that the terms of the commercial contract allowed Lockheed Martin to withhold certain information about program costs.

Sen. John McCain (R-Ariz.) criticized the Air Force in February for failing to meet Congressional demands for more data about the C-130J program. McCain was so upset that he threatened to block the nomination of Michael L. Dominguez, a former acting Air Force Secretary, to be deputy undersecretary of defense for personnel and readiness.

Sen. John W. Warner (R-Va.), head of the Senate Armed Services Committee, later joined McCain in this action.

The Air Force bought 23 aircraft under the old contract and will buy 39 more under the converted contract, which will be made definitive by the end of the fiscal year, the service said.

C-5 Re-Engine Test Succeeds

New engines were successfully tested on a C-5 Galaxy at Lockheed's Marietta, Ga., facility in January, leading program managers to claim that the biggest hurdle in a C-5 life-extension upgrade has been cleared.

Lockheed ran a range of operations with General Electric F138-100 engines on the C-5 test bed, encountering no problems. Air Force program officials said the tests indicate that technical risks in the C-5 Reliability Enhancement and Re-engining Program are low.

The re-engining is part of an omnibus, 70-item upgrade that is intended to give the C-5 service life beyond 2025, with a mission capable rate of 75 percent. The Air Force plans to upgrade 112 C-5As, Bs, and Cs to C-5M configuration. The improved aircraft also will be able to operate from shorter runways and climb to altitude faster and comply with all new international aviation regulations for electronics and communications.

The RERP follows an avionics modernization program, which is a necessary precursor to using new digital engine controls and communications gear. The C-5 fleet is expected to be modified by 2020.

US Transportation Command chief Gen. Norton A. Schwartz said in December that the tooling for the C-17 line should be retained in case the C-5 AMP and RERP upgrade do not produce necessary capability. (See "Rising Risk in Air Mobility," March, p. 28.)

Robert Scott, "Flying Tiger"

Retired Brig. Gen. Robert L. Scott Jr., a World War II ace with 10 aerial victories and author of the best-selling book *God Is My Co-Pilot*, died at a nursing home in Warner Robins, Ga., on Feb. 27. He was 97.

Scott flew 388 combat missions from July 1942 to October 1943 and was one of World War II's earliest American aces.

At the start of the war, Scott went to the China-Burma-India Theater where he laid the groundwork for what was to become Air Transport Command and the "hump" flights to resupply forces in China. He later flew with the Flying Tigers, which had been formed under Claire L. Chennault.

After the war, he commanded the nation's first jet fighter school at Williams

USN photo by Lt. j.g. Scott Timmester



The Navy's F-14 Tomcat Calls It a Career

In the skies over Iraq in February, the Navy's famed F-14 Tomcat fighters flew the final combat missions in a legendary 35-year service lifetime. They will soon be retired from active service.

The last 22 Tomcats in operational service, all deployed on USS *Theodore Roosevelt*, flew bombing and strafing missions against insurgent targets in Iraq.

The venerable Tomcat began rolling off Grumman's line in 1971. It carried Phoenix air-to-air missiles, six of which could be fired and guided simultaneously to six different targets.

The first combat assignment for the Tomcat was providing cover for the US evacuation from Saigon in 1975 as the city fell to the North Vietnamese.

In the 1980s, the US Navy engaged in repeated "freedom-of-navigation" demonstrations north of Libya in the Gulf of Sidra, which dictator Muammar Qaddafi had unilaterally claimed as Libyan territorial waters. On two occasions, F-14s engaged in actual combat.

The first incident occurred on Aug. 19, 1981. Two Libyan Su-22 Fitters engaged two Tomcats over the gulf, which was being aggressively patrolled by USS *Nimitz*. The lead Fitter attacked one of the Tomcats with a heat-seeking missile, which it easily evaded. The F-14 crews shot down both Libyan fighters.

A second battle erupted on Jan. 4, 1989, when two Tomcat crews deployed aboard USS *John F. Kennedy* concluded they were being engaged by two Libyan MiG-23 Flogger fighters. Again, the Navy aircraft easily dispatched both enemy fighters.

The first incident provided grist for the 1985 movie "Top Gun," which featured Tom Cruise and Val Kilmer as Tomcat pilots.

After the Cold War, the Navy gave its famous air-combat machine a new mission as a ground-attack aircraft. Aircraft so equipped were nicknamed "Bombcats."

The nickname Tomcat was bestowed in recognition of two principal patrons in the late 1960s. They were Vice Adm. Thomas F. Connolly, deputy chief of naval operations for air warfare, and Adm. Thomas H. Moorer, Chief of Naval Operations and later Chairman of the Joint Chiefs of Staff.

Electronic Warfare—Mission in Search of a Service

Who's in charge of electronic warfare these days?

Gen. Michael W. Hagee, Commandant of the Marine Corps, told reporters in February that US defense leaders should have a discussion about the future of EW since the Air Force dropped its B-52 standoff jammer program. Hagee described the Navy's EA-18G Growler as only an interim fix for capabilities that will be lost when the EA-6B Prowler retires.

"As a nation, ... we need to have a discussion on who's going to provide electronic attack capability," Hagee said.

The Air Force, Navy, and Marine Corps have shared the duty for electronic warfare, or electronic attack (EA), using the Prowler ever since USAF retired the EF-111.

Hagee said the F-35 Joint Strike Fighter, with some EW pods, would make for a "tremendous EA capability," which would be more effective than the Growler. A multiservice powwow on the subject should also assess the role to be played in EW by unmanned aircraft, he said.

—Marc V. Schanz

AFB, Ariz., before becoming the director of information for the Air Force.

Scott wrote *God Is My Co-Pilot*, about his wartime exploits, which became a major motion picture. He also wrote *Boring a Hole in the Sky*, among other books.

Scott received two Silver Stars, three Distinguished Flying Crosses, and three Air Medals during his time in the Air Force and the Army Air Forces. He was a 1932 West Point graduate.

Feb. 13 letter opposing the cut. Republican Sens. George V. Voinovich and Mike DeWine wrote to Warner, charging that the Pentagon had not consulted with Britain, the chief US partner on the F-35 program.

Pratt & Whitney makes the F135 engine which is the initial powerplant for the JSF. General Electric and Rolls Royce had teamed to develop and build the F136 engine as a fully interchangeable alternate motor. It was believed

that competition between the two power plants would lead to lower prices and higher quality in the program. (See "The F-35 Gets Real," March 2004, p. 44.) With a JSF production run in excess of 3,000 aircraft planned, it had been decided that there was sufficient market to split the buys.

... While London Weighs In

British Prime Minister Tony Blair personally lobbied President Bush in December, objecting to the cancellation of the engine. The move would affect jobs in Bristol, England, where Rolls Royce engine parts are made.

Defense Secretary Donald H. Rumsfeld said on Feb. 16 that there was "modest and acceptable" risk for ending the second engine program, saying that "there were better things that could be done" with \$1.8 billion, the estimated Pentagon cost savings.

GE and Rolls Royce were awarded a \$2.4 billion F136 contract in August. The program was ordered killed in a Dec. 20 memo from Deputy Defense Secretary Gordon England.

Bush Seeks New War Funds

President Bush delivered a \$72.4 billion supplemental package to Congress on Feb. 16 for the wars in Iraq and Afghanistan.

The \$72.4 billion included \$65.3 billion for the Department of Defense alone. The remaining \$7.1 billion will fund the State Department and Intelligence Community operations.

The \$65.3 billion request is the sixth major war supplemental since the war on terror began in 2001.

The majority of the funds are set aside for ground forces, with the Army receiving \$10.8 billion. The Navy and Marines would get \$3.9 billion and the Air Force \$2 billion.

The request would offset the cost of military operations in Iraq and Afghanistan through Sept. 30, the end of FY06.

Congress Hits JSF Engine Cut ...

Congress is none too happy about Pentagon plans to cancel an alternative engine for the Joint Strike Fighter. (See "Aerospace World: England Targets F-35 Engine," March, p. 17.)

Many condemn the decision as a risky move.

Sen. John W. Warner (R-Va.), chairman of the Senate Armed Services Committee, planned to hold two hearings about the engine. He was responding to several Ohio lawmakers asking the Senate and House to reverse the cut.

Reps. Steve Chabot (R-Ohio) and Jean Schmidt (R-Ohio) wrote HASC Chairman Duncan Hunter (R-Calif.) a

CSAR Mission Is On the Move—Again

The Air Force announced that the combat search and rescue mission will be reassigned from Air Force Special Operations Command to Air Combat Command. By way of explanation, Gen. T. Michael Moseley, Chief of Staff, said, "Our military must always have the combat capability to rescue its people ... wherever and whenever required."

AFSOC and ACC were given until the end of March to develop a transition plan. Rescue assets assigned to Pacific Air Forces and US Air Forces in Europe will not be affected.

The decision means ACC will again have control of combat rescue officers, pararescue jumpers (PJs), HH-60 helicopters, and HC-130 refuelers. The change comes less than three years after the mission came out of ACC and was realigned under AFSOC. (See "CSAR, Under New Management," August 2003, p. 84.)

"Under ACC, [the CSAR asset] can be mobilized faster during a national crisis, integrated into combat training, and tasked to support all Air and Space Expeditionary Force rotations," Air Force officials said.

To realize these benefits, ACC will have to pay more attention to rescue than it did in the past. When the mission was given to AFSOC in 2003, Gen. Hal M. Hornburg, ACC chief at the time, said the command had done a "less than adequate job" of budgeting for CSAR.

ACC inherits the HH-60 replacement program dubbed CSAR-X. The Air Force this summer will announce the winning design for a fleet of 141 larger and more capable rescue helicopters.

This is actually just the latest in a long line of administrative moves for CSAR personnel. The proper home for rescue has been debated since at least 1990, when AFSOC was created from the former 23rd Air Force.

In a statement, AFSOC officials note that the health of the mission area has improved. CSAR-X was accelerated by three years to a planned in-service date of 2011; funding was inserted in outyear budgets to begin a tanker replacement program; and chronic spare parts shortages have been reduced. AFSOC has "continually improved the readiness and capability of the legacy fleet," officials wrote. Despite old and overused assets, mission capable rates have increased by four percent.

The announcement notes that the "core competency" of CSAR is "directly linked to the combat air forces and the personnel" it supports. An Air Force official said the move is supported by Army Gen. Bryan D. Brown, commander of US Special Operations Command. Rescue has traditionally been a side mission in the special ops world.

ACC will likely assume control of Moody AFB, Ga., which came under AFSOC's jurisdiction with the previous realignment. An Air Force official said there will be "no reason" for AFSOC to run Moody if the rescue mission is not part of Air Force special operations.

Operation Iraqi Freedom—Iraq

Iraq Casualties

As of March 16, 2006, a total of 2,310 Americans had died in Operation Iraqi Freedom. This total includes 2,303 troops and seven Defense Department civilians. Of those fatalities, 1,808 were killed in action by enemy attack, and 502 died in noncombat incidents.

There have been 17,124 troops wounded in action during OIF. This includes 9,212 who returned to duty within 72 hours and 7,912 who were unable to quickly return to action.

USAF Conducts Air Strikes

Four USAF F-15E multirole fighters on Feb. 15 carried out an air strike in southern Baghdad against a terrorist bomb facility, the Air Force announced.

The uninhabited weapons storage complex was being used by insurgents in Babil Province to assemble bomb-making munitions to use in attacks.

The Strike Eagles performed multiple passes to completely destroy the munitions bunker.

Before the bombings, the four aircraft conducted a clearing pass and helicopters from Multinational Division-Baghdad scanned the scene for any civilians in order to limit collateral damage.

Iraqi Air Force Boosts Operations

The Iraqi Air Force (IQAF) Operational Air Headquarters was planning to move in March to a new building in Baghdad to be collocated with the Iraqi ground force commander, according to *Jane's Defence Weekly*.

An operational air tasking process has been developed to allow all Iraqi military agencies to send their aircraft out through the Iraqi Joint Operations Center.

The Iraqi air reconnaissance 70 Squadron, based at Basra, for the first time operated with the Iraqi Army's 10th Division in December to give real-time updates and reports to ground headquarters.

The 70 Squadron also performed its first joint operations with the Iraqi Navy in January.

IQAF was first formed in July 2004 and was rebuilt as a new air force from scratch after the US-led invasion in 2003. It was formed with the help of the Coalition Military Assistance Training Team, which tasked their officers with forming a small air cell to train the new Iraqi forces.

The Coalition Air Force Transition Team was formed in November 2005 in Baghdad to "advise, train and assist the nation of Iraq to develop an independent and viable air force," according to *Jane's*.

The Iraqi Air Force currently operates from air bases in Basra and Kirkuk, both tasked with air reconnaissance; Taji, tasked with battlefield mobility; and Al Muthana, near Baghdad airport, tasked with air transport. IQAF operational headquarters is commanded by a major general and includes a staff of more than 100.

IQAF uses a range of aircraft, from Comp Air 7SL utility, SB7L Seeker light surveillance, CH2000 Alarus light, and C-130E transport aircraft and Mil Mi-17 medium and Bell Jet Ranger utility helicopters.

Operation Enduring Freedom—Afghanistan

Afghanistan Casualties

As of March 16, 2006, a total of 278 Americans had died in Operation Enduring Freedom, primarily in and around Afghanistan. The total includes 277 troops and one DOD civilian. Of those fatalities, 141 were killed in action, and 137 died in nonhostile incidents such as accidents.

A total of 703 troops have been wounded in Enduring Freedom. They include 289 who were able to return to duty in three days and 414 who were not.

USAF Drops Humanitarian Supplies

An Air Force C-130 Hercules flown by an Alaska Air National Guard crew dropped 10 container delivery systems of supplies to a village in central Afghanistan after heavy snow left it isolated in early February.

At the request of the Afghan government, the aircrew dropped 11,840 pounds of rice, oil, blankets, and other relief supplies to the mountain village of Ajrestan.

During the first six weeks of 2006, there were 37 airdrops, delivering more than 350,000 pounds of humanitarian relief supplies in Afghanistan.

PACAF Welcomes First C-17

Gen. Paul V. Hester, commander of Pacific Air Forces, presided over a Feb. 8 arrival of the first of eight C-17 transports to be based at Hickam AFB, Hawaii.

The aircraft was the first C-17 to be permanently based outside the continental US and marked the beginning of PACAF's first strategic airlift wing.

Airmen from the 15th Airlift Wing and the 154th Wing, Hawaii Air National Guard, flew the C-17 together, a step Hester saw as natural for PACAF, since Guardsmen will work side by side with active duty airmen to maintain and fly the aircraft.

The first aircraft to beddown at Hickam is named *Spirit of Hawaii, Ke Aloha*.

The eighth C-17 is expected to arrive at Hickam by the end of 2006. Another eight are scheduled to be delivered to Elmendorf AFB, Alaska, in 2007.

World War II Airman Identified

An airman whose airplane went missing during World War II was identified in February, and his remains were to be returned to his family for burial with full military honors.

Aviation cadet Leo M. Mustonen of Brainerd, Minn., was on an AT-7 navigation training aircraft flying from Mather Field in Sacramento, Calif., when it disappeared on Nov. 18, 1942. Wreckage and remains were discovered on Mt. Mendel in Kings Canyon National Park in the Sierra Nevada Mountains five years later, but it was not until October 2005 that climbers found a body encased in the ice not far from the crash site.

The frozen remains were turned over to the Joint POW-MIA Accounting Command at Hickam AFB, Hawaii. Lab officials in November narrowed down the possibilities to four men, all of whom disappeared on the training flight. Mustonen's remains were identified using the mitochondrial DNA method.

US-China Hot Line Proposed

A "hot line" between the Pentagon and the Chinese Defense Ministry was one of the ideas to emerge from a recent Congressional trip to China.

Rep. Mark S. Kirk (R-Ill.) and Rep. Rick Larsen (D-Wash.), who are the co-chairmen of the US-China Working Group in Congress, told the *Washington Times* that the idea of a hot line surfaced during their recent visit to Beijing and several other military sites in China and that the Defense Department is considering the link. Such a connection already exists between the White House and the State Department and their counterparts in China.

A hot line was established between

Could Boeing Tankers Be Built at Long Beach?

Despite some recent orders, Boeing plans to shut down its 767 airliner production line, company Chief Financial Officer James A. Bell announced in February. The Everett, Wash., 767 line will close after the current backlog of 30 orders is filled, Bell said.

Leased 767s were the planned basis for replacement of USAF's aging fleet of KC-135 tankers, but the plan stalled after the Darleen A. Druyun acquisition scandal tainted the deal. (See "Tanker Twilight Zone," February 2004, p. 46.) Subsequently, the Air Force has said it is considering a larger aircraft to fill both the tanker and cargo missions.

If the Air Force still wants to buy 767s for the tanker mission, Boeing will probably build them in Long Beach, Calif., at the C-17 plant now slated for closure, Bell said. (See "C-17 Halt Brings Penalties," p. 14.) If the service opts for the larger 777, Bell said Boeing will build the aircraft in Everett.

A spokesman for Boeing's C-17 division told the *Los Angeles Times* that the company is still lobbying to keep the C-17 in production.

"We just need to be open to all kinds of alternatives," he said. "We're certainly not giving up on the C-17 line."

Moscow and Washington during the Cold War in summer 1963, less than a year after the Cuban Missile Crisis. President Kennedy suggested the idea as a way to ease tensions and establish an effective communication link between the US and Soviet Union after the two countries realized how close they had come to nuclear war.

The initial system was a set of teletypes with messages punched in, but was replaced with two satellite systems and an undersea cable link in the 1970s. The hot line uses text messages, rather than spoken or video messages to avoid confusion.

Cope Tiger Draws A-10s

Cope Tiger 06, a yearly airpower exercise between the US, Thailand, and Singapore, ran Feb. 7 to 18 at Korat RTAB, Thailand. This year, A-10 Thunderbolt IIs, operators, and maintainers from Osan AB, South Korea, participated. The 25th Fighter Squadron at Osan normally does not deploy, making the exercise a special occasion.

A total of 1,300 military personnel were involved, including 300 US personnel and 1,000 Thai and Singaporean forces.

The exercise, held annually since 1994, fosters international cooperation and develops flying skills.

Planned F-22 Bases Named

The Air Force wants to establish operational F-22 Raptor fighter locations at Holloman AFB, N.M., and Hickam AFB, Hawaii, to join those at Langley AFB, Va., and Elmendorf AFB, Alaska, the service announced March 1.

The two new "preferred" locations for F-22 beddown must still pass environmental impact assessments, the Air Force said. It did not give a timetable for the beddown.

The F-22 is already well-established

at Langley, which has more than 20 of the fighters, and at Tyndall AFB, Fla., the F-22 "schoolhouse."

The Air Force has announced its desire to retire all its F-117 stealth fighters, which are based at Holloman. The F-22s would replace the F-117s sometime after 2008, if the retirement plan is approved by Congress.

Hickam has recently taken on the C-17 airlift mission. Adding the F-22 would give that base the newest aircraft

in the USAF inventory in two mission areas.

Small contingents of F-22s also are based at Nellis AFB, Nev., and Edwards AFB, Calif.

The Air Force said that in each F-22 operating location, it will seek a mix of active duty and Air National Guard involvement in operating and maintaining the Raptors.

Claude Kinsey, World War II Ace

Retired Lt. Col. Claude R. Kinsey Jr., a "flying sergeant" and World War II ace, died Feb. 4 at the age of 86.

Kinsey entered the Army in 1940 and was among a relatively few enlisted personnel permitted to train as pilots. After flight training, he was promoted to staff sergeant. He was commissioned an officer and trained in P-38s soon after the US entered the war.

In early 1943, Kinsey shot down seven Axis aircraft over North Africa. He was himself hit and brought down, crashing near Tunis. Kinsey would later claim his own novice wingman shot him down. Badly injured, he was captured and taken to a prisoner of war camp in Italy. Kinsey and other prisoners were being transferred to German Army control when he made a daring escape

Continued on p. 22



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News Notes

■ Gen. Lance W. Lord received the Order of the Sword from Air Force Space Command's enlisted personnel on Feb. 11. Lord, who has commanded AFSPC since 2002, is the eighth leader of the organization to receive its enlisted force's highest honor since the command's inception in 1982.

■ Kyrgyz President Kurmanbek Bakiyev wants the US to pay \$207 million—more than 100 times the \$2 million it currently pays—for annual basing privileges at Manas AB, Kyrgyzstan, he said in an interview published in a Russian daily Feb. 15. Kyrgyzstan's Foreign Ministry sent the "new calculations," including an increase in lease fees and payment for ecological damage, to the US ambassador in a letter last month, according to Agence France-Presse.

■ Air Force, Navy, Marine Corps, Australian and British military personnel gathered at Nellis AFB, Nev., on Feb. 6 for a Red Flag exercise involving 130 aircraft and 2,500 personnel. The allies engaged in simulated air combat over the Nellis Test and Training Range during day and night missions, ending Feb. 18.

■ USAF selected 87 officers out of more than 400 who applied to fill new international affairs specialist billets to become "globally skilled airmen." The officers are headed for one of two specialties. Those on one track will become regional affairs strategists, training at the Defense Language Institute and earning a Naval Postgraduate School master's degree. Those on the other track will become political-military affairs strategists through study at Air Command and Staff College or through an Air Force political advisor internship.

■ DOSS Aviation, Colorado Springs, Colo., received a \$178.2 million contract in February to provide aircraft, maintenance, instructors, facilities, and room and board for the Air Force's Initial Flight Screening program. The contract also provides ground school and flight training for Air Force officers assigned to undergraduate flying training. The contract is contingent on completion of an environmental impact assessment at the planned Pueblo, Colo., training site. At full capacity, the program will screen 1,200 to 1,700 pilot candidates per year.

■ The Air Force in February selected 94 officers, from second lieutenant to captain, out of 257 who applied to attend specialized undergraduate pilot, navigator, and air battle manager training. Nine of those officers will be sent to Euro-NATO joint jet pilot training.

■ Fifteen airmen from Ramstein AB,

Germany, deployed to Rwanda to help transport peacekeeping troops to the Darfur region in February. The 86th Contingency Response Group airmen airlifted 1,200 Rwandan troops from Kigali Airport to Darfur. The Rwandan peacekeepers are part of a mission to provide security and humanitarian assistance to the Darfur region, plagued by civil war.

■ Air Force Reserve Command unveiled a Web-based guide for reservists and civilians affected by Base Realignment and Closure actions, the Air Force announced in January. Called "A BRAC Guide for Civilian and Military Personnel Issues," it is part of a broader Web program that includes the BRAC guide, member tracking codes, two clearing houses, e-mail boxes, and an archive. The guide can be accessed on military computers at <https://wwwmil.afrc.af.mil/hq/dp/brac>.

■ Lockheed Martin was awarded a \$165.7 million contract on Feb. 8 to update the Modular Mission Computer-based avionics system on USAF F-16s as well as Midlife Update avionics system on the European Participating Air Force F-16s. The contract supports foreign military sales to Belgium, Denmark, Norway, the Netherlands, and Portugal. Work is scheduled to be completed by September 2009.

■ Airmen from Hickam AFB, Hawaii, attended FBI training at the Pohakuloa Training Area in February, taking classes in evidence collection, explosive physics, contamination issues, residue analysis,

managing a bomb scene, equipment preparation, and forensics. Explosive ordnance disposal technicians from Hickam attended the four-day course and received "realistic training" in scenarios learned from Iraq and Afghanistan and potential scenarios in Pacific countries such as the Philippines and Indonesia.

■ USAF awarded Lockheed Martin a \$164 million, 10-year contract Feb. 1 for support of systems unique to the C-130J transport. The systems include avionics and electronics, environmental controls, and new hydraulics.

■ Rolls Royce was awarded on Feb. 1 a \$72.6 million, 10-year contract for support of the C-130J's propulsion systems, including AE 2100D3 engines and R-391 propellers. Work will be done at Robins AFB, Ga., where a joint C-130J program office has been established.

■ USAF and Ecuadorian Air Force doctors treated patients during a medical readiness exercise in four small Ecuadorian villages in early February, treating people for dental, pediatric, parasitic, and other conditions. During the exercise, coordinated by US Southern Command, a 27-person joint US-Ecuadorian military team provided free medical care to more than 7,000 people in 10 days.

■ Northrop Grumman was awarded a \$63.9 million contract for 33 AN/APG (V) 9 Radar Systems for Greece's newly procured F-16 Block 52s, purchased from Lockheed Martin in December. The radar systems are scheduled to be completed by March 2010.



The Speckled Trout C-135 aircraft, which has served as the main overseas transport for USAF Chiefs of Staff since 1975, was retired Feb. 10. Initially a weather reconnaissance platform, the aircraft racked up 31,000 flying hours in 31 years of service, serving as the Chief's transport and lastly as an avionics and communications test bed. The airplane will now reside at the Air Force Flight Test Center Museum at Edwards AFB, Calif.

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L-r, three original Tuskegee Airmen, Lt. Col. (ret.) Asa Herring, Lt. Col. (ret.) Robert Ashby, and Lt. Ccl. (ret.) Lee Archer visited the 52nd Aircraft Maintenance Squadron at Spangdahlem AB, Germany, on Feb. 21 as part of the celebration of African-American History Month. See "Gold Medal for Tuskegee Airmen," below.

Continued from p. 19

and made it more than 100 miles back to Allied lines.

He came back to the United States and completed a war bond sales tour and then trained pilots to fly the P-38 in combat. After the war, he flew B-47s for Strategic Air Command and retired in 1965 as a squadron commander.

He received the Distinguished Flying Cross, Purple Heart, and nine Air Medals among his awards.

Gold Medal for Tuskegee Airmen

The Congressional Gold Medal, the highest award given by the House, is to be awarded collectively to the Tuskegee Airmen under a bill that passed the House Feb. 28.

The Tuskegee Airmen—so named because they entered the Army Air Forces through Tuskegee Institute, Ala.—were the first black pilots in the US military. About 1,000 black pilots served in the war, and their 99th Fighter Squadron was credited with never losing a bomber to enemy fighters. The unit amassed a record of more than 100 enemy aircraft shot down.

Rep. Charles B. Rangel (D-N.Y.) sponsored the bill, a version of which passed the Senate last October. It is believed that about 200 of the airmen are still living.

Vietnam MIA Airman Identified

The remains of an Air Force colonel, missing in action since the Vietnam War, were recently identified and returned to his family for burial with full military honors, the Department of Defense announced Feb. 3.

Col. Eugene D. Hamilton of Opelika, Ala., was flying an armed reconnaissance mission over North Vietnam on Jan. 31, 1966, when his F-105D was hit by enemy ground fire over Ha Tinh Province. Hamilton was flying the mission as part of Rolling Thunder,

which attacked air defense systems and the flow of supplies along the Ho Chi Minh Trail.

Airborne searches for Hamilton's aircraft that day were unsuccessful and he was declared missing in action.

US-Vietnam teams, led by the Joint POW-MIA Accounting Command, conducted four investigations and two excavations between July 1993 and November 2000 to search for the pilot. A team finally found wreckage and remains during an August-September 2000 excavation.

In 2004, Vietnamese citizens turned over to JPAC remains they had discovered at the same site a year earlier. It was not until May 2005 that the team discovered a leather nametag with the name "Hamilton" printed on it.

JPAC scientists and Armed Forces DNA Identification Laboratory personnel used the mitochondrial DNA method and analysis of dental remains to identify Hamilton. ■

Senior Staff Changes

RETIREMENTS: Lt. Gen. Walter E.L. Buchanan III, Gen. Lance W. Lord.

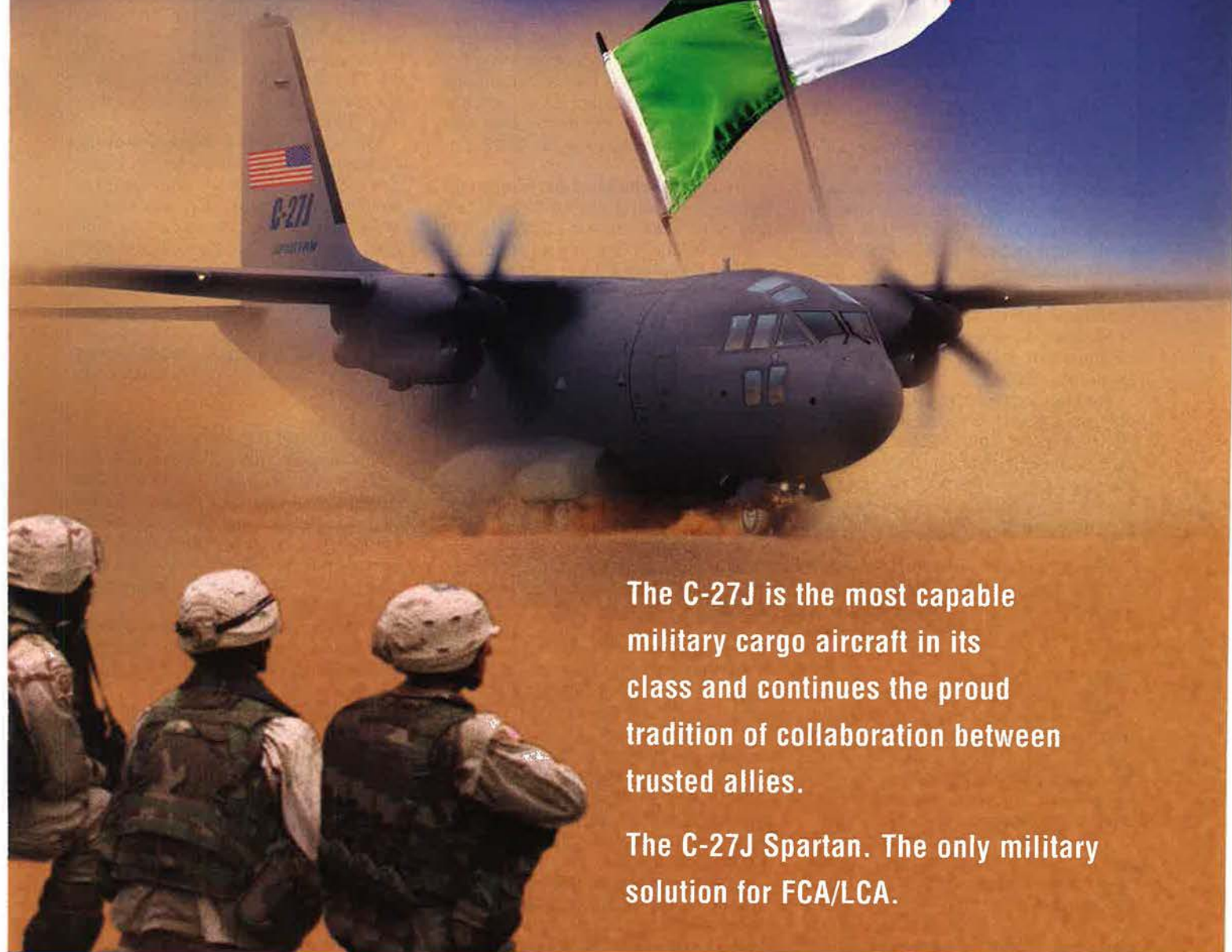
NOMINATIONS: To be Major General: Chris T. Anzalone, Kurt A. Cichowski, Thomas F. Deppe, Paul A. Dettmer, William L. Holland, Ronald R. Laddner, Erwin F. Lessel III, Thomas J. Loftus, John W. Maluda, Mark T. Matthews, Gary T. McCoy, Stephen J. Miller, Thomas J. Owen, Richard E. Perraut Jr., Polly A. Peyer, Douglas L. Raaberg, Jeffrey A. Remington, Robertus C.N. Remkes, Frederick F. Roggero, Marshall K. Sabol, Paul J. Selva, Richard E. Webber, Thomas B. Wright, Mark R. Zamzow. To be ANG Brigadier General: William H. Walker IV.

CHANGES: Brig. Gen. (sel.) Gregory A. Biscione, from Asst. Dir., Air & Space Ops., ACC, Langley AFB, Va., to Cmdr., 509th BW, ACC, Whiteman AFB, Mo. ... Brig. Gen. David G. Ehrhart, from Asst. JAG, Mil. Law & Ops., USAF, Pentagon, to Staff Judge Advocate, AFMC, Wright-Patterson AFB, Ohio ... Brig. Gen. (sel.) Richard C. Harding, from Staff Judge Advocate, AFSPC, Peterson AFB, Colo., to Staff Judge Advocate, ACC, Langley AFB, Va. ... Brig. Gen. (sel.) Francis L. Hendricks, from Sr. Mil. Asst., Asst. SECAF (Manpower & Reserve Affairs), Pentagon, to Study Dir., DARPA, Arlington, Va. ... Brig. Gen. Christopher D. Miller, from Cmdr., 509th BW, ACC, Whiteman AFB, Mo., to Cmdr., 455th AEW, ACC, Bagram AB, Afghanistan ... Brig. Gen. (sel.) Harry D. Polumbo Jr., from Asst. Dep. Dir., Global Ops., Jt. Staff, Washington, D.C., to Cmdr., 9th Recon. Wg., ACC, Beale AFB, Calif. ... Maj. Gen. Robert L. Smolen, from Dir., Strat. Capabilities Policy, Natl. Security Council, Washington, D.C., to Cmdr., AF District of Washington, Bolling AFB, D.C. ... Brig. Gen. (sel.) Everett H. Thomas, from Cmdr., 341st SW, AFSPC, Malmstrom AFB, Mont., to Vice Cmdr., USAF Warfare Center, ACC, Nellis AFB, Nev. ... Brig. Gen. Lawrence L. Wells, from Cmdr., 9th Recon. Wg., ACC, Beale AFB, Calif., to Asst. Dir., Air & Space Ops., ACC, Langley AFB, Va. ■

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Action in Congress

By Tom Philpott, Contributing Editor

Slimmer Pay Raises; Targeted Raises in Store; DOD Presses Tricare Increases

Pay Raise Pace Slows

After six years of military pay raises that exceeded the rate of wage growth in the private sector, the Bush Administration has proposed a 2.2 percent increase in 2007 that matches wage gains for the US workforce.

January pay increases from 2001 through 2006 were set, by law, a half percentage point above wage growth in the private sector as measured by the government's Employment Cost Index (ECI). (See "Action in Congress: Pay Raise in the Bag," December 2005, p. 24.) For example, the 3.1 percent military pay raise of January 2006 exceeded a 2.6 percent climb in the ECI, measured from October 2003 through September 2004.

That lag in the ECI yardstick allows defense officials to factor in pay raise costs early in their budget planning cycles. The ECI-plus-a-half-percent was intended to be a temporary formula, to gradually narrow a perceived pay gap between the military and civilian peers.

With that law now expired, the Bush Administration, as expected, plans for a 2007 pay raise that matches yearly changes in the ECI. The index rose 2.2 percent from October 2004 through September 2005.

When the budget was released, DOD Comptroller Tina W. Jonas noted that military pay has gone up 29 percent since 2001, and specific, "targeted" pay increases "will be very important to the senior enlisted" troops DOD most wants to keep in uniform.

Those targeted for bonuses could include warrant officers and special operations forces with high-demand language skills, added Vice Adm. Evan M. Chanik, Joint Staff director of force structure, resources, and assessment.

Those Targeted Raises

Warrant officers and enlisted forces in pay grades E-5 through E-8 will get a special midyear pay raise on top of their 2.2 percent January pay hike, if Defense Department officials have their way.

Wage growth in the private sector for calculating the 2007 military pay raise was expected to come in at 2.7 percent. That was the Pentagon's planning figure. When it came half a percentage point lower than anticipated, defense budget officials found themselves with a \$263 million surplus for 2007 pay adjustments.

To use the windfall most effectively, officials drafted a plan to raise basic pay selectively in mid-2007. Beneficiaries will be those in warrant officer ranks and enlisted grades whose total pay still falls below the 70th percentile of private sector workers of similar age and educational backgrounds. The ninth Quadrennial Review of Military Compensation endorsed the 70th percentile standard for military pay in May 2002, but defense budgets haven't accommodated full implementation across all pay grades.

At the end of February, this new effort to move close to that goal was under review by the White House's Office of Management and Budget. Until the plan clears OMB, Pentagon pay officials declined to release further details.

Democrats Want More

In February, two weeks after the 2007 budget was presented to Congress, a group of Democratic Senators led by John Kerry (Mass.) wrote to the Senate Budget Committee urging that it plan for a bigger military raise, as 2.2 percent would be the smallest military raise since 1994. The letter does not propose a specific alternative raise.

The committee, said the Democrats, should reject "a paltry increase" that "neglects the value of [service members'] service and the very real challenges of recruiting and retaining an all-volunteer military in time of war."

Senators who co-signed the letter were Edward M. Kennedy, Jeff Bingaman, Tim Johnson, Bill Nelson, Barack Obama, Christopher J. Dodd, Richard J. Durbin, Mark Dayton, and Frank R. Lautenberg.

Military, Civilian Pay Equalized

With the Administration no longer required by law to plan for a larger military pay raise, President Bush for the first time has proposed identical across-the-board increases for military and federal civilians.

Michael B. Styles, president of the Federal Managers Association, called it "a bittersweet victory after years of fighting for pay parity." Civilian workers were "finally able to garner support from the President to recognize the contributions of all federal managers and employees, but now we're faced with the lowest pay raise in almost two decades."

A 2.2 percent raise, added Styles, "doesn't strike me as adequate recognition."

DOD Upholds Tricare Increases

Defense Secretary Donald H. Rumsfeld and Marine Corps Gen. Peter Pace, Chairman of the Joint Chiefs of Staff, testified before the armed services committees in early February to support a plan to raise Tricare fees and deductibles for under-65 retirees and their families.

Another part of the Defense Department plan to sustain the medical service would raise Tricare retail pharmacy co-payments.

Several Republican leaders said they understand the rationale for raising the long-frozen fees. Other Republicans joined some Democrats in saying they oppose increasing out-of-pocket expenses.

The plan would leave unchanged Tricare fees or deductibles for active duty families. But for under-65 retirees, the plan would:

- Raise Tricare Prime enrollment fees that have been set since 1995. New fees would vary by rank.
- Raise deductibles under Tricare Standard in two increments in 2007 and 2008.
- Set first-ever Tricare Standard enrollment fees, which would also vary by grade, up to \$560 for family coverage for officers.

■ Adjust fees and deductibles annually, starting in 2009. Tricare fees and deductibles for under-65 retirees would be raised annually by the percentage set for federal civilian employees under the Federal Employees Health Benefits Program.

■ Raise the co-pay for the Tricare Retail Network. Co-payments under the Tricare pharmacy network would be raised for all beneficiaries who use the drug retail network.

Keeping Pace With Costs

Pace endorsed every change, telling lawmakers that "re-norming" Tricare fees and deductibles from 1995 to current dollars would go a long way toward preserving a "superb" medical benefit whose costs have spiraled out of control.

Rumsfeld said low fees have turned Tricare into a "magnet" for working-age military retirees who increasingly are encouraged by civilian second-career employers to use Tricare rather than company health plans.

Sen. Lindsey O. Graham (R-S.C.), chairman of the personnel subcommittee, praised Pace and Rumsfeld for recommending higher Tricare fees and said he stood ready to help.

Graham's committee counterpart in the House, Rep. John McHugh (R-N.Y.), did not react as warmly. McHugh was worried that of \$578 million in projected cost savings from the Tricare plan for 2007, \$420 million "are imputed savings" that hinge on "changes in behavior." In other words, McHugh said, the department is expecting a lot of people to stop using Tricare.

"I guess we could talk about the morality of that. Is that the way to contain costs, persuade people not to use health care?" McHugh asked Rumsfeld and Pace.

McHugh said it's more important to consider whether critical military programs will be put at risk if the imputed savings from higher Tricare fees aren't achieved and money for health care has to be shifted from other accounts.

The decision to vary the Tricare fees by rank was pushed by military leaders who worried about lower-ranking enlisted retirees being able to afford higher fees.

VA Fee Increases: Take Four

The Bush Administration's \$80.6 billion budget request for the Department of Veterans Affairs asks Congress, for the fourth year in a row, for authority to collect a health care enrollment fee of \$250 a year from veterans who use VA health care and have above-poverty incomes and no service-related disabilities.

The same category of veterans also should face higher co-payments for medicines from the VA for non-service related conditions, the Administration says.

The House Veterans' Affairs Committee won't approve either change, says its chairman, Rep. Steve Buyer (R-Ind.).

But to Sen. Larry E. Craig (R-Idaho), chairman of the Senate Committee on Veterans' Affairs, VA enrollment fees

and higher drug co-payments aren't so far-fetched.

Craig called the proposed fee increases "eminently reasonable." Besides charging patients an enrollment fee if they have no service-related ailments, the Bush budget would raise the VA pharmacy co-payment from \$8 to \$15 for a 30-day supply of drugs from the VA for non-service related conditions. ■

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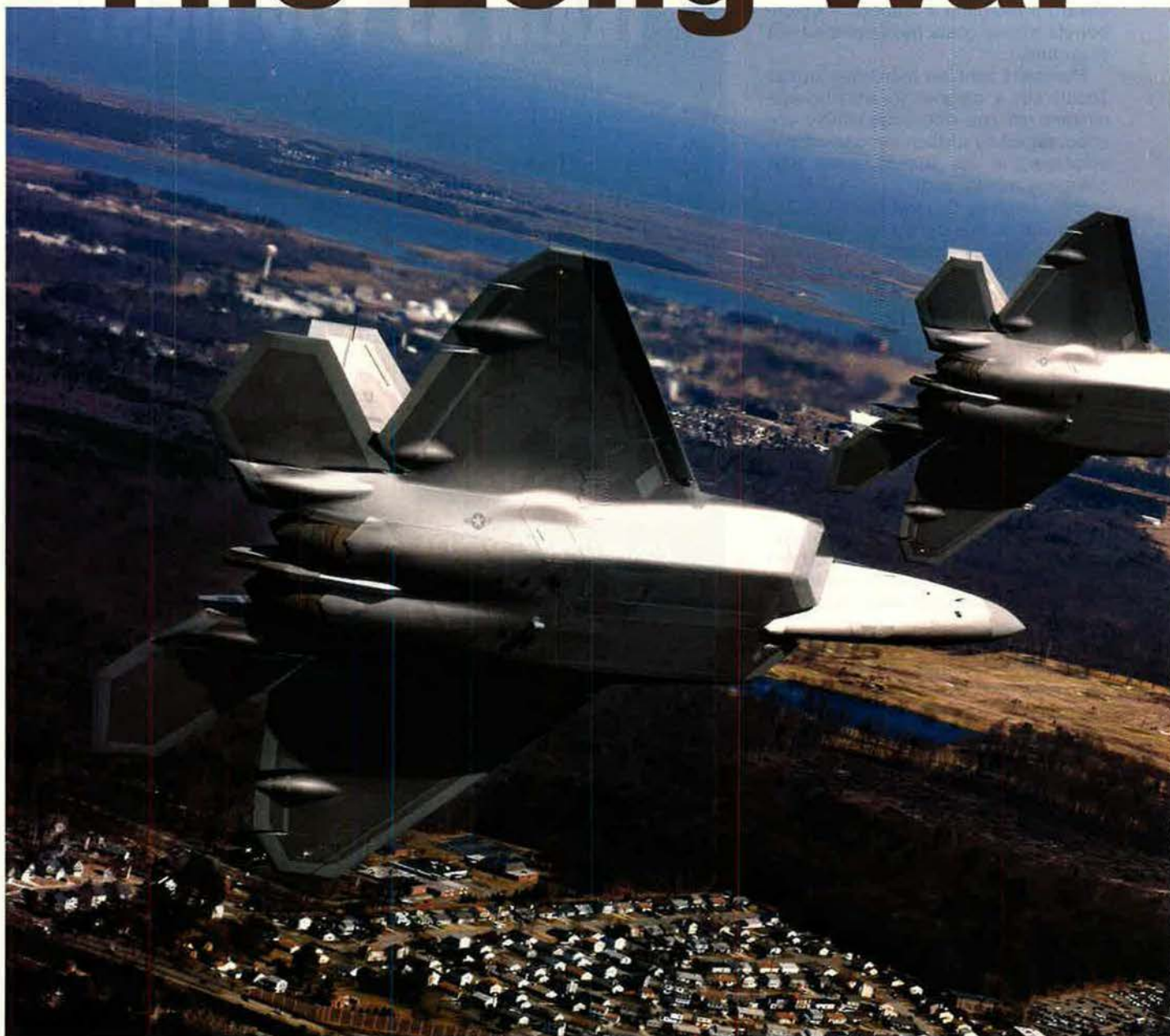
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The war on terror dominates DOD thinking, but the Air Force must be ready to fight across the spectrum of conflict.

Holding on Thro “The Long War”



The first two F-22s of the 94th FS at Langley AFB, Va., line up on final approach. Service leaders worry that air dominance was simply taken for granted in the Quadrennial Defense Review.

ugh

By John A. Tirpak, Executive Editor



The Air Force's most senior leaders brought this blunt message to AFA's latest Air Warfare Symposium: As a result of the Quadrennial Defense Review, the service is getting smaller, it will have to stretch out the lives of many old aircraft and keep them in service, and it will have to depend on the other armed forces branches to provide critical capabilities USAF has provided for itself in the past.

More sobering, though, was their clear expression of concern that the Air Force's contributions to national security are either undervalued or taken for granted and certainly not funded at the levels necessary to maintain the force.

Air Force Secretary Michael W. Wynne, making his first address at the annual event, held Feb. 2-3 in Orlando, Fla., said, "I sometimes think that the Air Force plays its role so well that it becomes an assumption of the plan. ... People forget that they need to, in fact, resource it."

Wynne observed that the core capabilities of the service—air dominance and global reach—"have been hard earned and they need to be nurtured, not assumed." He added that, while there is now a Defense Department-wide focus on fighting and winning the Global War on Terror, the services are still obligated to prepare for all security threats.

"You will find in the QDR that we remain responsible for the entirety of the spectrum of warfare," Wynne asserted, meaning that USAF must still be able to cope with adversary air forces, space threats, and ground defenses, and not just terrorists, insurgents, and improvised explosive devices.

These latter, "asymmetric, cross-border" threats, with their own "global reach," have been "highlighted" in the QDR, Wynne said.

Center of the Universe

The Global War on Terror has been the main driver of all defense considerations, Wynne added, and has trumped efforts to come to grips with the need for long-term, future capabilities.

Wynne's words: "We must recognize that everything—every requirement, every weapon system, and ultimately every dollar—[everything] we do in the future will be colored by the stark fact that today, right now, our soldiers, sailors, marines, and airmen

are engaged in a bloody fight with a deadly enemy."

Speaking on the eve of the release of the QDR, which had been taking shape for more than a year, Wynne said the review pushes the services toward even more jointness and on toward acceptance of "full interdependency," which he asserted will signal "a seismic shift in the way we define our operations of the future." The services will have to assume that their sister branches will be successful in their areas of specialty and will have to share facilities, assets, resources, and people.

He also noted that this was the first QDR "written in wartime."

The major thrust of the QDR is to finally banish so-called Cold War thinking and organization from the US military, Wynne explained, eliminating the fixation on "a specific country or one type of threat," and replacing it with a more adaptive, agile force that can shift gears rapidly.

The QDR did not abandon the whole concept of deterrence, which lay at the heart of Cold War thinking, but has replaced it with "tailored deterrence," meant to give the President options against any threat—options that will be meaningful to that threat, whether it is a near-peer competitor such as China, a rogue power such as Iran, or stateless terrorists and their networks.

The military called for in the QDR would make a break from "bulky, industrial age force to speedy, information age stretched forces," said Wynne.

Gen. T. Michael Moseley, the Air Force Chief of Staff, expended some of his time at Orlando explaining how the Air Force presented itself in the QDR deliberations. He said the Air Force is uniquely responsible for "two domains: air and space." These domains, he went on, "are inherently different, but they are a continuum of activities, from one centimeter off the surface to geosynchronous orbit. That's what we contribute."

While the Army dominates the land arena and the Navy-Marine Corps team controls the maritime arena, airpower, said Moseley, "is not limited by oceans, by shorelines, by shallow water [or] ... mountains. ... It's not limited even by distance." Borrowing from the service's new credo, he said, "The unique contribution [of the Air Force] in this world of interdependence ... is reflected by air- and space power ...



The Air Force will shrink by 40,000 people, according to Gen. Michael Moseley, USAF's Chief of Staff. He pledges to start at the top, eliminating the positions of 30 generals.

in the notion of delivering sovereign options or in the notion of holding a global set of activities or targets at risk."

To be able to do so, Moseley said, is self-evidently "an inherently tailored deterrence for the leadership of this country."

Air Force, Defined

According to Moseley, "global strike, global mobility, global intelligence, surveillance, reconnaissance or global vigilance define the role of an Air Force" and describe its unique contribution to the overall, interdependent fight.

The QDR highlights using information—and especially intelligence—to substitute for physical activities wherever possible. One example would be reachback, in which forward deployed forces rely on expertise and databases at home base, rather than bring people and support materiel forward. Such an approach not only saves money by reducing forward footprint, but it speeds the fight and contributes to serving multiple functions along a single electronic pathway, Wynne said.

The focus on information technologies is one reason Wynne has circulated a new semiofficial motto of the Air Force stating the service will fly and fight in air, space, and cyberspace. The service has long been "heavily invested in cyberspace," he said, and that fact should be recognized.

Wynne also noted that "anyone can become a peer competitor with the United States in this arena."

However, the recognition of both the threat and the need for more agile operations will force an overhaul of the methods by which USAF acquires new systems. The technology is advancing "so rapidly that our laws, conventions, and doctrine lag just a little bit behind," he admitted. He promised a refashioning of the acquisition system, featuring better-trained specialists and a higher

degree of emphasis on accountability and ethics.

From industry, Wynne said, USAF will demand better cost estimating. From itself, the Air Force will demand tougher discipline in the buying process.

"We can no longer admire our PowerPoint presentations while our programs languish, and we must stop bemoaning our challenges and take action to speed up our acquisition cycle wherever we can," he insisted.

The QDR points out a need for "more options" from the military in dealing with everything from all-out war to disaster relief to nation building, Wynne said.

Among those additional options will be a long-range precision strike system, yet to be defined, but notionally described as a superfast unmanned vehicle able to leap long distances and able to loiter over the target area with a considerable load of weapons.

"The long-range strike airplane ... was considered in the QDR and it was considered vital," Wynne said. "We're investing heavily right now in all of the aspects of technology, less the platform, hoping to come together with a program and a plan sometime in the 2009 to 2010 time frame."

The Pentagon asked the Air Force to accelerate the program, from an in-service date of 2037 to "the late 'teens,'" Wynne said, adding, "Done deliberately and done right, I think we can bring this to fruition."

However, he later acknowledged to



Air Force Secretary Michael Wynne said winning the war at hand is the service's top priority, but USAF remains responsible for defeating modern and future aerial and ground-based air threats.

reporters that even under such a long timetable, getting a new airframe on the ramp by 2018 “will be a struggle.”

Seven Squadrons

In a separate Orlando press conference, Wynne and Moseley were asked whether the Air Force’s long-held insistence that 381 F-22s are needed is still in force, albeit as an unfunded mandate, or whether 183—the new, budget-decided number—is a strategy-derived fleet size.

Moseley said that the 183 figure is “adequate” to meet USAF’s needs, when viewed in the context of other systems such as legacy fighters, the new F-35, existing bombers, and the future long-range strike platform. The Air Force would like to get the 184th F-22 and beyond, he said, but allowed that “we are not planning on it.”

The Air Force will be able to squeeze seven deployable squadrons out of the 183 F-22s it now plans to buy, Moseley said, but at a level of 18 aircraft per squadron, rather than the 24 normally associated with an Air Force fighter squadron. In its old plan, the Air Force said it needed at least 10 squadrons—one for each of its 10 Air and Space Expeditionary Forces—containing 24 combat-coded F-22s. Moreover, it needed another complement of F-22s for test, training, maintenance pipeline, and attrition reserve. That brought the total to 381, which was for years held out as the minimum number needed.

Another new project would be a Joint Cargo Aircraft program, undertaken in partnership with the Army. Moseley told the Orlando crowd that such an aircraft will not only be able to support widely dispersed ground forces that are operating at a distance from big airfields, but also will serve well with allies that could buy and use it in their own forces, allowing interoperability on future airlift in much the same way the nation has enjoyed interoperability of fighters.

Wynne underscored that streamlining and efficiency will be the hallmarks of the military under the new QDR.

The Air Force will give up about 40,000 USAF members from its active duty, Air National Guard, Air Force Reserve, and civilian ranks over the next five years, Wynne noted. It also will reduce its size in fighters by about 25 percent and “10 percent of our overall aircraft.” The reason is that new weapons are so precise, effective,

The Air Force Gets a Friendly Lecture on Intelligence

The Air Force has rightfully elevated intelligence to the status of an operational, fighting activity, but needs to change some of its cultural ideas about how intelligence should be valued and given resources. Until it does, the Air Force will find itself increasingly out of the intelligence decision-making loop at the highest levels.

So asserted Gen. Michael V. Hayden, principal deputy director of national intelligence. Hayden, who was formerly the head of the National Security Agency, said the Quadrennial Defense Review boiled down to a mantra of “find, fix, and finish”—the latter meaning to destroy.

He said, “Now [that] we’ve made this psychic shift, ‘finishing’ is easy, ‘finding’ is hard,” but too much of the Pentagon budget is “weighted ... on ‘finish,’” especially the Air Force budget.

“Culturally, habitually, the way we build programs, we’re still reinforcing things that we’re comfortable with, things that we’re used to,” such as bombers and fighters and airlift. That will have to change, because the shift toward increasingly precision-based attacks means that “information becomes absolutely critical to our success as a service, and I’m really talking here about us. About we airmen.”

When faced with drastic cuts to cherished programs, the Air Force saw the national intelligence budget, funded with billions, and decided to reduce its own investment in intelligence-surveillance-reconnaissance.

“They kind of look over that fence and say, ‘My God, there are tens of billions of dollars over there in that other budget. They do SIGINT and they do imagery and they do [measurement and signature intelligence]. Hey, we’ll just get it from them.’”

Hayden said he went along with that thinking to justify his own budget in the national intelligence program, but it hurt the Air Force.

Speaking as a USAF officer, he said, “We began to bleed off organic intelligence resources. There was one point when America’s Air Force’s ability to take tactical photo reconnaissance was confined to four pods sitting somewhere around the Richmond International Airport with the Virginia National Guard.”

The Air Force made the right move in equating intelligence with fighting assets a few years ago, he said.

“The Air Force in its heart took that philosophical leap into the abyss and said, ‘Intel is not a support function. Intel is a war winner. Intel is on the ops team.’”

In doing so, however, USAF rearranged how intelligence was organized within the service, and this led to some problems, Hayden pointed out.

By putting intelligence under the deputy chief of staff for plans and operations, the service lost a two-star general to be champion for the intel function, Hayden explained.

There were other unanticipated drawbacks. The Air Force tends to focus on intelligence applications—“Your very best people are out there in the CAOC” rather than working on intel creation. That, Hayden said, has led to too few career intelligence officers and a consequent lack of representation on the war councils of the regional commanders.

Career intel officers “talk about a glass ceiling, and nobody can get beyond [colonel]. It’s led to that. [There’s] a little bit of ... whining there, but there’s some truth in there, too.”

More importantly, though, “there isn’t a J-2 [intelligence chief] in the United States armed forces on the planet” who’s a USAF officer. “All the J-2s at the commands, last time I checked, belong to some other service.”

This, Hayden continued, “tends to have an influence on how America fights wars. ... It’s got to affect the thinking of the staff and the decisions of the commanders.”

He also argued that one of the reasons USAF hasn’t “won all our arguments” in the QDR is that “the world views of those people who seem to be making the final decisions, those world views don’t quite comport with our world views, how we as airmen view the world.”

That happened, he said, because of “the lack of airmen inside this broad national function called intelligence, or the lack of airmen in influential positions.”

The Air Force has codified its emphasis on applications instead of intel creation, Hayden said, in its oft-repeated slogan that all intel should lead to “a cursor over the target.” This preference for absolute quantification will have to shift a bit toward “liberal artsy” considerations, such as the cultural impacts of destroying certain kinds of targets or the effect on an economy.

“It’s more than just the math about the right weapon at the right [designated mean point of impact].”

“That cultural thing is going to be a big deal.”



The Air Force wants to retire 839 aircraft, including all its F-117s (pictured). Service leaders say the old stealth attack aircraft are expensive to maintain and new platforms can do the job equally well. Congress in the past has blocked such moves.

and multimission-oriented that USAF doesn't need as many, he said.

He added that aircraft also will be easier to maintain by a great margin, meaning fewer support personnel will be required to keep them operating.

These advancements also mean "because of the expected mission capability rate, we are increasing the crew ratio and testing what exactly does constitute a squadron."

Moseley noted that the Air Force has been at war for 15 straight years—from the Gulf War that began on Jan. 17, 1991, and through various wars and military actions up to today's combat—and the experience of that time has yielded lessons learned that provide "an opportunity to be smaller."

Who Are Those Guys?

He said that the reduction isn't a dangerous thing, considering that a good percentage of the force still has not and will not deploy. "If we've got folks in the Air Force that haven't deployed, and we've been fighting longer than World War II," he said, joking, "Who are they?"

The figure of 40,000, he continued,

seems daunting, but represents a reduction of "seven or eight percent," versus the post-Cold War downsiz-

ing that began in 1990. "We came off ... 40 percent ... in that two- or three-year period," he said. The new cuts won't be felt as badly, thanks to efficiencies.

He added, "We're not going to start this at the bottom of the pyramid; we're going to start this at the top," and USAF will begin the cuts by eliminating "30-plus general officers."

Better management of aircraft—in depots and on the flight line—also is providing a benefit equivalent to having more aircraft, Wynne said. He has asked Air Mobility Command to develop faster techniques for "pit stop"-style fast refueling of aircraft on the ground and in the air to reduce both the need for tankers and to get more out of operational missions. Such leaner techniques have "kept more airplanes in the sky than on the ground. ... The end result is the same as if we had added to our production rate."

However, these successes come "with a caution, and that is our 'wear out' factor," Wynne observed. The Air Force is already flying "more hours than we had planned" and officials don't know if the increased operating tempo will seriously affect the life expectancy of its systems.

More efficiencies can be found by comparing the activities of active duty and reserve component forces and eliminating unnecessary redundancies in equipment, people, or facilities.



The QDR identified a strong need for a new global strike platform, which is be ready by 2018. Wynne said the goals of super high speed and big payload pose a tough challenge. Above is a Northrop Grumman artist's conception.



The Air Force can live with 36 fewer B-52s, service leaders insist, as long as the remaining aircraft get sufficient upgrades. The proposed stand-off jammer electronic attack modification for the fleet has been canceled.

Wynne made a plea, however, to be allowed to use the money the Air Force has left to operate more wisely than existing laws allow. He wants to retire old aircraft that cost too much to operate and don't offer an adequate payback for the resources they consume.

"Older aircraft ... kept in inventory beyond their useful military utility require costly maintenance and modifications to try to restore some of that marginal military utility. Sometimes this requires a complete overhaul, which yields a marginal gain overall."

The Air Force, in the Fiscal 2007 budget request sent to Capitol Hill the following week, asked Congress to permit the retirement of 36 B-52 bombers, all F-117 stealth attack aircraft, and the U-2 fleet on an accelerated schedule, as well as all the KC-135E and C-130Es in the inventory.

Free the Air Force 839

Congress has specifically barred the Air Force from retiring "839 aircraft, or 14.5 percent of the fleet, [which] I no longer have the right to manage," Wynne protested. No other service labors under such a burden, he noted.

However, he cheered moves by Congress to add funding to re-engine many of the 707-derived airframes USAF flies, such as the AWACS and E-8 Joint STARS, promising to run

with the ball and find other savings if the new motors are acquired.

Wynne said he will order a "holistic evaluation of our large aircraft fleet" to see if the new engines could yield other efficiencies. For example, "if changing engines allows for dramatic increases in range, then will it also change deployment and expeditionary requirements? ... Ultimately, we save quite a bit in infrastructure investment."

Moseley said that he believes the Air Force "can become much more expeditionary" and increase "the percentages of people in [USAF] who do deploy." He said that language proficiency in Arabic, Chinese, French, or Spanish will soon be a requirement at all levels of professional military education, both for officers and enlisted, as will specialized knowledge about a given area of the world.

He pledged to slim down headquarters staffs and command and control functions, to eliminate unnecessary layers, and improve the sharing of information, both within USAF and among the services.

Moseley also promised a thoughtful re-evaluation of the intelligence aspects of the Air Force mission. The QDR focused on greater depth of knowledge of the battlefield, he said, since there's no longer much doubt that the Air Force can destroy any target, once it has been located.

"We have the killing piece down

pretty good," he said, but "the finding piece is becoming more of a challenge." Finding the enemy and passing that information along to fellow services and allies is "an issue of orbital systems, air-breathing systems, and a command and control net, and a completely different notion of United States Air Force intelligence, as far as capturing, assessing, analyzing, and transmitting these seemingly unrelated bits of data."

The route to "unblinking" surveillance of areas of interest lies not just with satellites but unmanned aircraft, he added.

Moseley told reporters that the Air Force has not given up on the idea of near-space vehicles and that there is funding in the budget for science and experiments regarding such high-flying potential ISR platforms.

Wynne asked attendees—uniformed personnel as well as industry officials—to "open your mind to this new environment" of the QDR-driven force, and "work with us to figure out what could be coming next ... and how to tell the Air Force story in a way that reflects the efficiency and effectiveness across the Total Force." He warned, though, that the service's long-term capabilities mustn't be neglected in the drive to win the short-term fight.

"Providing even a hint of moderating our goal to dominate the air is the kind of encouragement that our enemies don't need," Wynne asserted. ■



Strengthening the Real-World Force

Top commanders at AFA's Air Warfare Symposium say that the force is fighting on two fronts—the present and the future.

By Adam J. Hebert, Senior Editor

Above, two F-15E Strike Eagles prepare for launch at RAF Lakenheath in Britain. At right, airmen of the 18th Aeromedical Evacuation Squadron train at Yokota AB, Japan.

The operational Air Force is simultaneously fighting the enemy and transforming itself. In other words, the service is applying the lessons of recent combat actions to its missions today, even as it changes in major ways to meet future needs.

That is the word from senior USAF leaders who gathered for the Air Force Association's annual Air Warfare Symposium, held Feb. 2-3 in Orlando, Fla.

At this year's event, top officers referred repeatedly to the concept of "interdependence"—that is, the tight

interweaving of various service functions to produce a more powerful and more efficient combat whole.

Such emphasis was natural, given the imminent release of both the Pentagon's Fiscal 2007 budget and the final report of the year-long Quadrennial Defense Review, both of which gave heavy attention to ways and means of strengthening "jointness" within the American armed forces.

Speaking about issues affecting the operational force were four commanders: Gen. Ronald E. Keys (Air Combat

Command), Gen. Paul V. Hester (Pacific Air Forces), Gen. William T. Hobbins (US Air Forces in Europe), and Gen. Lance W. Lord (Air Force Space Command).

All explained the challenges inherent in the symposium's theme, "Forging the Interdependent Force."

Keys of Air Combat Command noted that 2005 was a busy year for his forces—and not simply because of the war in Iraq.

Operation Enduring Freedom, Operation Noble Eagle, and the demands created by Hurricanes Katrina, Rita, and Wilma all taxed the Air Force. At the beginning of the year, USAF aided nations devastated by the Asian tsunami; at the end, USAF was flying relief missions to earthquake-ravaged Pakistan.

"Wars and operations ... are my operational challenge," Keys said. These missions can create financial problems. Last year, ACC canceled \$402 million in planned spending, "including \$132 million in facility projects and \$71 million in peacetime flying hours," he said.

Crossing the Divide

"That's a philosophical divide that we have never crossed before, to cut flying

hours in order to pay bills," including soaring fuel costs.

Keys noted that much of the money was restored at the end of the year, but unflown flying hours cause damage to readiness that cannot really be made up. "Sorties didn't get flown, training didn't get done."

Keys said, "We lost some combat capability," which is dangerous.

The general noted that advanced, realistic training is the factor that underwrites Air Force dominance in air combat. Other nations—countries that "are not our allies"—know this and are taking a page from the Air Force playbook.

"They're coming after us," Keys said. "They're as smart as we are, they're starting to train like we are, they're developing tactics like we are, and they are a potent force."

ACC is dealing with equipment and regulations that are not necessarily tailored for the Air Force's expeditionary nature. He noted the case of Operation Allied Force, the 78-day NATO air war in the Balkans in 1999. USAF wanted to put up a Predator control tower for that war, but, under the rules of the time, it would have taken six months just to award a contract.



USAF photo by SSGT Tony P. Tooley



USAF photo by MSgt Val Gemplis



**An A-10 heads out on a combat mission from Bagram AB, Afghanistan, while air-
men ready other Warthogs. ACC chief Gen. Ronald Keys said the Air Force must
have tough equipment if it is to succeed in expeditionary settings.**

Keys noted that these rules “were perfectly fine for an in-garrison, peacetime situation.” That is because the Air Force “wanted to make sure the concrete was the best price and it was going to be [military] standard and it was going to last for a thousand years,” he said. The system does not work so well when responsiveness is needed.

Similarly, Keys went on, the Air Force needs equipment that works in tough, expeditionary settings.

“That means it’s going to be sustainable in an expeditionary environment,” Keys said, explaining that whether it is “the heat of the desert, or the humidity and rain in Southeast Asia, ... it’s got to work [and] be mobile.”

A targeting pod that only works 60 percent of the time in dust or heat is not truly expeditionary equipment, he said.

Lord, then head of Air Force Space Command, said that he has had extensive discussions about capabilities with all unified combatant commanders, and, in these conversations, talk always gets around to two major subjects. One is the need for more and better intelligence-surveillance-reconnaissance (ISR). The other is the need for more-connected communications.

The need for additional ISR capability is well-documented, and Lord does not believe that the situation is hopeless, as some claim. The Air Force, according to Lord, must “really work on the ‘I’ part” of the ISR challenge, but “I think we know how to do the ‘S’ and ‘R.’”

“Engagement” With China—Still a One-Way Street

In the past year, Gen. Paul V. Hester of Pacific Air Forces has hosted visits by several high-level Chinese contingents.

Each contingent comprises some 20 Chinese general officers, Hester told the audience at AFA’s Orlando Air Warfare symposium. He brings these groups to Hawaii for discussions that keep Beijing apprised of PACAF’s plans in the region. The point is to prevent surprises and misunderstandings.

The meetings have been “as open as we can possibly be,” Hester said. “I’ve showed them everything that we are going to bed down in the future and what we’re bedding down now, and all of the exercises that we’re running and who we’re doing them with.”

The command participates in a series of multinational exercises with Pacific nations “from India all the way around to Korea.”

The meetings serve to inform China about US military capabilities. Hester said he “took the opportunity to show them the results of Resultant Fury last year, when we had the opportunity to sink moving ships at sea.” When satellite-guided Joint Direct Attack Munitions sink a ship, “it makes a powerful impression.”

This has not been a two-way street, however. Reciprocal engagement is “absolutely zero,” he said.

“I’ve tried to go” to China, noted Hester. “I’ve been told that I can’t go this year.”

The challenge is not gathering data, it is turning the information into useful intelligence.

Space Command could use some help from the Army, Navy, and Marine Corps, however. The commander said that all of the services depend on space-based combat capabilities, but almost no one from outside the Air Force is active in their development. More soldiers, sailors, and marines are needed in the program, he explained, so that “we can really integrate the kinds of capabilities” being developed.

No “Joint Credit”

Lord noted that, because troops do not receive “joint credit” for these assignments, other services are not inclined to send officers to help develop space

systems. “In some cases, we’ve got more foreign and allied officers helping us [than] folks from our own other services.”

Lord said the benefits are clear when the services work together on space-related issues.

He cited the case of Col. Michael J. Carey, commander of the 90th Space Wing, F.E. Warren AFB, Wyo. Carey was sent to al Udeid AB, Qatar, where he worked in the combined air operations center as director of space forces in the Afghanistan and Iraq wars. One of his first tasks was to deny the enemy command and control.

While that might sound easy, it was not, because there was great danger of “collateral damage”—disruption of the US forces’ link to GPS signals. Those signals had to be preserved at all costs. “Mike was able to work with his colleagues, understand the two objectives,

and put those together in a way where we could truly make the space forces interdependent in that kind of operation,” said Lord.

Lord said AFSPC operational equipment is performing well. The Air Force has nothing “to be sorry about [concerning] our stewardship of the Global Positioning System,” Lord said. The command has decided to take “a little risk now in the constellation sustainment” to free up money and accelerate the next generation GPS III constellation.

Space Command’s worldwide navigation, ISR, and communications systems help the Air Force overcome the distances that complicate operations in the Pacific Theater, Lord said.

The chief of Pacific Air Forces, Hester,

agreed wholeheartedly with that statement. The Pacific region is so vast that commanders cannot routinely put up reconnaissance aircraft and keep them airborne for the length of time that would be needed to give the “persistence” of coverage that is now required for operations. Hester said, “Space helps us with that.”

PACAF also is moving, of course, to improve its access in the theater for aircraft. The command recently received the first contingent of C-17 strategic airlifters permanently based outside the continental United States. Eight Globemasters are headed to Hickam AFB, Hawaii, where they will be flown and maintained by a Total Force team.

In 2007, the first of another eight C-17s will arrive for permanent basing at Elmendorf AFB, Alaska.

Hester said the Hawaii C-17s will immediately boost USAF responsiveness in the Pacific. Their flying time to potential hot spots on the East Asian rim will be eight hours shorter than is the case with airlifters stationed on the US West Coast.

Guam Is Big

In the Western Pacific, Andersen AFB, Guam, occupies a central spot in PACAF’s plans. Hester said he expects fighters, refueling tankers, and bombers to continue to rotate there on an indefinite basis.

Bombers have been present in the Western Pacific for two years now, at the specific request of the commander of US Pacific Command. Hester said he does



A C-17 departs Ramstein AB, Germany, on a flight to Charleston AFB, S.C. Ramstein is in the midst of a major upgrade befitting its growing role as an Air Force airlift hub for Europe and the Middle East.

not expect PACOM to change its standing request for “continuous deployment of those bombers” at Andersen.

One system that will be permanently based on Guam is the RQ-4 Global Hawk unmanned aerial system. Six Global Hawk spyplanes will be assigned to Andersen, and Hester thinks there is room for many more.

“I would take a ... lot more of those things and put them all at Guam,” he said.

Global Hawk also presents an opportunity to build ties with major countries in the region. Japan, Singapore, Australia, and South Korea have all expressed interest in the partaking of

capabilities the Global Hawk offers, Hester said, to the extent that they are “considering putting money into the research and development and the sponsorship of certain sensors.”

Japan may want to base Global Hawks of its own on Guam. The RQ-4 “needs an opportunity to be away from airports so that it can spiral up and get over the top of [the] airlines, and then do its business,” Hester said. He noted that this would be tricky on Honshu, given the extreme crowding of Japan’s airspace.

Hester suggested that Guam could become the site of a Global Hawk “pen,” from which Japan and other nations could operate their own systems. Hester’s advice: “Let’s all work Global Hawk issues together.”

Bilateral agreements are important in the Pacific, he said, because there is no NATO-like alliance structure. In the Pacific, relationships must be built one country at a time. Hester said equipment is often a good starting point.

South Korea is now buying the F-15K and Singapore the F-15SG—advanced variants of USAF’s F-15E Strike Eagle. (See “Aerospace World: Boeing Unveils F-15K,” May 2005, p. 22, and “Aerospace World: Singapore Buys More F-15s,” February, p. 21.) These buys make sense, because “if you’re going to buy another piece of equipment, you must be thinking about ... who you’re going to be [using it] on the battlefield with,” Hester said. Common equipment encourages officer and senior enlisted exchange programs, so that “we can teach you and you can teach us, and

USAF photo by SSgt. Marcus McDonald



SrA. Sabrina Baker, foreground, and other explosive ordnance disposal technicians clear a minefield in Afghanistan. Gen. William Hobbins, commander of US Air Forces in Europe, said NATO, now active in Afghanistan, is becoming expeditionary.

USAF photo by MSGt. John E. Laaky



Bombers such as this B-1B departing Andersen Air Force Base are regular fixtures on Guam. Gen. Paul Hester, commander of PACAF, said all three types of US bombers—B-1B, B-2, and B-52—will continue to deploy to the Western Pacific.

we can then mesh those [experiences] together on the battlefield.”

Economic growth in the region “produces an opportunity for folks to want to protect their economy and to ... protect those lines of communication and lines of commerce,” Hester said. As he put it, this development also provides an excuse for some to become militarily “adventurous.” As a result, he noted, “Military competition is high and growing in the Pacific arena.”

P-s-s-t. It's China

Hester named no countries, but he no doubt was talking about China. The communist giant’s booming economy has become a powerful magnet for natural resources—most notably crude oil, which Beijing purchases from Persian Gulf nations and transports by tanker through the constricted Strait of Malacca. Lately, China has begun to build up its naval and airpower as a means for protecting its economic lifeline.

The Strait of Malacca, lying between Malaysia, Indonesia, and Singapore, is also threatened by transnational terrorists and modern day pirates. This and other developments present major challenges for a small, economy-of-force organization such as PACAF. The solution? The Air Force must help find a way for American interests to “overlap others’ interests and to be able to encourage them to join us in worthy causes,” such as protecting commerce.

Hobbins, the commander of US Air Forces in Europe (USAFE), faces demands that are no less daunting.

Europe is wealthy on the whole and is home to a large concentration of American treaty allies. Hobbins said 17 of 22 coalition members in Iraq lie within US European Command’s area, and 12 of 19 partners in Afghanistan are from the theater.

“It’s not just a coincidence,” he said. “Active engagement pays off when it counts—in going to war.”

NATO has enlarged in recent years, adding former Warsaw Pact nations, and even some states that were once part of the Soviet Union. The growth comes with growing pains.

After the 9/11 terrorist attacks, NATO

began performing an “air policing” mission for its members, to defend the air sovereignty of the alliance’s 26 members. “If you ask my Brit friends what this amounts to,” Hobbins said, the British would say “this is a dog’s breakfast of command and control.”

Poland and Slovakia fly MiG-29s; Denmark has F-16s; the Czech Republic flies the Saab-BAE Gripen. Romania has upgraded MiG-21s, and Germany still flies F-4s. Britain has several types of non-American fighters.

“As we brought countries like Estonia, Latvia, and Lithuania into the NATO fold, they came with the old Soviet radar systems,” Hobbins added. “Their recognized air picture does not match our recognized air picture, so we’ve got to find a way to meld these things together.”

All this is in a region where some countries can be overflowed by a fighter aircraft in as few as five minutes.

Building Better Bases

Hobbins said Europe is the midway point from the US to many critical areas, and Ramstein AB, Germany, is in the midst of major upgrades. An advanced, robotic cargo terminal can now load a C-5 in an hour—a job that used to take 4.5 hours. Meanwhile, the C-5’s fuel hydrants are now “located underneath the ramp on the base, allowing refueling of a C-5 in just 30 minutes,” instead of the two hours refueling used to require.

Similarly, Hester is encouraged by improvements planned for Yokota AB, Japan. Once an all-US base, Yokota will



Northrop Grumman photo

Many nations have a strong interest in the Global Hawk unmanned reconnaissance system. The air vehicle above is landing at Edwards AFB, Calif., after flying for more than 4,800 hours in support of US anti-terror operations.

High Standards for Global Strike Systems

The Air Force needs a new attack capability that is "responsive, persistent, precise, [with] global effects for the warfighter," said Gen. Ronald E. Keys, commander of Air Combat Command. B-2 stealth bombers are slow. F-22 Raptors carry small bomb loads. And nuclear missiles are overkill in almost all circumstances.

There are a variety of ways to achieve effective long-range strike: either by having high speed, which allows attack to come from far away, or "you can be overhead, almost invisibly," Keys said.

One high-speed option is a conventionally armed intercontinental ballistic missile, something Air Force Space Command and US Strategic Command have considered. This is "just one of the options that are available," said Space Command chief Gen. Lance W. Lord, but "the speed, range, lethality, [and] accuracy of that kind of system would certainly fit into that portfolio." Conventional ICBMs would not offer much persistence, however.

The Air Force's need for a new strike aircraft is more well-defined. USAF was recently directed to move the "in service" target date for a next generation bomber—which could be unmanned—to 2018 from 2037.

It is "going to look a lot like a B-2. It will be a B-3 [or] something like that," Keys said. His "personal view" about the next generation long-range strike system is that, unlike today's stealth bomber, it is "going to be unmanned."

soon host Japan's Air Defense Command and a Bilateral Joint Operations Center for missile defense. Japan-based 5th Air Force also is building a new intelligence center. Hester said "All of this is unfolding at a very, very rapid rate."

PACAF also is refining its presence in South Korea. A US Army helicopter brigade is coming to Kunsan Air Base, and plans call for the soldiers and their equipment to be fully integrated with the Air Force facility. Hester said the command seeks to avoid creating an Army "section of the base that they can go and play in and call it Army land."

US Army troops scattered throughout numerous camps and forts near the border with North Korea are being pulled back and consolidated into more defensible positions on the Korean Peninsula.

Further, the headquarters for US Forces Korea is expected to relocate to Camp Humphries, near Osan Air Base, when USFK vacates Yongsan Garrison in central Seoul in 2008.

In Europe, USAFE also is looking in new directions. Operation Enduring Freedom has a "situation," Hobbins said, "where the line that exists between Chad, Niger, Mali, Mauritania, and Algeria is ... where we're finding the roots of terrorism growing."

While the sometimes-strained relations with longtime European allies garner a lot of attention, Hobbins said many other countries to the east and south of Europe's center are eager to engage with the USAFE. He cited Algeria, Bulgaria, Morocco, Romania, Tunisia, and Ukraine as nations that are interested in greater military contact with the United States. This could come

through mentoring programs or by the nations hosting training exercises.

Hobbins said Romania has a training center "twice as big as anything we have," that can host joint air-ground exercises.

USAFE is leveraging the "diverse capabilities" of the nations in its area of responsibility. For nations such as Morocco and Romania, hosting NATO forces can build military professionalism and legitimacy. For longtime NATO members, the NATO Response Force is driving a new expeditionary mind-set.

The NRF is similar in concept to USAF's Air and Space Expeditionary Force. NATO members contribute forces on a rotating basis. "It's made up of modules of capability, and truly it is a coalition of the willing," Hobbins said.

For example, the Czech Republic offers chemical-biological-radiological-nuclear-explosive (CBRNE) response capabilities, and Norway provides strategic sealift. Nations "have to offer up that capability," he said.

The NRF's first mission of 2005 was to the United States—a relief effort after Hurricane Katrina.

A month later, the NRF was headed to Pakistan. Forty-two nations contributed to the NRF earthquake relief effort, while C-130s were provided by Britain, Denmark, France, Greece, Italy, and Turkey.

The alliance is slowly developing an expeditionary mind-set, but it needs a push. "We've got to solve ... airlift for this NATO Response Force," Hobbins said. "Clearly the [existing] C-160s and C-130s do not meet the outsize cargo requirement for NATO equipment."

Nine members have decided to procure the Airbus A-400M, "delivering a load that's somewhere between the C-130 and the C-17," he said.

The Air Force has its own urgent procurement needs. Keys said modernization can come in several forms, but his preference is for "new-new" equipment—new buys of new technology. Examples of this include the F-22 Raptor, F-35 Joint Strike Fighter, the Predator B hunter-killer UAS, and Global Hawk.

His second preference is for "old-new" modernization—making old equipment new again through technology insertion, new weapons, avionics, and data links. Keys cited the operational benefits of this approach, such as Link 16 data links halving the time needed to get a close air support pilot on target.

Least desirable to Keys is "new-old"—new purchases of old equipment, such as F-15s. This eats funding without delivering the major increases in combat power ACC is looking for. The Air Force is already busy, and will be shrinking, so focus is important—there is no money to be wasted when the existing problems are so urgent.

Keys cited improvised explosive devices in Iraq as a problem still needing a solution. The problem is not just technology; procedures also must be improved. "You've got to know where the convoys are," he said.

Unlike the execution of an air tasking order—which precisely lays out departure times, routes, and return schedules—the convoys the Air Force is trying to defend are chaotic. It is as if airmen see a pallet in Iraq and spontaneously decide to throw it on the truck and drive it to its destination. "That's great enthusiasm, but that doesn't get you covered by an F-16 with a pod," Keys said. "We need some command and control of this whole operation."

Despite the difficulties, the Air Force is performing well, he said. As of early February, ACC alone had 150 aircraft and nearly 8,000 airmen deployed to 29 locations worldwide.

"If you're a terrorist and you've got static on your phone, that's me," Keys concluded. "That contrail overhead, that's me. That shadow passing over you, that's me. That computer that will not boot, that's me. ... And that will continue to be me until our children and grandchildren ... emerge from this cloud of terrorism into the sunshine of security and choice." ■

The Khobar Towers commander thought he had finally received justice, but the story had an unhappy surprise ending.

THE SECOND SACKING OF TERRYL SCHWALIER

By Rebecca Grant

REMEMBER Brig. Gen. Terry J. Schwalier? A decade ago, he was a rising star in the Air Force, wrapping up a successful tour as commander of the 4404th Wing (Provisional) in Saudi Arabia and on the list for promotion. Then, disaster struck his troops. On the night of June 25, 1996, an unprecedentedly large terrorist truck-bomb exploded outside the Khobar Towers military billet in Dhahran, killing 19 airmen and wounding 240 others.

Secretary of Defense William S. Cohen, facing political pressure to fix blame, went against the views of his military advisors and fingered Schwalier, saying that he had decided to deny the general his previously approved second star. Schwalier then immediately retired and dropped out of public view.

Yet the Schwalier case didn't die. Far from it. As it happens, Schwalier and Air Force officials spent much of the past four-and-a-half years waging a behind-the-scenes struggle to clear his besmirched name. Specifically, they attempted to re-establish for Schwalier his major general's rank. And they encountered an unexpected opponent—the Office of the Secretary of Defense.

The effort began in 2001. Senior service leaders—notably, then-Secretary of the Air Force James G. Roche and then-USAF Chief of Staff Gen. John P. Jumper—strongly assisted Schwalier's actions. An independent Air Force review board sitting in Washington, D.C., ruled for Schwalier, officially declaring that he should be a major general on the retired list.

Unfortunately for Schwalier and his backers, the board's action did not mark the end of the story. Either. Attorneys in the DOD Office of the General Counsel—the Pentagon's law firm—got involved, taking the unusual step of challenging the review board decision. They, in effect, overruled the Air Force on this sensitive matter.

Their action thwarted Schwalier's case, but didn't end his effort. He is now considering other options.

From Clinton to Bush

Nearly a decade after the Khobar Towers disaster, the Pentagon still was taking pains to override USAF's legal authority in the case. A problem that first cropped up in the Clinton Administration seeped into the Bush Administration—and into the tenure of Secretary

of Defense Donald H. Rumsfeld. Even today, the Pentagon won't state for the record whether Rumsfeld was made aware of the Schwalier case.

Washington politics played a big role in Cohen's July 31, 1997 decision to deny Schwalier his promotion to major general. The facts of the bombing and its aftermath have been recounted many times over the years. This magazine published its own lengthy account, "Khobar Towers," in the June 1998 issue, p. 48 (www.afa.org/magazine/june1998), and dealt with the subject on other occasions. Yet a few points bear retelling:

- The weapon used in the attack on Khobar Towers detonated with the force of at least 20,000 pounds of TNT, in the view of the Defense Special Weapons Agency. It was a danger of unparalleled size—twice as large as the bomb used in the 1983 attack on the US Marine Corps barracks in Beirut and 80 times the size of the largest terrorist device that had ever been seen in Saudi Arabia.

- Everything about the attack showed a new level of terrorist sophistication. It was long in the making and planned with meticulous care. According to a 2001 US federal indictment, terrorist planners began surveillance of the



target in 1993 and conducted regular reconnaissance for a year before the attack.

■ The Pentagon and the House National Security Committee, both of which sent investigators to the scene, put the blame mostly on faulty intelligence. “Our commanders were trying to do right, but ... had a difficult task to know what to plan for,” said then-Secretary of Defense William J. Perry. The House report cited “intelligence failures” throughout its pages.

■ Many in Congress, the media, and the public were angry that the Pentagon had based the wing’s quarters in a congested, hard-to-defend urban area such as Dhahran in the first place. Indeed, Perry immediately moved the 4404th Wing to a remote base in the Saudi desert, where it suffered no further attacks. (See “Desert Stronghold,” February 1999, p. 44.)

■ After the attack, the Pentagon appointed Gen. Wayne A. Downing, a retired Army officer and former commander of US Special Operations Command, to head an outside probe. Downing claimed Schwalier “did not adequately protect his forces from a terrorist attack,” yet his report was factually wrong on a key point—the size of the bomb. Downing said it was “most likely 5,000 pounds,” though it was four to six times that size.

■ In the wake of the Downing report, USAF conducted two comprehensive inquiries, both of which concluded that Schwalier had done all that reasonably could have been expected of him. They showed that Schwalier, far from ignoring the threat, implemented 130 separate security measures before the



Khobar Towers after the bombing. Schwalier (left) and Maj. Gen. Kurt Anderson, the commander of Joint Task Force Southwest Asia, taking questions on June 28, 1996.

attack and had made 36 of 39 changes recommended in a recent vulnerability assessment.

■ The Joint Staff did not recommend action against Schwalier. The Chairman of the Joint Chiefs of Staff, Army Gen. John M. Shalikashvili, met with Cohen several times in weeks leading up to the decision, said a former Joint Staff officer, and “was not recommending action.” In fact, Cohen was advised to leave the matter to the military chain of command.

Hindsight

In the end, Cohen put aside these factors and came to his own conclusion, which was greatly to Schwalier’s detriment. On July 31, 1997, the former

Maine Republican Senator declared Schwalier “could and should have done more” to defend Khobar Towers. He announced he would stop Schwalier’s promotion, though it already had been confirmed by the Senate and had been scheduled under the Air Force’s official appointment system.

In disciplining Schwalier, Cohen said he found several security deficiencies, but he was most critical of two: the lack of an effective alarm system to warn of impending attack and a lack of acceptable evacuation plans.

In fact, Schwalier inherited a standard speaker and siren system, and it was one that commanders were reluctant to set off, lest the local residents fear they were under Scud missile attack. As for the issue of evacuation

plans, Cohen emphasized Schwalier’s failure to conduct evacuation drills. However, Khobar Towers personnel had carried out six actual evacuation drills, triggered by suspicious packages.

Following Cohen’s announcement, a reporter asked whether he had made Schwalier a scapegoat. “He’s not being made a scapegoat,” said Cohen. “He is being held accountable.”

In reality, Cohen was responding to political demands in Congress and the media for a sacrifice. That, at least, was the way it looked to Gen. Ronald R. Fogleman, USAF’s Chief of Staff. Unable to stomach what he saw coming, Fogleman several days earlier had stepped down from the



Secretary of Defense William Cohen.

Chief's post and retired a year earlier than planned.

"You really do have to get up and look at yourself in the mirror every day and ask, 'Do I feel honorable and clean?'" Fogleman told *Aerospace Power Journal* "I just could not begin to imagine facing the Air Force after Secretary Cohen made the decision to cancel General Schwalier's promotion."

The case lay dormant for four years, until Americans and their political leaders were battered into the realization that acts of mega-terrorism are, in fact, acts of war.

Despite a new emphasis on military "force protection" and defense of civilian compounds, the terrorist attacks and deaths kept coming. In 1998, al Qaeda terrorists attacked US embassies in Nairobi, Kenya, and Dar es Salaam, Tanzania, killing hundreds, including 12 Americans.

In October 2000, al Qaeda operatives launched an audacious, waterborne bombing of the Navy destroyer USS *Cole* in Yemen's Aden harbor. Seventeen US sailors perished. After this disaster, which happened on Cohen's watch, the Pentagon chief did not seek a scapegoat. All realized that it was an act of war, and the ship's captain was not faulted. (See "From Khobar to *Cole*," March 2001, p. 48.)

However, the outrage of Sept. 11, 2001 changed everything—or so Schwalier thought. Thousands died from the attacks on New York's World Trade Center towers and the Pentagon and in the airliner that crashed in Pennsylvania. Terrorism finally was viewed for what it really was—warfare that produces casualties, just as

air combat and land and sea battles produce casualties.

Time To Try

Schwalier, watching these events unfold over the years, concluded it was time to seek an official review of his own case. He hoped that, given the momentous events that had taken place on US soil, the federal government might be moved to see his service at Khobar Towers in a fairer light.

Nor had Air Force leaders forgotten what had happened to Schwalier. Even before the Sept. 11 attacks, the then-USAF Chief of Staff, Gen. Michael E. Ryan, had urged Roche, the newly installed Secretary of the Air Force, to take a fresh look at the Schwalier matter, with an eye toward reinstating the promotion. Roche agreed with Ryan's view and promised to follow through. Roche and Jumper, who succeeded Ryan as Chief of Staff, both believed that Schwalier's case should be reassessed. (Jumper, as a three-star general, had been Schwalier's boss through April 1996.)

Roche was especially bothered by what he viewed as the double standard of the previous five years. Noting the deaths in the 1998 embassy bombings, Roche asked, "What State Department official took the blame for that?" The case of USS *Cole*, in his view, was almost an exact copy of the case of Khobar Towers, but it produced a very different result.

"After 9/11," said Roche, "I started asking the question: 'Why isn't Donald Rumsfeld held responsible for the dead at the Pentagon if Terry Schwalier is held responsible for Khobar Towers?'" Roche's question was, of course, rhetorical in nature. The reason Rumsfeld was not held responsible, explained Roche, was because "he isn't responsible." Blaming an individual for not stopping such an act of war would be ludicrous.

Schwalier's case came back to life in October 2001, just as US forces embarked on operations in Afghanistan to destroy the worst of the world's Islamic terrorists.

In that month, Schwalier and Roche opened up e-mail communications. Roche's staff explored the 1997 decision for weaknesses, ones sufficiently large to allow the Pentagon to take another look at the Cohen decision.

Some civilians involved in the original decision might still be at Pentagon posts, said Roche, and all Air Force parties agreed that they were not

seeking a fight with OSD. Senior Air Force leaders hoped to smooth the way for Schwalier by reaching some sort of agreement with the new Pentagon leadership.

"We were all of one mind," Roche said.

It appears that worldwide military operations and other pressing matters served to delay action, and nearly a full year passed. By September 2002, however, Roche's office sent the word to Schwalier that officials were "very close to an agreement in principle on the language" that was "to go forward to SECDEF with the issue." In October 2002, Jumper wrote to Schwalier in a similar vein. "We have ... been working with our legal people on your case," he reported.

Second Approach

During this period, however, the Schwalier case also was moving along a second path. While Roche and Jumper were pursuing quiet discussions with OSD, Schwalier was contacted by a retired Air Force general with another idea. This officer suggested that Schwalier take his case to the Air Force Board for Correction of Military Records (BCMR), a respected, independent review authority acting for the Secretary of the Air Force.

Several more months passed, with senior Air Force leaders still working the case. In December 2002, Jumper wrote a follow-up message to Schwalier.



Gen. Ronald Fogleman, Chief of Staff.

“Let us work this on your behalf before taking the BCMR step,” he said.

However, it now seems clear that Roche and Jumper encountered resistance from OSD lawyers, because, on April 3, 2003, Jumper wrote to Schwalier again. “We are engaged with the OSD lawyers regarding your case,” he said. “As you can imagine, they are not anxious to revisit this case, but there are options open to press this. Dr. Roche and our AF General Counsel believe that now is the time for you to submit your request to the BCMR.”

According to Roche, the Air Force’s plan was to have Schwalier launch his review case in a quiet, unobtrusive fashion and then simply “let the Board act.” The BCMR, said Roche, was “an institution we respect greatly” and could be expected to give the request a fair hearing.

Schwalier submitted his review petition to the Board on April 7, 2003, four days after Jumper flashed the green light. Among other things, the petition pointed out—factually—that Cohen’s 1997 decision “went against the will of the regional military commander [Army Gen. J.H. Binford Peay III, the commander of US Central Command], the military service chief [Fogleman], the recommendations of two Air Force investigation Boards [conducted by Lt. Gen. James F. Record, Lt. Gen. Richard T. Swope, and Maj. Gen. Bryan G. Hawley] specifically tasked with evaluating his actions, and the area US consul general [David Winn], who well understood the threat and knew what actions US commanders were taking in response.”

“Final and Conclusive”

The Board’s *bona fides* were not in doubt. According to the Air Force Personnel Center, “The Air Force Board for Correction of Military Records (AFB-CMR) is the highest level of administrative review within the Department of the Air Force.” Under federal law, a Board decision “is final and conclusive on all officers of the United States.”

The Board, composed of senior Air Force civilians, can act for either of two reasons: to “correct an error” or “remove an injustice.” Authority for both is well-established in Title 10 of the US Code. It also is bolstered and extended by precedent in numerous federal legal cases.

Schwalier presented a case that went along both tracks. In going before the Board, Schwalier had one clear and

undisputed purpose, which still applies today. “I just want my case to be judged fairly,” said Schwalier. “Sure, I want my name to be cleared, but this case represents something bigger. ... When our commanders are sent into harm’s way, they need to know that they will be held to a high but attainable standard ... not a political one.”

The most powerful part of his petition was the “injustice” track. He cited seven specific points in which Cohen, in Schwalier’s view, traduced due process and unfairly made him the fall guy for Khobar Towers.

While Schwalier’s overall presentation was broad—even moral—in nature, his legal case gradually came to center more on the narrow “error” track. This entailed OSD’s alleged failure to follow some technical provisions of the military promotion process. It is possible that the Board tended to focus on this particular part of the case because it allowed the government, in a standard and routine process, to make amends and not stir political recriminations.

In any event, the Board, soon after initiating the review of Schwalier’s case, did find what it must have considered a major Pentagon error.

In 1995, Schwalier, then a brigadier, had been selected for promotion by a major general promotion board, and the White House had forwarded his name to Congress. The Senate had confirmed his nomination on March 15, 1996, months before he was due to leave Saudi Arabia. In line with the number of available slots and according to official Air Force procedure, the Air Force General Officer Management Office set Schwalier’s promotion date for Jan. 1, 1997.

When that date approached, however, the Khobar Towers probe still was open. Gen. Thomas S. Moorman Jr., the vice chief of staff, told Schwalier in December that his promotion would be delayed. Under Air Force instructions in effect at the time, six months’ delay was the maximum, and, absent formal action to stop it, the promotion would take effect on June 30, 1997.

In simplest terms, Schwalier’s promotion to major general, regardless of the investigation, would become final on July 1, 1997, unless somebody blocked it before that date. However, Cohen did not act against Schwalier until July 31, 1997. Cohen acted too late to affect events.

From the Board’s perspective, straightforward fairness required correction of this part of Schwalier’s record.



Gen. Michael Ryan, Chief of Staff.

USAF photo by AIC Tanayya M. Harms

The Board position was that Schwalier had already been nominated, confirmed, and appointed under the rules of the Air Force (officially representing the President), and this had happened four weeks before Cohen announced his decision.

“Null and Void”

The Board’s official action came on Aug. 2, 2004. Members wrote that, “as a matter of law, he [Schwalier] was promoted to the grade of major general effective 1 Jan. 97, thereby rendering his removal from the major general promotion list null and void.”

In October 2004, the Board’s formal decision notice was forwarded to Jumper. It said Schwalier was to be deemed promoted to major general with a Jan. 1, 1997 date of rank and placed on the retired list as a two-star general, as if he had continued on active duty until Feb. 1, 2000.

In Roche’s words, the Board “did the right thing.”

However, the case was not yet closed—not by a long shot. The Pentagon’s “law firm” was about to play a big card. BCMR cases don’t usually draw the attention of these lawyers, but this was not an ordinary case.

Roche, as USAF’s civilian leader, was Schwalier’s most important supporter, but he wouldn’t be around for the final act in the case. In late 2004, he announced his decision to step down from his post and retire. He officially did so on Jan. 20, 2005, and it wasn’t long until things moved against Schwalier.

On Feb. 7, 2005, the Air Force



Gen. John Jumper, Chief of Staff, and James Roche, Secretary of the Air Force.

received a two-page memorandum from Paul S. Koffsky, the Pentagon's deputy general counsel for personnel and health policy. Koffsky said, "We are very troubled" by the legal reasoning behind the BCMR's decision in favor of Schwalier. He explained that the Pentagon did not think the Air Force Judge Advocate (which provided legal advice to the Board) had correctly interpreted federal precedents. He cited a 2004 decision that seemed, in Koffsky's eyes, to undermine Schwalier's case.

Eleven days later, on Feb. 18, 2005, USAF's deputy general counsel, W. Kipling Atlee Jr., countered with a closely reasoned, seven-page memo that disagreed with OSD's lawyers. The argument was technical, but Atlee's conclusion was clear. "We remain of the view that the action of the Air Force Board for Correction of Military Records ... was consistent with law" and that, under US Code, the Board's action "to correct records to reflect the promotion was final and conclusive."

OSD counsel took a full month to provide a reply. When it came, the response was signed by Daniel J. Dell'Orto, DOD's No. 2 lawyer, and it was sent to the acting Secretary of the Air Force, who at that time was Peter B. Teets.

This three-page March 24, 2005 memorandum repeated the earlier legal arguments and added a new claim—that there was no contemporaneous evidence that the Air Force had ever officially set Schwalier's promotion

date for Jan. 1, 1997. However, retired General Moorman, in a November 2003 letter to the Board, affirmed that date three separate times.

"Without Legal Effect"

In his concluding sentence, Dell'Orto advised that the Board's action was "*ultra vires* and without legal effect." He was saying, essentially, that the Board acted beyond its authority.

It is clear that the Air Force accepted the general counsel's "advice." On March 30, 2005, the Air Force's own top lawyer, Mary L. Walker, sent a memo to the Board, instructing it to adhere to the OSD opinion because the general counsel was "the final legal authority" on the matter. On May 11, 2005, Joe G. Lineberger, the director of the Air Force Review Boards Agency (overseer of the Board), gave Schwalier the bad news and asked if he wished to make any further comments.

Schwalier did—or, rather, his lawyer did. In a July 1, 2005 legal memo that ran to five pages, he reaffirmed Schwalier's view that the technical promotion argument was valid. He then went further, reviving the "injustice" track of the original petition.

The memo stated: "Any inability to 'correct an error' in no way interferes with this Board's independent ability

(indeed, its obligation) to 'remove an injustice.' In other words, the [Board] should proceed to address the 'injustice' prong of General Schwalier's application."

The lawyer's brief criticized "the public frenzy" around the Khobar Towers case in 1996 and 1997, noting that, "according to the thinking of the time, something bad happened, so somebody must have done something wrong." Schwalier was nominated for the blame, "and it is that injustice that, notwithstanding any error that might also exist in this case, should be rectified."

On Aug. 19, 2005, this plea was denied in writing. The memo noted, "This is the final Air Force decision."

Pentagon activity apparently ended. In January, *Air Force Magazine* submitted questions to DOD, but got a generalized response from a DOD spokesperson. Here is the pertinent part:

"There was never a public act of appointment taken by an appropriate Air Force official in the name of the President that appointed Brigadier General Schwalier to the grade of major general prior to the removal by the President of Brigadier General Schwalier's name from the list on July 31, 1997. Thus, the President's action on July 31, 1997 to remove Brigadier General Schwalier from the list was lawful and effective."

DOD's response did not take up the subject of injustice.

Schwalier has not given up on his effort. He is now weighing other options that might bring a reconsideration of the Khobar Towers matter.

As for Roche, he is concerned that OSD lawyers had managed to trump the Board itself. He called the Board independent and highly respected because of its independence. He added, "I'm bothered that they are second-guessing. If OSD takes that position, that will undermine the objectivity of the Board. People who disagree with its decisions will appeal to OSD."

More broadly, said Roche, he is disappointed that the Pentagon didn't move to rectify the injustice. What happened in 1997 was the application to Schwalier of a double standard. Continuing to blame Schwalier, even after 9/11, said Roche, was "worse than a double standard." ■

Rebecca Grant is a contributing editor of Air Force Magazine. She is vice president, defense programs, at DFI in Washington D.C., and has worked for RAND, the Secretary of the Air Force, and the Chief of Staff of the Air Force. Grant is a fellow of the Air Force Association's Eaker Institute for Aerospace Concepts. Her most recent article, "Magic and Lightning," appeared in the March issue.



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The F-22 Is



Photo by Katsuhiko Tokunaga/DACT Inc.

Above, an F-22 Raptor flashes its lethal AIM-120 AMRAAMs. At right, Lockheed Martin executive Ralph Heath tells an assembled crowd at the Raptor's initial operational capability ceremony, "We did it."

Battle Ready

By John A. Tirpak, Executive Editor

On Jan. 21, with little fanfare, two F-22s armed with live missiles took off from Langley AFB, Va., and streaked skyward. The Raptor sortie was undertaken as part of Operation Noble Eagle, the years-long Air Force campaign to defend US airspace. It was the first operational combat mission of America's newest and hottest fighter aircraft.

The four-hour sortie marked both the end of a tumultuous acquisition process and the start of what is expected to be a 30-year career. If things go as planned, pilots not yet born will be flying and fighting in the Raptor decades hence.

The stealthy F-22, in development since the mid-1980s, has been declared battle ready. By that, the Air Force means it is able to swiftly defeat any aerial or surface-based air threat in the

world today or projected to exist for a long time to come.

The F-22 will allow US forces to gain entry into any combat theater of operations by destroying enemy air defenses—airborne or ground-based—and holding at risk targets well behind enemy lines. The pilots who fly the fighter marvel at its capabilities. Despite its factory-fresh newness, the Raptor's day-to-day reliability nearly equals that of its "mature" F-15 and F-16 stablemates.

After years of debate about its potential and utility, the F-22 is making good on the promises made for it.

The 1st Fighter Wing's 27th Fighter Squadron and 94th FS—both located at Langley—are destined to acquire F-22s. The 27th now possesses nearly its full complement of 24 Raptors. The 1st

FW's F-22s achieved initial operational capability on Dec. 15, 2005, and full operational capability will come early this fall, when the 94th FS completes the acquisition of its Raptors.

Ready To Go

The IOC declaration meant that the 27th could "take about 12 aircraft and go deploy [them] in combat," Lt. Col. James B. Hecker, the unit's commander, said.

"When we declare FOC, then [the 27th FS] will have 24 airplanes," as well as two attrition reserve aircraft, "and at that time, we'll be able to say we'll take a 24-ship package and deploy it in a limited amount of time to some base and do combat operations," he said.

The 27th has already practiced picking up and moving to a distant base of operations. Last October, a small group of F-22s deployed to Hill AFB, Utah, demonstrating that the new fighter could fly long distances and hit targets with accuracy. During exercises at Hill, four Langley Raptors dropped a total of 22 1,000-pound Joint Direct Attack Munitions against ground targets, and each one was scored a hit. Each of the bombs, Hecker said, emitted special telemetry that allowed the Air Force to record all of the fine details of release, flight, and impact.

"It's a very exact science," he noted, "that gives us a report card that says how good we did."

Hecker said the data provided "very credible ... evidence" showing that the airplane is capable of accurate bomb delivery. The JDAM hits were among the last tasks to be performed in follow-on test and evaluation, which certifies the aircraft is capable of performing





its full combat mission, including both air-to-air and ground attack tasks.

It was the successful demonstration of this deployment capability, along with having the requisite number of aircraft, that cinched the declaration of IOC by Air Combat Command chief Gen. Ronald E. Keys last December. (See "Aerospace World: Raptor Declared Operational ...," February, p. 20.)

In January, the F-22 was certified as mission capable, meaning it has the ability to meet the full range of duties that it might be assigned. This latter designation has greater scope than IOC and was a further step in certifying the F-22 ready for war.

The Hill deployment was but one of several Raptor road trips. In a recent mission to Nellis AFB, Nev., a Raptor four-ship met up, as Hecker put it, "with B-2s, with F-117s, with tankers, AWACS, Rivet Joint, some F-16s, some F-15Es." The F-22s came right out of their four-and-a-half-hour cross-country flight and went directly to simulated combat, first engaging "red air" F-15Cs in air-to-air battle and then switching to ground attack themselves. They finally landed at Nellis after having been airborne for nearly seven hours.

Such deployments have been repeated a couple of times since. In another visit, Raptors from Langley landed at Nellis first, where their pilots performed joint mission planning with those of other types of aircraft, as well as the pilots of F-22s stationed at Nellis for tactics development. After they went out and flew mock battles, the aircrews were able to take advantage of the base's advanced range record-



At top, F-22 pilots prepare for an operational readiness exercise at Langley AFB, Va. Above, an F-15 banks while a Raptor, borrowed from Tyndall AFB, Fla., by the 27th Fighter Squadron, flies to a training area off the Virginia coast last year. The 27th Fighter Squadron is nearing a full complement of Raptors.

ing systems to replay the action and critique tactics and procedures

More Road Trips

More deployments will come rapidly. Langley has scheduled a substantial renovation of its main runway during June and July, so the base's entire complement of F-15s and F-22s must go elsewhere for the duration. The 1st FW will send a dozen of its F-22s to the Northern Edge air combat exercise in Alaska, then they will operate in Alaska for another month. Following that, they will operate from Savannah, Ga., until the Langley runway repairs are completed, Hecker said.

The rest of the Raptors—about 18—will deploy to Hill, practicing ground

attack missions for a month. After that, they move to Tyndall AFB, Fla., where they will fire live air-to-air missiles at drones in Combat Archer exercises, and then return to Langley in August, he added.

In a telephone news conference to declare IOC in December, Keys said he'd like to send a detachment of F-22s on a road trip through the Pacific Theater to "showcase their capabilities" in the region. Such a road trip would come after FOC was declared. The point, Keys said, would be to familiarize US and allied units with the capabilities of the Raptor. It also would serve notice on potential adversaries in the region that the F-22 is up and running and ready to do business.

Come next January—the official

timing has yet to be determined—Langley's F-22s will be eligible to be included in the normal rotation of the 10 Air and Space Expeditionary Forces, either AEF 5/6 or 9/10. Once in the AEF rotation, the F-22s will deploy overseas, likely to Southwest Asia, to support Operations Iraqi Freedom or Enduring Freedom. By then, the units will be well-practiced in dogfighting and bomb dropping.

By the end of January, Langley had 20 F-22s on the ramp, with more arriving at the rate of "about two-and-a-half per month," Hecker reported. New pilots also were arriving, in groups of six every two months from Tyndall AFB, Fla., the F-22 "schoolhouse." There they receive three months of

instruction; a month of academics learning the F-22's systems and flight characteristics; and then two months building proficiency in the single-seat fighter.

For now, the F-22 will enjoy a pilot-to-aircraft ratio of 1.25, but as its capabilities expand, more types of missions are added to its repertoire, and more aircraft become available, the ratio will likely increase to 1.5 pilots per aircraft. That's because the F-22 is designed to fly more frequently than earlier generation fighters, requiring less downtime between missions for maintenance.

ANG Steps In

The 1st FW also will have a special relationship with the Air National Guard. Pilots and maintainers from the 192nd Fighter Wing, based at Richmond, Va., will drill with the 1st FW at Langley. In February, the first ANG pilot who will fly the F-22 was in training at Tyndall. It marks the first time that the Air Force has included the Guard in operating a brand-new fighter.

Langley also has a full slate of maintenance technicians who are trained for the aircraft. Some have long experience on the Raptor, having serviced it at Nellis, Tyndall, and Edwards AFB, Calif., where it is in continuing flight test. Others have been transferred from working on F-15Cs at Langley. There are sufficient instructors available to conduct some basic training and many levels of intermediate and refresher courses on the airframe and its F119 engine.

An F-22 sits on the flight line at Langley AFB, Va., during Phase 1 of the operational readiness evaluation. In January, the Raptor was certified mission capable, meaning it has the ability to carry out the full range of duties that it might be assigned.



USAF photo by SrA Austin Knox

While there are Lockheed Martin tech reps at the squadron, the vast majority of the maintenance is done by USAF technicians.

The F-22 was designed to be more easily serviced than the F-15C, which it replaces. The goal was to reduce the number of people, parts, and support gear that would be needed for a deployment, while at the same time reducing the amount of touch labor needed to keep the Raptor flying and

increase the sortie generation rate versus the Eagle.

So far, the Raptor needs fewer maintainers than the Eagle "on paper," Hecker said, but he admits taking as many support personnel on deployments as the Eagle requires. It's because the aircraft is still so new, and there are still bugs to be worked out, he explained.

However, compared to the F-15 or the F-16 at a comparable point in their

USAF photo by SSgt. Samuel Rogers



SSgt. Jason McDonald (left), weapons load crew chief from the 27th FS, checks his technical orders after loading two Joint Direct Attack Munitions onto an F-22 at Hill AFB, Utah. During the exercises at Hill last fall, Raptors dropped a total of 22 JDAMs.

fielding, "we're doing better than they were," he said.

"We still have some room to improve, to get the sortie generation rates that we're trying to get. But I think we're ahead of where those airplanes were, and when you look at where those airplanes are right now, I think we're going to be even better."

The 27th has several times achieved an aircraft utilization rate equal to that of most F-15 and F-16 squadrons. However, the parts pipeline is still not delivering at the level of a mature system, and some of the parts "are failing a little more than we thought they would," Hecker noted. That's a headache because of the low observable (LO) coatings and treatments on the aircraft.

"Where parts are hard to get at, and they're LO-intrusive, ... you have to tear it apart, put the part in, and then put it back together, which is very time-consuming."

During its development, the Raptor was delayed several times because of software problems that caused its computer operating system to blank out in flight, requiring the pilot to reboot the system. (See "The F/A-22 Force Forms Up," April 2004, p. 34.) It still happens, though far less frequently than during the peak flight-test period, Hecker said.

"All of our airplanes now have an upgraded software package," he said, which "has reduced a significant number of those lockups." They happen about "one out of every 100 sorties," Hecker noted, compared to one in



USAF photo by TSgt. Kevin J. Gruenwald

An F-22 breaks away from an F-16 after completing a training mission at Nellis AFB, Nev. In a recent mission, a Raptor four-ship flew cross-country and went directly into simulated combat. The F-22 was airborne for nearly seven hours.

three several years ago. The reboot takes three minutes or so and if "you're just about to go into an engagement, that can seem like an eternity." Still newer versions of the software will further reduce the lockup problem, and USAF officials expect it will disappear completely with a software version expected in about 18 months.

Triple Threat

What makes the F-22 so advanced is its combination of stealth, speed, and sensor fusion, Hecker said. Rather than having to "assimilate" the visual and audio inputs from a half-dozen radars, radar warning receivers, radio calls,

and other sensors, the F-22 pilot sees the entire air battle on a single display, with vastly improved identification of the enemy and where he is.

"The airplane itself is incredible," according to Hecker, a career-long F-15C pilot.

"It outperforms any of the aircraft we have, to include the F-15C by ... a lot," he said, declining to go into classified comparisons of the aircraft.

The F-22 typically operates at about 60,000 feet, he noted. At that altitude, the stealthy Raptor can slice through the thin air at Mach 1.5, undetected by the enemy. And even if detected, the Raptor would be out of reach or long gone by the time an opponent could bring his weapons to bear.

The high-altitude flight profile also means that Langley is a good place to operate the Raptor. Pilots can train off the East Coast, in set-aside airspace where they can go supersonic without doing any ground damage due to their supersonic booms. For ground attack practice, pilots merely need to make sure the F-22 is lined up properly for bomb release at the right time; coordinates for an attack are usually loaded into the aircraft's computer before takeoff. For time-sensitive targets, the Raptor pilot also can reprogram the bomb's target coordinates from the cockpit.

The F-22s routinely tangle with F-15Cs at Langley, according to Capt. Bill Creeden, a Raptor pilot with the 27th.

In a typical training mission, he

USAF photo by SrA. Austin Knox



SSgt. Jason Larkins of the 71st Fighter Squadron loads ammunition onto an F-15 at Langley. The F-22 can be serviced more easily than the F-15C it replaces.

said, a given number of Raptors will be matched against twice as many adversaries.

A certain type of mission is simulated—defending a base, escorting an attack package, defending a high-value asset such as an AWACS—and the F-15s routinely are destroyed without ever seeing the F-22s.

However, Creeden said, “they’re not fighting as F-15s. ... They’re simulating an adversary aircraft, so they have ‘handcuffs’ on.” The F-15C, he said, remains a highly capable aircraft, but its pilots will simulate Su-27s and other likely threat aircraft with their associated tactics, rather than F-15s. The US is not likely to fight full-up F-15s, he said.

Asked why the F-22s don’t fight F-15s with the handcuffs off, Creeden said the objective isn’t to tax the F-22 pilots but figuring out how to “maximize tactics” against a realistic threat.

Capt. John Echols, another Raptor pilot with the 27th, said sometimes the F-22s go against each other, but pilots prefer “dissimilar” air combat training.

With the Threat in Mind

“There are some inherent issues with practicing air-to-air against a stealthy airplane,” he said. “Our airplane is built with the threat in mind. And the threat is not F-22s—it’s conventional, aluminum-type airplanes.” Still, “we do have ways that we can train against each other, techniques that we can use, ... but that’s our Plan B.”

He added that the F-15s at Langley “do a real good job” as adversaries, “even though they have a mission to fulfill, and they need to train their pilots just as much as we need to train our pilots.”

Echols, who is also an instructor pilot, said sometimes the F-15s “win” against an F-22, but it is a rare event. When it does, it provides ample fodder for tactics evaluation.

Should the F-22 ever get into a close-in, turning dogfight, it still will have a considerable edge. Despite its large size, the F-22 can turn as tightly as an early model F-16 and can, in fact, sustain a turn at 9.5Gs—a half-G better than any previous fighter. Hecker said the F-22 pilots can stay conscious in such a situation because they also have a new kind of G-suit that covers more of the lower body.

“It covers a lot more surface area, so

An F-22 receives gas from a KC-10 tanker during a training sortie at Langley. The base has scheduled a substantial renovation of its main runway for this summer, so all of Langley’s F-22s must go elsewhere for the duration.



USAF photo by TSgt. Ben Bloker

what pilots are seeing is that it gives you an extra G or two,” Hecker reported. On the upper body, F-22 pilots wear the Combat Edge suit, classified by the Air Force as “a partial pressure suit,” Hecker said.

“That does help us get up a bit higher” in altitude.

The F-22 has a special feature that will allow it to be seen on radar when flying Noble Eagle and area training missions, Hecker said, but that feature is removed if the aircraft is going to war or practicing full-up. He declined to describe it, due to classification, but acknowledged that it is not unlike a special radar enhancer used on the F-117.

Creeden said about 60 percent of pilot training in the F-22 is done in the air, with the rest done in a high-fidelity simulator. Emergency procedures are the biggest items to practice in the simulator, since they can’t be safely simulated in the aircraft itself. And what do pilots practice for most?

“The electrical system,” Creeden said. “It all comes down to a cooling problem. Everything on the jet is electrical,” and all those black boxes generate a lot of heat.

“If you lose your cooling, then you’re going to start losing electrical

systems and have cascade failures.” Recognizing and fixing electrical problems before they become “serious issues” is something the pilots focus on, he said.

The F-22 carries six AIM-120C AM-RAAM radar missiles and two AIM-9 heat-seeking missiles. Because the Raptor will usually destroy targets at a distance, long before the enemy knows the F-22s are there, the AMRAAM is the weapon of choice. And while the combination of the AMRAAM and the F-22’s advanced radar is formidable, and the likelihood of a one-shot kill is high, sometimes Raptor pilots will shoot more than just one missile per adversary.

Snake Eyes for Him

If the opponent “starts to maneuver, we may up the ante,” Creeden said. “Another reason might be, this guy’s getting really close to what we’re trying to protect. So we may decide to shoot two right now just to make sure, if, for whatever reason, the first one doesn’t get him, the second one will.”

Echols said there is no shortage of applicants to become F-22 pilots, but the requirements are not ultra-stringent. Early in the B-2 program, every potential pilot had to have a personal interview with the then-head

of Air Combat Command, Gen. John Michael Loh.

The plan is to recruit pilots at all experience levels to build a solid, demographically valid cadre of Raptor pilots.

"The biggest [consideration] is timing of where guys are in their careers," Echols said, "not just [taking] the best guy out there." The reason is that USAF wants to avoid creating bulges in the F-22 cadre at any given rank, which could short-circuit careers or leave voids at certain ranks. The process will increasingly mirror that used for the F-15 and F-16. "Eventually, they'll take guys right out of pilot training," Echols said.

Perhaps the biggest question long posed about the F-22 has been its ability to operate like any other fighter, even though stealth technology has historically demanded meticulous care of aircraft surfaces, well beyond what could be managed at an austere expeditionary airstrip. In real-world F-22 operations, though, it has proved not to be an issue.

"We've made huge advancements as far as the coating application, the durability, and maintainability as a whole" of the F-22's stealth systems, according to MSgt. Renee Daig, non-commissioned officer in charge of Langley's Low Observable Composite Repair Facility.

She said the F-117 is considered first generation stealth, the B-2 was second generation, and the F-22 is third generation. The F-35 Joint Strike Fighter "will be considered the fourth generation," she noted.

On the F-117, radar-absorbent material had to be fitted to the aircraft with virtually artistic skill, and any intrusion into a panel to repair a part caused huge downtimes as the material had to be painstakingly reapplied. On the B-2, things improved with the addition of more access hatches and panels, but the coatings and tape that sealed seams still posed a headache of reapplication after every mission.

By contrast, the F-22's stealth systems can be fixed outside, on a ramp, not requiring substantial touch-ups for long periods of time, Daig said.

"Ninety-five percent of the restorations that we do on the aircraft we can do with a standard brush or roller," she said. "Now, does that mean you can do it out on the open flight line? ... You sure can."

Just as "you wouldn't consider painting your house" in bad weather, the

F-22's LO maintainer also must use common sense, and "in a deployed environment, ... we would prefer to have some type of shelter or overhang" to work under. But it isn't always necessary. Stealth materials were touched up on the Nellis ramp during a deployment last year because it was a sunny day, 70 degrees, and there was no wind, she noted.

Good Enough To Beat You

Rather than clean up every single defect after every mission—"whether it be missing material, a crack, disbond, delamination, what have you"—the F-22's handlers aim to keep the aircraft stealthy within certain parameters. After every inspection, the surface defects are cataloged and fed into a computer program called the Signature Assessment System. From a "pristine" aircraft fresh from the factory with no stealth defects—zero percent stealth impact—the percentage of dings on each Raptor accumulates over time in the computer model.

"When it broaches the 80 percent mark, we start to think about ... doing some repairs to get us back where we need to be," Daig explained.

The model system is a far cry from the F-117 and B-2, which both originally required elaborate measuring devices—sometimes instrumented flying ranges—to measure their stealth. The B-2 has since moved to a system similar to SAS.

The "effects of defects" model "works very well for us, because you can find yourself with 200 to 300 nicks, dings, and scratches on the aircraft and still be an LO platform and still meet your LO missions," Daig asserted. After the SAS registers 100 percent, "we can no longer guarantee to that pilot that he's where he needs to be" in terms of stealth, she said.

Daig also said that some support equipment that can measure the F-22's stealthiness is being tested, because "a lot of the pilots and senior leadership don't necessarily feel comfortable with that model mentality." However, she's convinced, because numerous range tests have validated the SAS predictions.

"It's a very solid database. We're very confident in the numbers that it gives us back."

Daig also pointed to the fact that F-22 surface treatments have held up well under years of the worst case environment—baking in the sun at Edwards and Nellis for long periods of time.

In fact, Daig said most of the demands on her shop are not prompted by the durability of the stealth treatments themselves.

"Right now, our biggest headaches" stem from other parts—compressors, fuel pumps, etc.—that "are not performing to the predicted numbers." These failures force her team to "break into the LO 'bubble'" of the aircraft to get at the part, and then restore the stealth treatments after the part is replaced.

"That is about 90 percent of my workload today," she said. "What we do every single day is restoring panels that were removed because something else was broken." Daig reported that she has about 1.67 stealth specialists—"we are sheet metal workers by trade"—for each F-22.

Both Tyndall and Langley are on the ocean, and the salty air doesn't seem to be affecting the stealth treatments either. "About all we're seeing right now is some structural component issues with corrosion, but the coatings are holding up very well," Daig asserted.

Time will tell, though, she said. The B-2 "has struggled with this—where the coatings were good when they were put on, but over 10 or 15 years, they start to degrade. The jury's still out" as to whether the F-22's stealth surfaces will prove durable for the life of the airframe. Also yet to be seen is how well the stealth coatings will hold up in an extremely cold environment over long periods of time. That lesson will be learned when Elmendorf AFB, Alaska, becomes the second base to beddown the F-22.

Hecker said his pilots will practice long-duration missions to get the F-22 anywhere it needs to go in the world, but the aircraft itself is a limiting factor. Unlike the B-2, which has flown 38-hour missions or more, the F-22 is a single-seat aircraft, limiting missions to about 15 hours.

He also said the F-22 units will continue to focus on their No. 1 mission: to "kick down the door of a highly defended air-to-air threat as well as an integrated air defense system, with state-of-the-art surface-to-air missiles ... [known as] double-digit SAMs."

Noting that US ground forces were last attacked from the air in 1952, Hecker said, "This airplane will ensure that we have air dominance so that that doesn't happen again." The Raptor, he said, "could gain us another 30 years and make sure that we protect not only Air Force assets, but particularly our guys on the ground." ■



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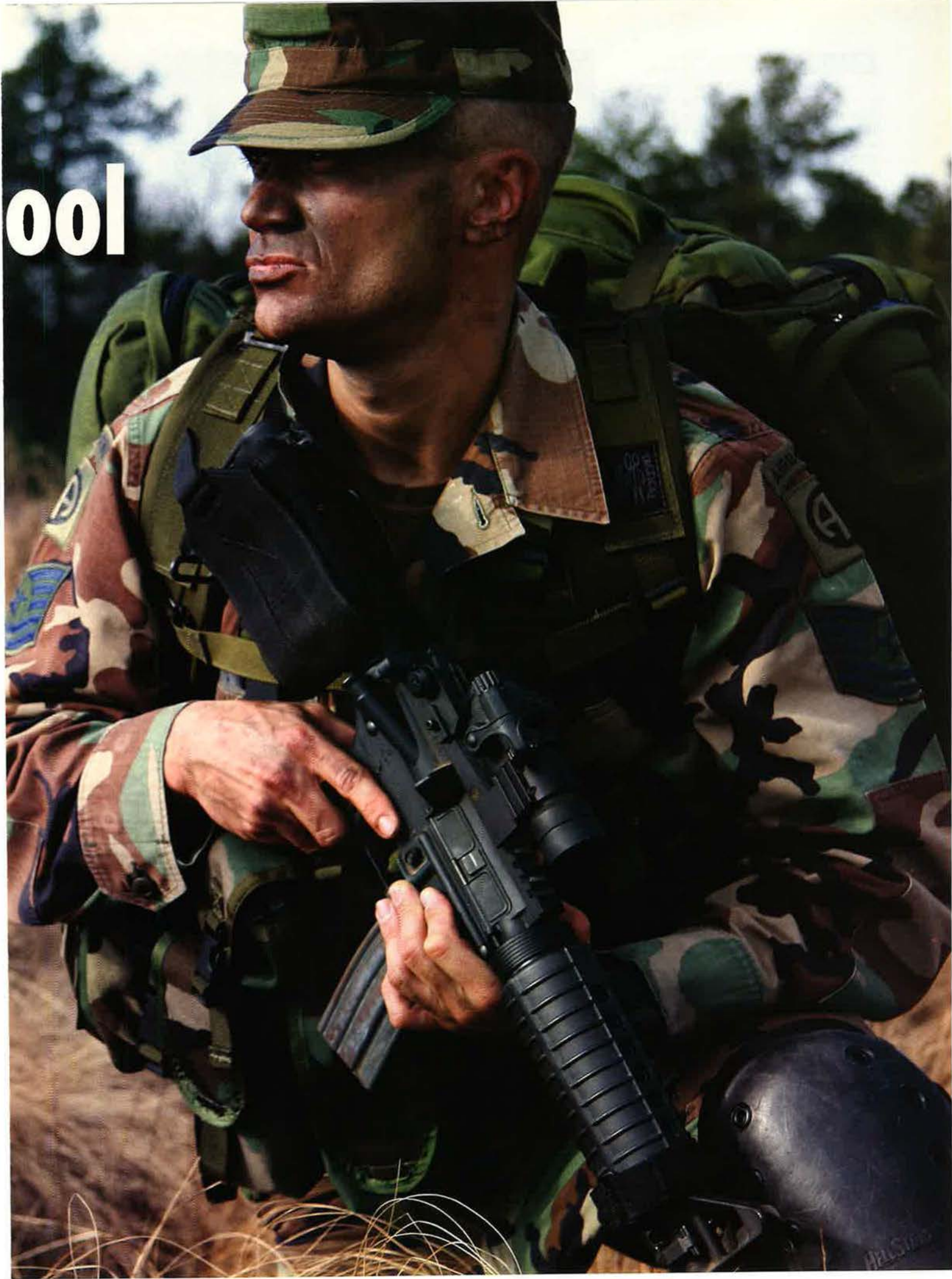


Combat controllers, tactical air control parties, and combat weathermen hone unique skills in the wilderness around Pope AFB, N.C.

Photography by Guy Aceto

USAF's battlefield airmen direct air operations from forward locations, frequently in hostile areas. On the lookout with his weapon ready is TSgt. Shane Wagner. Behind Wagner, SrA. Rob Curry and SSgt. Elijah Edwards break out this battlefield weather team's communications gear after dropping in by parachute.

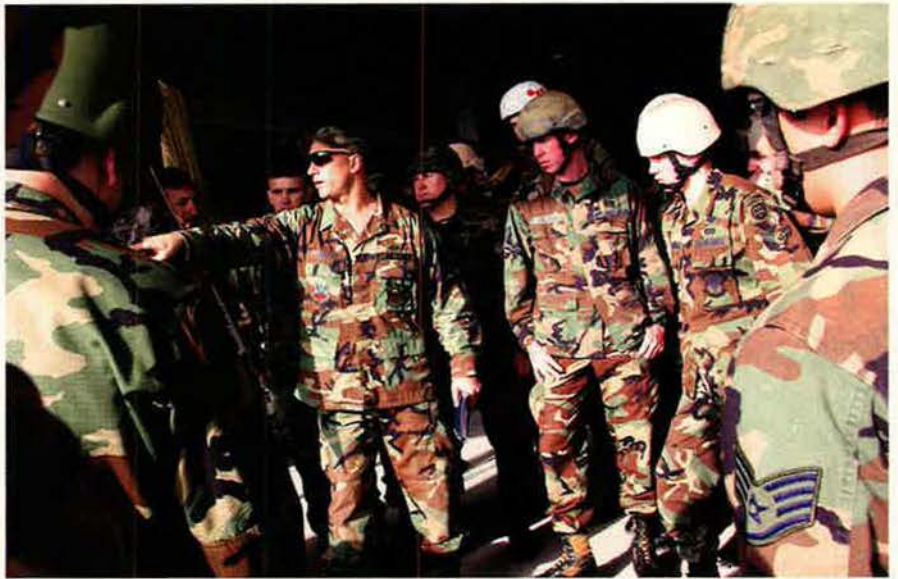
ool



During a recent exercise, tactical air control parties (TACPs), combat controllers, and battlefield weather teams trained with ground forces at Pope AFB, N.C., and adjacent Ft. Bragg. The job for these battlefield airmen is to control airspace and the employment of aircraft supporting the land component by calling in weather conditions, arranging airdrops, directing air strikes, and the like.

The TACPs on this page are with the 18th Air Support Operations Group. They are jump-qualified and work closely with the Army at Ft. Bragg, which is home to the 18th Airborne Corps and the 82nd Airborne Division.

At right, TSgt. Michael Grilli points the way to a group of TACPs who will parachute into the landing zone on a training exercise.



Above, A1C Joshua Suarez (l) and A1C Joshua Lockwood prepare for a jump. Lockwood's high-visibility helmet indicates that this is his first jump with the unit.

At left, the airmen listen to the jumpmaster in the center. They are arranged as they will be in their aircraft.

Before any jump, preparations are rigorous, with careful safety planning and thorough equipment checks. Note that the airmen at right sport the Army's famous 82nd Airborne patch in addition to the standard Air Force field rank insignia.





Above and right: Airmen parachute onto the landing zone and begin to collect their gear. They were delivered by a C-130 from Pope's 43rd Airlift Wing. The transport made a first pass for HALO (high-altitude low-opening) jumpers such as the one at far right, and then a second, lower pass to drop additional "sticks" of jumpers.



Once they are on the ground, the airmen go through a well-rehearsed routine of gathering their equipment and checking it out.

Jumpers range from young airmen to seasoned veterans. At left is Lt. Col. Drew Hodges, 18th ASOG director of plans, on the ground after parachuting in with the rest of the unit. He is "checking in" on the same radio he would use after a combat jump.

The 21st Special Tactics Squadron supplies the combat controller teams that help create US footholds in enemy territory. Combat controllers, such as the airmen pictured at right, parachute in, secure landing zones and airfields, and serve as air traffic controllers for the airspace around these "beachheads."

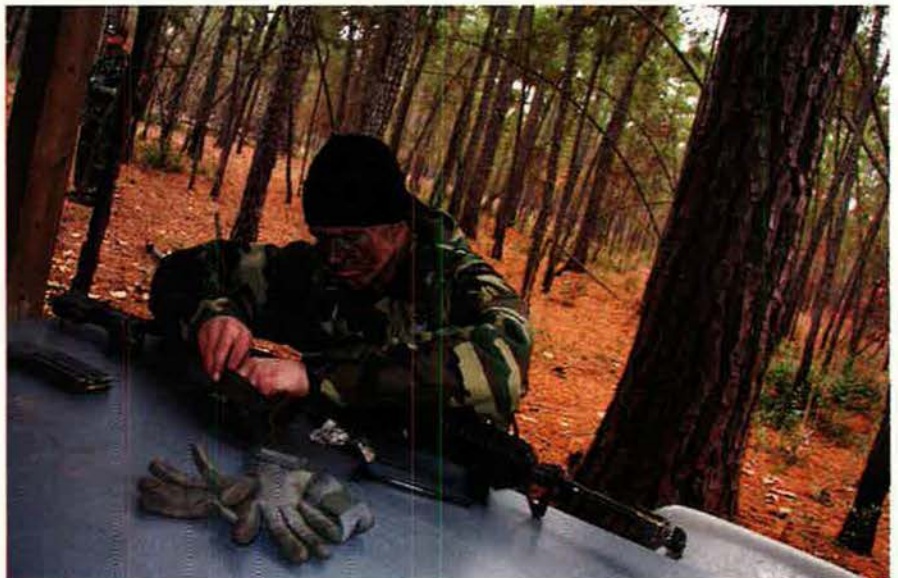
The combat controller school is at Pope. The controller trainees shown here had parachuted into this location the night before.



Airmen train on the Ft. Bragg confidence courses used by the Army's Green Berets and other special operations forces. At left, (foreground to back), 2nd Lt. Steven Cooper, SSgt. Marc Tirres, and SrA. Thomas Keefe head through the course.



Combat controllers also undergo wilderness survival training in the dense piney woods of North Carolina. At right, a camouflaged trainee goes to work on his weapon.





The Air Force's combat controllers and combat-rated divers learn scuba techniques as an infiltration tactic. Above and right, airmen of the 21st STS refresh their scuba skills. Occasional proficiency dives are required to ensure the airmen can dive and operate at depths of up to 130 feet.

These controllers had recently returned from a deployment to Iraq.

Below, Don Lauren, a retired Navy master diver with more than 31 years' experience, gives pre-dive instruction to airmen headed into the lake. Lauren has been training 21st STS controllers for nearly 10 years.



Left, camouflaged controller trainees await orders for their next assignment. The trainees earn red CCT berets at Pope and Bragg, but will move on for additional training elsewhere.

At right, three C-130s of Pope's 43rd Airlift Wing head out on a mission to one of the many nearby drop zones. A single Hercules can deliver up to 64 paratroopers, plus their gear.

The combat controllers, TACPs, battlefield weathermen, and airdrop crews have had a long and productive relationship with the Army. One airman, an 11-year veteran, said his current assignment at Pope marks the first time in his career that he has been stationed at an Air Force base. Ft. Bragg is, of course, right next door, and Pope itself will shift under Army management.



By 2009, the Air Force will have handed over control of Pope to the Army, as mandated by last year's Base Realignment and Closure legislation. Even then, however, C-130s and their crews will remain in North Carolina as tenants.



At right, TSgt. Mark Hurst, a TACP of the 18th ASOG, gathers his chute. Note that Hurst wears airborne and ranger tabs. The highly trained TACP community will be critical factors in USAF's drive to meet the Army's increasing need for air support.





At Pope and Bragg, elite combat controllers and TACPs are joined by members of another, even smaller, career field—battlefield weathermen. In the entire Air Force, there are only about 90 jump-qualified weathermen. At top, Edwards (cradling weapon) oversees Curry, who inflates a weather balloon. Wagner (above) provides cover for the pair (right) while they set up their weather and communications equipment.



At left, Curry, Edwards, and Wagner move out. The Air Force's small battlefield airman community, by linking ground forces to airpower, will continue to play a disproportionately large role in the Global War on Terrorism. ■

The Chart Page

By Tamar A. Mehuron, Associate Editor

The Defense Budget at a Glance

In February, President Bush presented his defense budget for Fiscal 2007. The document requests \$439.3 billion in budget authority and \$503.1 billion in outlays for the direct program (DOD activities only). The budget request for the total national defense program (DOD activities and defense activities in the Department of Energy and other federal agencies) is \$463.0 billion in budget authority and \$471.5 billion in outlays.

Funding levels can be expressed in several ways. Totals are most frequently stated in **budget authority**, which is the value of new obligations that the government is authorized

to incur. These include some obligations to be met in later years. Figures can also be expressed in **outlays** (actual expenditures, some of which are covered by amounts that were authorized in previous years).

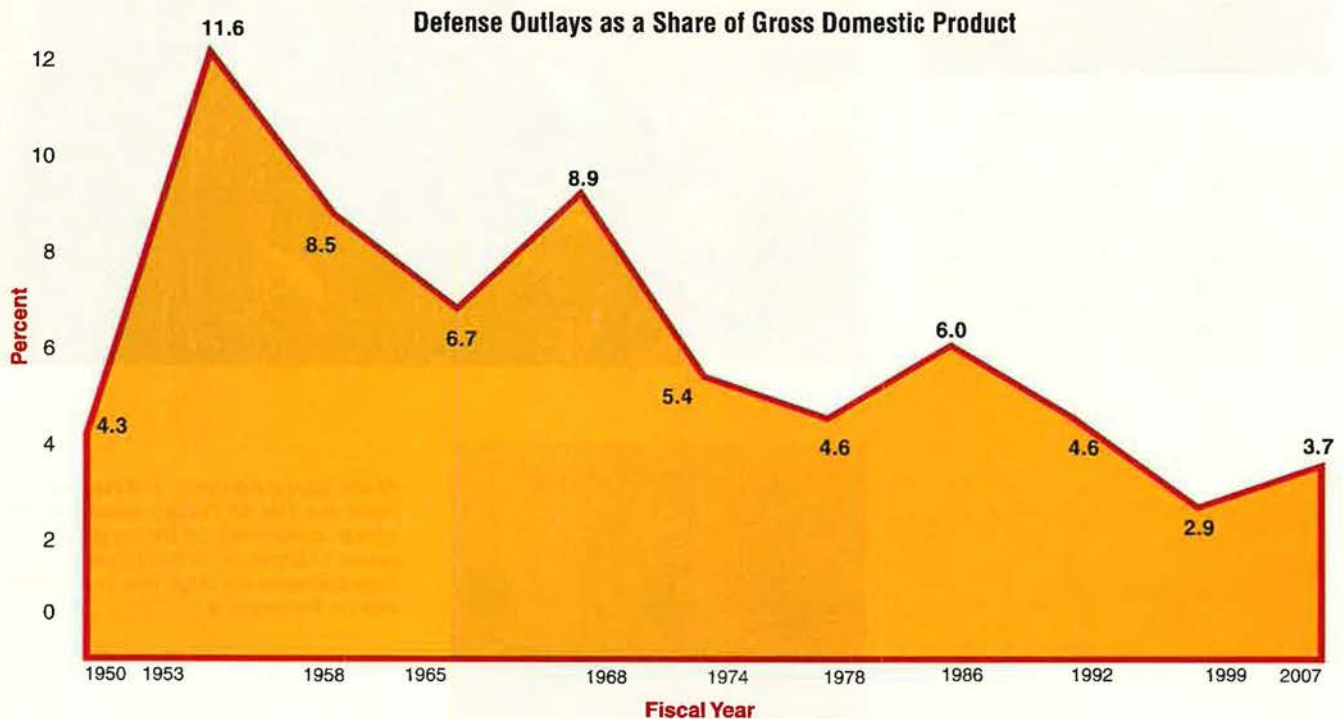
Another difference concerns the value of money. When funding is in **current** or **then-year** dollars, no adjustment for inflation has taken place. This is the actual number of dollars that has been or is to be spent, budgeted, or forecast. When funding is expressed in **constant dollars**, or **real dollars**, the effect of inflation has been factored out to make direct comparisons

between budget years possible. A specific year, often the present one, is chosen as a baseline for constant dollars.

The following charts address only the Defense Department program. Numbers on the charts in this section may not sum to totals shown because of rounding. Years indicated are fiscal years. Civilian manpower figures are now measured in terms of full time equivalents. ■

	2005	2006	2007	2008	2009	2010	2011
DOD Budget Topline* (\$ billions)	Budget authority						
	(current)						
	\$400.1	\$410.8	\$439.3	\$464.2	\$483.8	\$493.9	\$504.2
	Budget authority						
(constant FY 2007)							
\$420.4	\$419.8	\$439.3	\$454.0	\$462.7	\$462.0	\$461.3	
Outlays							
(current)							
\$473.7	\$510.4	\$503.1	\$473.2	\$473.0	\$486.1	\$500.9	
Outlays							
(constant FY 2007)							
\$497.7	\$521.6	\$503.1	\$462.8	\$452.4	\$454.7	\$458.3	

*Does not include supplemental appropriations to cover costs of the war in Iraq.



Service Shares

(Budget authority in constant FY 2007 billion dollars)

Dollars	2005	2006	2007	2008	2009	2010	2011
Air Force	126.2	126.8	130.4	136.1	132.6	132.9	132.6
Army	107.7	101.3	111.8	113.5	115.0	114.9	114.6
Navy/Marine Corps	128.4	125.2	127.4	131.5	136.9	137.8	137.5
Defense agencies	69.8	66.5	69.7	73.1	78.6	76.8	76.6
Total	420.4	419.8	439.3	454.0	462.7	462.0	461.3
Percentages							
Air Force	30.0%	30.2%	29.7%	30.0%	28.7%	28.8%	28.7%
Army	25.6%	24.1%	25.4%	25.0%	24.8%	24.9%	24.9%
Navy	30.5%	29.8%	29.0%	29.0%	29.6%	29.8%	29.8%
Defense agencies	16.6%	15.8%	15.9%	16.1%	17.0%	16.6%	16.6%

Cutting the Pie: Who Gets What

(Budget authority in constant FY 2007 billion dollars)

	2005	2006	2007	2008	2009	2010	2011
Military personnel	107.5	109.1	110.8	114.5	116.7	116.6	116.4
O&M	145.2	145.7	152.0	157.1	160.1	159.9	159.6
Procurement	83.1	77.9	84.2	87.0	88.7	88.6	88.4
RDT&E	71.6	72.6	73.2	75.6	77.1	77.0	76.8
Military construction	6.3	8.2	12.6	13.0	13.3	13.3	13.3
Family housing	4.3	4.1	4.1	4.2	4.3	4.3	4.3
Other	2.4	2.2	2.4	2.4	2.5	2.5	2.6
Total	420.4	419.8	439.3	454.0	462.7	462.0	461.3

Manpower

(End strength in thousands)

	1990	2004	2005	Est. 2006	Est. 2007	Change 1990-2005
Total active duty	2,065	1,427	1,389	1,362	1,332	-676
Air Force	535	377	354	352	334	-181
Army	751	500	493	482	482	-258
Navy	582	373	363	353	341	-219
Marine Corps	197	177	180	175	175	-17
Selected reserves	1,128	851	821	849	826	-307
Civilians (FTE)	997	650	653	667	664	-344

Operational Training Rates

	1990	2000	2004	2005	Est. 2006	Est. 2007
Air Force						
Flying hours per crew per month, fighter/attack aircraft	19.5	17.2	16.9	15.3	16.4	16.7
Army						
Flying hours per tactical crew per month	14.2	12.7	13.1	n/a	n/a	n/a
Annual tank miles*	800	669	913	899	850	850
Navy						
Flying hours per tactical crew per month	23.9	20.9	19.3	22.3	17.5	18.2
Ship steaming days per quarter						
Deployed fleet	54.2	50.5	54.0	56.0	39.0	36.0
Nondeployed fleet	28.1	28.0	—	25.0	24.0	24.0

* Excludes National Training Center miles.

Acronyms

AEHF	Advanced Extremely High Frequency
AFRC	Air Force Reserve Command
AMRAAM	Advanced Medium-Range Air-to-Air Missile
ANG	Air National Guard
AWACS	Airborne Warning and Control System
BUR	Bottom-Up Review
DSP	Defense Support Program
EELV	Evolved Expendable Launch Vehicle
FTE	Full Time Equivalent
GPS	Global Positioning System
JASSM	Joint Air-to-Surface Standoff Missile
JDAM	Joint Direct Attack Munition
JPATS	Joint Primary Aircraft Training System
JSF	Joint Strike Fighter
MLV	Medium Launch Vehicle
NPOESS	National Polar-orbiting Operational Environmental Satellite System
O&M	operation and maintenance
ORL	Operationally Responsive Launch
QDR	Quadrennial Defense Review
RDT&E	research, development, test, and evaluation
SBIRS	Space Based Infrared System
STARS	Surveillance Target Attack Radar System
TSAT	Transformational Satellite
UAS	unmanned aerial system
WCMD	Wind-Corrected Munitions Dispenser

Major USAF Programs RDT&E

(Current million dollars)

Program	2005	2006	2007
A-10	29.9	56.0	80.8
B-1B bomber	79.2	95.9	130.5
B-2 bomber	263.6	294.9	224.2
B-52	29.8	26.7	71.4
Next generation bomber	28.9	24.8	25.6
C-5 transport	311.5	223.3	150.2
C-17 transport	195.0	164.8	173.8
C-130 transport	158.7	232.2	248.3
C-130J transport	13.2	6.6	40.5
CV-22 transport	67.3	70.4	26.6
E-3 AWACS	274.0	119.7	165.8
E-8 Joint STARS	98.4	104.3	152.7
E-10 Multisensor C2	391.0	391.0	390.9
F-15E fighter	127.1	143.6	125.1
F-16C/D fighter	95.7	154.5	148.4
F-22 fighter	530.2	448.2	584.3
F-35 fighter (JSF)	2,080.1	2,333.0	1,999.1
T-6 JPATS	0.0	0.0	0.0
AIM-120 AMRAAM	31.9	32.8	43.4
JASSM	43.3	66.0	40.9
JDAM	0.0	0.0	15.5
Sensor Fused Weapon	0.0	0.0	0.0
Small Diameter Bomb	73.6	63.5	104.1
WCMD	0.0	0.0	0.0
AEHF satellite	607.3	655.8	633.3
Counterspace systems	25.4	29.1	47.3
DSP satellite	0.0	0.0	0.0
GPS satellite	162.0	270.0	493.1
MilSatCom terminals	245.6	269.2	271.6
Milstar satellite	1.4	0.0	0.0
NPOESS	306.1	319.1	349.3
SBIRS High satellite	587.1	696.6	668.9
Space Radar satellite	67.8	98.3	266.4
TSAT	444.0	429.2	867.1
Wideband Gap-filler Satellite	54.4	92.3	37.7
EELV booster	21.0	25.7	18.5
MLV booster	0.0	0.0	0.0
ORL booster	32.1	38.5	0.0
Minuteman III ICBM	164.9	103.0	60.4
Global Hawk UAS	382.6	327.7	247.7
Predator UAS	82.1	64.1	61.5

Major USAF Programs Procurement

(Current million dollars)

Program	2005	2006	2007
A-10	67.9	51.5	107.4
B-1B bomber	20.1	50.5	63.6
B-2 bomber	93.9	58.3	191.3
B-52	110.2	128.5	70.1
Next generation bomber	0.0	0.0	0.0
C-5 transport	114.1	91.9	156.4
C-17 transport	4,086.7	3,477.3	2,887.6
C-130 transport	162.3	177.8	217.7
C-130J transport	950.8	765.7	826.3
CV-22 transport	401.8	350.6	411.8
E-3 AWACS	46.5	49.6	64.5
E-8 Joint STARS	61.0	15.3	138.2
E-10 Multisensor C2	0.0	0.0	0.0
F-15E fighter	312.3	286.3	92.9
F-16C/D fighter	347.1	414.4	352.1
F-22 fighter	4,094.6	3,766.8	2,197.4
F-35 fighter (JSF)	0.0	118.4	1,015.0
T-6 JPATS	300.9	328.9	305.1
AIM-120 AMRAAM	106.9	103.1	135.9
JASSM	139.2	98.7	187.2
JDAM	514.4	220.3	175.0
Sensor Fused Weapon	116.5	118.8	118.9
Small Diameter Bomb	29.1	53.3	99.1
WCMD	58.4	15.5	34.7
AEHF satellite	78.2	521.3	0.0
Counterspace systems	0.0	0.0	31.4
DSP satellite	105.3	42.1	38.4
GPS satellite	327.4	313.1	140.4
MilSatCom terminals	18.6	28.3	73.8
Milstar satellite	0.0	0.0	0.0
NPOESS	0.0	0.0	0.0
SBIRS High satellite	0.0	0.0	0.0
Space Based Radar satellite	0.0	0.0	0.0
TSAT	0.0	0.0	0.0
Wideband Gap-filler Satellite	35.4	72.0	414.4
EELV booster	414.0	773.2	936.5
MLV booster	82.1	109.4	102.0
ORL booster	0.0	0.0	0.0
Minuteman III ICBM	660.2	707.8	726.8
Global Hawk UAS	359.1	359.6	504.5
Predator UAS	357.0	153.8	287.4

Force Structure Changes

	Cold War Base 1990	1990 Base Force	1993 BUR Plan	1997 QDR Goal	Most Recent Published Plan 2003 ^d
Air Force					
Active fighter wings	24	15	13	12+	12+
AFRC/ANG fighter wings	12	11	7	8	7+
Army					
Active divisions	18	12	10	10	10 ^b
Army National Guard/Reserve	10	8 ^a	8	8	8 ^c
Navy					
Aircraft carriers					
Active	15	12	11	11	10
Reserve	1	1	1	1	1
Carrier air wings					
Active	13	11	10	10	10
Reserve	2	2	1	1	1
Marine Corps					
Active Marine Expeditionary Forces	3	3	3	3	3
Marine Forces Reserve	1	1	1	1	1

^a Comprising 34 brigades.

^b Plus two armored cavalry regiments.

^c Plus 16 separate brigades (15 of which are at enhanced readiness levels).

^d Force structure plans were not provided in FY 2004, 2005, 2006, or 2007 budget data.

By John T. Correll, Contributing Editor

Hold Your Spit

"I'm not advocating that we spit on returning veterans like they did after the Vietnam War, but we shouldn't be celebrating people for doing something we don't think was a good idea. All I'm asking is that we give our returning soldiers what they need: hospitals, pensions, mental health, and a safe, immediate return. But, please, no parades."—**Columnist Joel Stein, Los Angeles Times, Jan. 24.**

Restating the Commitment

"You bet, we'll defend Israel."—**President Bush on whether US would rise to Israel's defense militarily, Washington Post, Feb. 2.**

Not Broken

"The force is not broken. ... I just can't imagine someone looking at the United States armed forces today and suggesting they're close to breaking. That's just not the case."—**Secretary of Defense Donald H. Rumsfeld, Pentagon news briefing, Jan. 25.**

Fractured, Maybe?

"They are stretched thin. Whether they're broken or not, I think I would say if we don't change the way we're doing business, they're in danger of being fractured and broken."—**Retired Army Gen. George A. Joulwan, former NATO commander, CNN Late Edition, Dec. 4, widely quoted after Rumsfeld statement.**

Awaiting the Egress

"Rumsfeld will be gone soon, and Capitol Hill has ceased caring what he wants anyway. Congress will probably add money for the lost brigades and airlifters, just as it will reject other bad proposals like the idea of creating a monopoly for fighter engines. But with the clock ticking down on Donald Rumsfeld's tenure, it's a little hard to say what he has achieved in the way of a lasting, positive legacy."—**Loren B. Thompson, Lexington Institute, Jan. 23.**

Ralph and His Arithmetic

"Instead of beefing up the forces that do the actual fighting, the Pentagon self-justification process known as the 'Quadrennial Defense Review,' or QDR, is about to call for increasing the buy of the F/A-22, a pointless air-to-air fighter with a \$280-million-per-copy price tag,

while acquiring high-tech destroyers designed to defeat a vanished Soviet Navy."—**Ralph Peters, retired Army officer turned media star and vitriolic critic of the Air Force. The F-22 program was cut—not increased—yet again, New York Post, Feb. 2.**

Chirac's Warning

"The leaders of states who would use terrorist means against us, as well as those who would envision using ... weapons of mass destruction, must understand that they would lay themselves open to a firm and fitting response on our part. This response could be a conventional one. It could also be of a different kind."—**French President Jacques Chirac, Washington Post Foreign Service, Jan. 20.**

The Alleys of Intelligence

"It is the nature of intelligence that many tips lead nowhere, but you have to go down some blind alleys to find the tips that pay off."—**Air Force Gen. Michael V. Hayden, principal deputy director of national intelligence, National Press Club, Jan. 23.**

Endorsed by bin Laden

"If I were the President, I could stop terrorist attacks against the United States in a few days. Permanently. I would first apologize—very publicly and very sincerely—to all the widows and orphans, the impoverished and the tortured, and all the many millions of other victims of American imperialism."—**Sample of content from Freeing the World to Death, a book by left-wing US historian William Blum, who drew an endorsement from Osama bin Laden, Washington Post, Jan. 21. Blum welcomed Osama's comments.**

We'll Get Him

"In the end, we'll get bin Laden, just like we've gotten his senior leaders. The heads of al Qaeda now are all third- and fourth-tier individuals."—**Retired Air Force Gen. Richard B. Myers, former Chairman of the Joint Chiefs of Staff, Contra Costa Times, Jan. 20.**

Regulars and Reserves

"This is a simpler way to manage the force. Those on active duty will be regular officers; those in the reserves will be reserve officers. ... The

change is across all of the Department of Defense, so there's no option to remain an active duty officer with a reserve-type commission."—**Lt. Col. Leslie Formolo, Air Force chief of promotion and evaluation policy, on switch from traditional difference in types of commissions, Air Force Print News, Jan. 31.**

Ready for Dear Leader

"We are fully capable today of defeating any North Korean aggression and we will maintain that capacity."—**Marine Corps Gen. Peter Pace, Chairman of the Joint Chiefs of Staff, on US and South Korean military preparedness, New York Times on the Web, Feb. 3.**

States' Rights

"Governors and members of Congress are stakeholders in the defense of America. The Defense Department would be wise to work with them when addressing the states' Guard and Reserve policies."—**Former Secretary of Defense and nine-term Congressman Melvin R. Laird, op-ed column, Washington Post, Feb. 6.**

The Benevolence of Beijing

"We are an important force that promotes the peace and stability of the Asia-Pacific region and the world. We have not, do not, and will not pose a threat."—**Chinese Foreign Ministry spokesman Kong Quan, rejecting the Pentagon's characterization of China as a potential military threat, Associated Press, Feb. 8.**

Ground Dominance

"This QDR gives the Army a chance to achieve overwhelming dominance on the ground. It will be expensive. But as one general told me last week: 'Land warfare is no longer the cheap alternative.'"—**Retired Maj. Gen. Robert H. Scales, former commander of the Army War College, op-ed column, Washington Times, Feb. 3.**

Future of Airpower

"It's the most requested aircraft in theater—everybody wants Predator. This is the future of airpower."—**Maj. Micah Morgan, former B-1 pilot, now commanding the Predator unmanned aircraft system squadron at Balad AB, Iraq, Washington Post, Feb. 9.**

Three sides of Phou Pha Thi were nearly vertical; the fourth was heavily fortified. Lima Site 85 perched on the very top of the bluff.

The Fall

Lima Site 85 and the secret Air Force radar facility sat atop one of the highest mountains in Laos, 15 miles away from the border with North Vietnam. The site was defended by a force of 1,000 Hmong irregulars in the valley below, but a key element in its security was the mountain itself.

The drop on three sides was nearly vertical, and US officials did not believe the enemy could climb the cliffs. The fourth side of the mountain was fortified.

The assumptions were wrong. On the night of March 10-11, 1968, under cover of a massive artillery and infantry assault on the mountain, a team of North Vietnamese sappers scaled the cliffs, overran the radar site, and killed more than half of the Americans they found there.

For years thereafter, the fate of Lima Site 85 was classified as top secret. When reports finally began to emerge, they were riddled with gaps and inaccuracies. Even now, almost 40 years after the attack, questions and doubts persist about what happened that night on the mountaintop.

The story of Lima Site 85 began with the weather.

With the onset of the northeast monsoon in October, the weather over North Vietnam turned unfavorable for air operations and it did not improve again until April. This was a big problem for Rolling Thunder, the air campaign against North Vietnam from 1965 to 1968.

At the time, the US had two all-weather strike aircraft: the Navy's A-6 and the Air Force's B-52. Only a limited number of A-6s were available, and for reasons of political reluctance

The radar site was deep in enemy territory. The assumption was that it was impossible for attackers to climb the sheer face of the mountain.

of Lima Site 85

By John T. Correll

in Washington, the B-52s were held to bombing near the Demilitarized Zone. That left it up to F-105s and other tactical aircraft to carry the war to the north, and during the monsoon, they could strike targets around Hanoi for only four or five days a month.

A solution of sorts appeared in 1966 with an adaptation of Strategic Air Command's radar bomb scoring system. This modification, called the MSQ-77, guided aircraft to a precise point in the sky where ordnance was released. It wasn't pinpoint accuracy, but it was good enough for targets such as airfields and industrial areas.

By 1967, the Air Force had five MSQ-77 radars working in South Vietnam and one in Thailand. However, none of these sites covered the North Vietnamese heartland around Hanoi. That required putting the radar where it would have an unobstructed line of sight to the airspace over Hanoi. Also, the target area had to be within 175 miles of the radar, which was the effective range of the system.

Such a place existed at Phou Pha Thi, a mountain in Laos 160 miles west of Hanoi. The Air Force already had a TACAN navigational beacon in operation on the rim of the mountain at an elevation of 5,580 feet. That was high enough to give the radar a straight shot to Hanoi.

There was also a rough landing strip, Lima Site 85, on the flank of the mountain. It was one of several hundred such Lima sites built all over Laos by the CIA's proprietary airline, Air America, to supply Hmong hill tribesmen fighting the Communist Pathet Lao. By strict definition, the Lima site was the airstrip, but the area

around the TACAN was generally referred to as Lima Site 85 as well.

A portable version of the MSQ-77 radar, the TSQ-81, could be broken down into sections and transported to Phou Pha Thi by helicopter.

In Hostile Territory

There were several problems with Lima Site 85 as a location for a radar bombing system.

According to a 1962 Geneva agree-

ment, which the United States had signed, Laos was a neutral country. No foreign troops were supposed to be there. The US promptly withdrew its forces in 1962, but only about 40 of the 7,000 North Vietnamese troops in Laos ever went home. Rather than confront the North Vietnamese in Laos openly, the United States chose instead to give covert assistance to the Royal Laotian government. (See "The Plain of Jars," June 1999, p. 78.)



Lima Site 85, perched on the top of Phou Pha Thi, was situated in the part of Laos where the enemy was the strongest. The mountain was 15 miles from the Laos-North Vietnam border and fewer than 30 miles from Sam Neua, the capital of the Pathet Lao.



In John Witt's painting for the Air Force Art Collection, an Air America helicopter lifts survivors from a cliff on the side of the mountain. CMSgt. Richard Etchberger (with M-16) fought off the attackers but was killed in the final moments of the rescue. He was awarded the Air Force Cross posthumously for his actions.

As the conflict gathered momentum, the CIA and Air America supplied and trained the Hmong hill tribesmen, who were the best fighters in the Laotian Army. The war in Vietnam spilled over into Laos as well. By 1965, US aircraft were flying regular combat missions against targets in Laos. In the north, Operation Barrel Roll supported the government troops fighting the Pathet Lao, and in the south, Operation Steel Tiger interdicted the Ho Chi Minh Trail in the Laotian panhandle.

It was a secret war in the sense that the American public was not told about it, although Congress and the news media knew generally what was going on.

Lima Site 85 was situated in the part of Laos where the enemy was strongest. The mountain was 15 miles from the North Vietnamese border and less than 30 miles from the Pathet Lao capital of Sam Neua.

William H. Sullivan, the US ambassador to Laos, was wary of installing a bombing radar in Laos, and he was adamantly opposed to bringing in US combat troops to defend the site. If there were to be a TSQ-81 system at Phou Pha Thi, the defenders would have to

be Hmong, trained and organized by the CIA (which was known in Laos as CAS, or Controlled American Source). For further defense, US air strikes could be used against any forces that threatened the site.

If worse came to worst, air rescue could bring the people out. The assumption was that there would be plenty of time for helicopters to land at the helipad, 300 yards down the ridge from the radar site, and extricate the technicians.

Sheep Dipped

At the urging of the Air Force and the Joint Chiefs of Staff, the United States took steps in 1967 to establish a TSQ-81 facility at Phou Pha Thi. Sullivan obtained concurrence—with conditions—from Souvanna Phouma, the Prime Minister of Laos.

"If the unit were to be installed, Souvanna suggested that it must be done without his knowledge," Sullivan notified Washington in June. "Technicians servicing the site would have to be civilians or military personnel with civilian documentation."

In July, Souvanna agreed to the proposal. Sullivan reported, "I assured him that: a) All USAF markings would be removed from equipment, b) Detonators would be affixed to permit immediate destruction in case of imminent danger, [and] c) Personnel would be under civilian cover."

The Air Force rejected the idea of sending airmen into Laos with fraudulent ID. If they were captured in "shallow cover," pretending to be civilians, they would have no protection under the Geneva Convention as prisoners of war.

Instead, volunteers would go through a process known in the shadowy world of special operations as "sheep dipping." They would leave the Air Force,

be hired by a legitimate civilian company, and go into Laos as employees. When their mission was over, they would be welcomed back into the Air Force. If they were captured or killed, their families would be covered by company or Air Force benefits.

Lt. Col. Gerald H. Clayton, who had extensive experience with MSQ-77 radars, would head the team. He and Lt. Col. Clarence F. "Bill" Blanton handpicked the airmen who would be asked to volunteer. They had known most of them for years.

The proposition was put to the selected candidates at Barksdale AFB, La., in September 1967. Forty-eight of them—four officers and 44 enlisted members—volunteered for the program, which was named Heavy Green. They were separated from the Air Force and employed by Lockheed Aircraft Service Corp., a subsidiary of Lockheed Aircraft Corp. While they were in the program, they would be paid by Lockheed, which also gave each of them a substantial life insurance policy.

Their wives were brought to Washington, briefed, and required to sign security agreements to keep the program secret. SSgt. Herbert A. Kirk's wife, a German national, could not be granted security clearance and she did not attend.

Additional space was cleared atop Phou Pha Thi to make room for the radar installation, and an Army CH-47 Chinook cargo helicopter brought in the larger pieces of Heavy Green equipment. The expanded TSQ-81/TACAN area reached about 150 feet inward from the southwest rim. Beyond that point, the mountain rose in a tangle of rocky outcroppings and scrub brush to a peak 1.6 miles to the north.

The radar was rigged with explosives so it could be destroyed before the enemy could capture it. Heavy Green took over the TACAN as an additional duty. The radar bombing system went operational on Nov. 1, 1967.

Targeting the North

The Heavy Green team deployed to Udorn Royal Thai Air Base in northern Thailand and set up shop in two quonset huts in the Air America compound. The sheep-dipped airmen lived in rented housing off base. Around Udorn, they wore uniforms and carried military ID. Ironically, this was a cover role, since they were, in fact, civilians, having separated from the force.

When they flew to Lima Site 85 for

two-week rotational tours of duty, they wore civilian clothes and carried their Lockheed ID.

Clayton was commander of Det. 1 of the 1043rd Radar Evaluation Squadron, which had headquarters at Bolling Air Force Base in Washington, D.C. He also was manager of the Lockheed field service group at Udorn.

The clandestine nature of the site led to fuzzy lines of control and responsibility. The Air Force was the main user of Lima Site 85 services, and the daily tasking for support of bombing missions came from 7th Air Force in Saigon. However, Sullivan was the ultimate authority over US activity in Laos and everybody knew it.

The Geneva agreement prohibited a US military headquarters in Laos. Therefore, under a "Country Team" policy, military affairs were directed by the ambassador. Sullivan was vigorous in the exercise of his authority, and the war in Laos was marked by a power struggle and antagonism between Sullivan and the military. Various arms of the US government had an interest in Project Heavy Green, but none of them was exclusively in charge.

The Pathet Lao were active in the vicinity of Phou Pha Thi and they regularly clashed with the Hmong, who were trying to keep communist forces from using the mountain valleys as a route into central Laos. Concern about the vulnerability of Lima Site 85 was



The first attempt to destroy the radar site came on Jan. 12, 1968, as two Russian-built An-2 Colt biplanes, such as the one shown here, dropped converted 120 mm rounds on the installation.

offset by its operational value to the Air Force.

The site was guarded by a force of about 1,000 indigenous troops, mostly Hmong but including some Thais. Of these, 200 were in the immediate vicinity of the radar site with the other 800 on the lower parts of the mountain. Two CIA paramilitary officers were stationed at the CAS area, just south of the helipad. The approaches to the radar site were strewn with mines and concertina wire.

Nobody expected the enemy to get that far. From the bottom of the mountain, rocky slopes extended about half-way up at angles of 45 to 60 degrees. The rest of the way to the top was much steeper, rising in places at 85 to 90 degrees.

In response to an inquiry from 7th Air Force, the office of the air attache in Vientiane reported that the approaches to the top of Phou Pha Thi were "virtually a vertical climb and those avenues which can be traversed are heavily mined." Phou Pha Thi could be taken if the enemy concentrated a large force—about four battalions—charged in full strength, and was willing to accept heavy losses, the attache office said.

The northeast monsoon of 1967-68 was especially severe. For the 18 weeks the Lima Site 85 radar was in operation—that is, from Nov. 1, 1967, to March 10, 1968—the Air Force relied on it for 23 percent of the air strikes in the northern part of North Vietnam. Operations conducted under the direction of Site 85 were called Commando Club.

Bombed by Biplanes

The first attempt to destroy the radar site came from the air. About 1 p.m. on Jan. 12, two Russian-built An-2 Colt biplanes made three bombing passes against the summit of the mountain.

The biplanes had a World War I look to them, but they were really not that old. The An-2 first flew as a crop duster in 1947. Cruising speed was below 150



Because of Etchberger's defense against the attack of the North Vietnamese sappers, his wounded companions lived long enough to be rescued. No sooner had he boarded the rescue chopper, however, than he was hit and mortally wounded by ground fire. He died within minutes.

mph, which probably was an advantage in this case because the biplanes were dropping improvised munitions through tubes in the floor.

The "bombs" were converted 120 mm mortar rounds that would arm in the slipstream and detonate on impact. The brunt of the attack fell on the CAS area, where shiny rooftops apparently drew the attention of the An-2 pilots. They did not target the TSQ-81 facilities until the final pass, and the bombs they dropped there all missed. The attack killed two Laotian civilians and two guerrillas, but it did no damage to the radar site.

An Air America Bell 212 helicopter, the civilian version of the Huey, was on the helipad at the time of the attack. The crew leaped aboard and gave chase. The helicopter was faster than the biplanes. As it flew past the An-2s, the flight mechanic blasted them with a submachine gun, firing out the door and hitting both of them. One An-2 crashed and burned, and the other crashed 16 miles to the northwest while trying to clear a ridge. The rudder from one of the biplanes was recovered and taken to the Air America base at Long Tieng for a souvenir.

The security challenges increased. On the evening of Jan. 30, the enemy pounded the southern end of the mountain with a 30-minute mortar attack. It did not amount to much and was written off as a probing attack.

By the middle of February, the enemy was on all sides of the mountain, about seven miles away. On Feb. 18, the Hmong wiped out a small party of North Vietnamese five miles southeast of the site. Among those killed was an officer who carried a notebook with plans for a coming attack on Phou Pha Thi. It said three North Vietnamese battalions and one Pathet Lao battalion would take part. The notebook contained the word "TACAN" in English and it had the exact location.

Lima Site 85 continued to direct bombing in North Vietnam, but, by February, more than half of the Commando Club strikes were flown against the enemy forces surrounding the mountain itself.

In late February, the CIA said that the security of Phou Pha Thi could not be predicted beyond March 10, and Sullivan sent a message to the Air Force warning that the site probably could not be held much longer.

The Air Force did not want to pull out. "Due to the desirability of main-

taining air presence over [the North Vietnamese] during present inclement weather period, Site 85 probably would not be evacuated until capture appeared imminent," 7th Air Force said in a March 5 message to Pacific Air Forces officials. "The fact that complete security could not be assured in the original plan is noted."

Up to then, the Heavy Green personnel at the mountain had not been armed. In March, the embassy approved the issue of M-16 rifles, although the technicians had not achieved proficiency with them before the big attack came.

On March 11—the TSQ-81's last day of operation—19 Americans were at Phou Pha Thi. Sixteen of them were Heavy Green personnel. The radar technicians were divided into two shifts, one led by Blanton (a sheep-dipped lieutenant colonel and Clayton's deputy) and the other by Stanley J. Sliz (a sheep-dipped captain). Also at the site were a combat controller who had been sent from Vientiane to direct local air strikes and the two CIA paramilitary officers in their own building near the helipad.

The Sappers Attack

The force that hit Phou Pha Thi on March 10 consisted of between five and seven battalions, amounting to some 3,000 troops. Mortar, artillery, and rocket rounds began falling about 6 p.m. The enemy was firing on the mountain from the north and east.

The barrage stopped at 7:45 p.m., having inflicted some damage on the living quarters, the TACAN antenna, and a defensive gun position. Fighting continued at the lower elevations. Blanton's team took the duty in the TSQ-81 van, while Sliz's team was sent to rest in preparation for duty later. With their quarters vulnerable to shelling,

Sliz and his group decided to spend the night on one side of the mountain, where they would be sheltered from the artillery that was firing from the opposite direction.

They took their sleeping bags, weapons, and survival radios with them, descending about 20 feet over the side by means of a makeshift ladder fashioned from a C-130 cargo net. That took them to a small cliff, partially protected by a rocky overhang. The airmen often went there when off duty because it was a change from the tight confines of the radar site. There was nothing below except a straight drop to the valley below.

Through the night, A-26 bombers and F-4 fighters struck the attackers repeatedly, guided by Blanton's radar team. Sullivan considered evacuating the site, but the Air Force held to its position of evacuating only as a last resort if the situation became untenable. At about 9:30 p.m., Sullivan decided that nine of the Americans would be brought out at first light the next morning. That, as Sullivan said later, would be "one day too long."

Before midnight, 33 North Vietnamese sappers climbed the western side of the mountain, a feat that US officials assumed was impossible. The sappers had trained for months, practicing on karst peaks and the faces of rock cliffs. They emerged on the top of the mountain at a point between the radar buildings and a Thai guard post.

The sappers waited in hiding until 3 a.m., then began moving toward the Heavy Green facilities. They bumped unexpectedly into an enemy guard, who threw a grenade. The sappers immediately opened fire on the radar buildings with a rocket-propelled grenade launcher and submachine guns. "The Americans were taken by

The Americans at Phou Pha Thi on March 11, 1968

• **Rescued:** Capt. Stanley J. Sliz, SSgt. John Daniel, SSgt. Bill Husband, SSgt. Jack Starling, Sgt. Roger Huffman, Howard Freeman (CIA), John Spence (CIA).

• **Killed during rescue:** CMSgt. Richard L. Etchberger.

• **Killed in action/body not recovered:** Lt. Col. Clarence F. Blanton, MSgt. James H. Calfee, TSgt. Melvin A. Holland, SSgt. Herbert A. Kirk, SSgt. Henry G. Gish, SSgt. Willis R. Hall, SSgt. James W. Davis, SSgt. David S. Price, TSgt. Donald K. Springsteadah, SSgt. Don F. Worley.

• **Killed in action/body recovered:** TSgt. Patrick L. Shannon.



Since 1994, Joint POW/MIA Accounting Command has made trips to Laos and Vietnam, gathering information about the fate of Americans at Phou Pha Thi. In this photo, a JTF-FA investigator rappels down the sheer face of the mountain.

surprise," the North Vietnamese report said later.

Eventually, the North Vietnamese discovered Sliz's team on a rock overhang about 20 feet down from the top. The sappers shot down the side of the mountain with automatic weapons and lobbed grenades over the slope.

Several of the Americans on the ledge were killed outright. Sliz and John Daniel were wounded. However, CMSgt. Richard L. Etchberger was unhurt and, because of him, his wounded companions would live to be rescued. Etchberger kept the sappers at bay with his M-16 rifle.

At least eight Americans were still alive on the mountain. Etchberger, Sliz, and Daniel were on the ledge. The TACAN technician, Jack Starling, was by the TACAN, wounded and playing dead. Bill Husband was on top of the mountain, just north of Starling. The combat controller, Sgt. Roger Huffman, was near the helipad. The two CIA officers, Howard Freeman and John Spence, were at the CAS area south of the helipad.

Rescue

At 5:15 a.m., Sullivan decided the evacuation of all personnel would begin in two hours, at 7:15 a.m. Incoming fire stopped just before 7 o'clock. Air America and Air Force rescue helicopters were standing by, ready to go in, but they were drawing fire from the summit.

Hard fighting continued on the lower parts of the mountain. The senior

CIA officer, Freeman, and 10 Hmong soldiers went to TSQ/TACAN area to determine the situation. Freeman got no response when he called out, but his party exchanged fire with the North Vietnamese attackers. Freeman was shot in the leg and several of the Hmong were killed. A flight of A-1E Skyraiders made a strafing pass over the site to brush back the enemy before the helicopters approached.

First in, at 7:35 a.m., was an Air America Huey from Long Tieng. Spotting the men on the ledge, the pilot pulled close to the cliff and the flight engineer brought the survivors up by cable. Husband ran to join them.

Etchberger helped Daniel and Sliz, who were wounded, board, then he and Husband went up the cable. Etchberger was no sooner inside the helicopter than ground fire came up through the floor, mortally wounding him. He died minutes later. (Etchberger was awarded the Air Force Cross, posthumously. It was presented to his wife, Katherine J. Etchberger, by Gen. John P. McConnell, the Air Force Chief of Staff, in a closed ceremony in the Pentagon Jan. 15, 1969. Present, in addition to the family, were Clayton and almost every senior officer on the Air Staff.)

At 8:20 a.m., an Air America helicopter took out Thai and Hmong wounded. Freeman went with them. A USAF Jolly Green Giant brought out more Hmong wounded at 8:46 a.m. At 8:54 a.m., Air America picked up Spence and Huffman. Husband told the rescuers that one more person, Starling,

was probably still alive at the site. A Jolly Green Giant went to get him and picked him up at 9:46 a.m.

Of the 19 Americans on the mountain, eight had been brought out. Of the remaining 11, the first count was eight dead and three presumed dead, but that was updated by the Vientiane embassy within 24 hours: "Latest interrogation and discussion with survivors has led to a firm conclusion that three previously carried as missing were indeed seen dead by one or more survivors. Therefore, we are no longer carrying any personnel missing, but consider all of those who were not, repeat not, extracted, to be dead."

In their report, which surfaced years later, the North Vietnamese claimed to have killed 42 men at the site and wounded many others, "primarily Lao and Thai soldiers."

Fall of Site 85

The Hmong defenders around the site held the trail to the summit as late as 7:30 a.m., but they were badly outnumbered and the North Vietnamese and Pathet Lao force was too powerful. Phou Pha Thi soon fell to the enemy. In the furor of the attack, nobody detonated the thermite with which the radar had been rigged.

"Presuming those who were not evacuated on the morning of 11 March were dead, a fairly concentrated air effort was launched on that same day to destroy the technical and personal equipment left behind on Site 85," the embassy in Vientiane reported.

Sullivan met with Souvanna Phouma and told him that Site 85 had not been destroyed but that Air Force napalm strikes were being delivered. "He urged me to destroy as much evidence as we can rapidly," Sullivan said.

A message from the embassy on March 16 said that the next of kin had been notified of the "missing status" of the 11 airmen who were not evacuated. The message said the Air Force wanted to delay for a "reasonable period" or until confirmation of death before officially going from "Missing in Action" to "Killed in Action." That change was made March 25, thereby authorizing insurance payments to the families.

The Heavy Green survivors were restored to membership in the Air Force. The families of the 11 missing men received payments from the Lockheed insurance policy, and, in 1969, all of them except Herbert Kirk were reinstated in the Air Force. Kirk's wife did

not have security clearance to be told about the classified project. Apparently, Kirk agreed that, in the event of his death, the government would stay with his cover story and not reinstate him in the Air Force. His family would rely on the Lockheed survivor benefits instead. This arrangement would be later overturned in court.

The North Vietnamese and the Pathet Lao moved to consolidate their victory. By September, they had more than 20 battalions in the Sam Neua area. Hmong Gen. Vang Pao launched a major operation to retake the mountain in December. His forces did recapture the landing strip, the helipad, and the CIA area, but they were unable to take the mountaintop. They fell back, and Phou Pha Thi was never recaptured.

There was no attempt to install another TSQ-81 in Laos. On March 31, President Johnson announced a partial halt of bombing of North Vietnam and made the bombing halt complete on Nov. 1. There was no longer a need for a radar to guide strikes in the north.

Questions in the Aftermath

The "Secret War" in Laos was publicly disclosed in 1970, but the announcement revealed nothing about Lima Site 85 and what had happened there. Up to then, the families had not been told much of the story. In 1970, an Air Force team, which included Clayton, visited the families and gave them more of the details.

One of the widows, Ann Holland, did not believe she was getting the full answers or the straight answers about the fate of her husband, TSgt. Melvin A. Holland. In 1975, she sued the Air Force and Lockheed for negligence. She said the government had not candidly informed her of the facts of his death. The suit lingered in the courts until 1979, when it was dismissed.

According to Timothy N. Castle, author of a deeply researched 1999 book, *One Day Too Long: Top Secret Site 85 and the Bombing of North Vietnam*, Ann Holland's lawsuit alerted the Kirk family as to what had happened at Lima Site 85. Mrs. Kirk had never been informed of the operation because she had no security clearance. The Kirk family filed a lawsuit of its own. Not until then was Kirk's membership in the Air Force posthumously restored and full military survivor benefits given to his family.

The 11 men not recovered from Phou Pha Thi, including Kirk, were

awarded the Bronze Star posthumously in 1984.

The story came out in bits and pieces. Among the earliest public revelations was an official Air Force history of the war, published in 1977. It described the fall of Lima Site 85, but described it as a navigation facility, leaving out any reference to the TSQ-81 bombing mission. In 1978, *Airpower in Three Wars*, written by Gen. William W. Momyer, former commander of 7th Air Force, described the mission and operation of the site in some detail but did not mention its capture.

A 56-page official Air Force history of the loss of the site, written for internal use and classified Top Secret when it was completed in August 1968, was declassified in its entirety in 1988. It adds substantial detail but is marred by a number of factual errors. The history is now available on the Internet.

The North Vietnamese report—titled "Raid on the TACAN Site Atop Pha-Thi Mountain by a Military Region Sapper Team on 11 March 1968"—was published in 1996 and obtained and translated by the Department of Defense in 1998.

Castle interviewed dozens of survivors and former officials for his 1999 book. It filled in numerous details and identified mistakes in earlier works.

In recent years, there have been recurring reports that some of the technicians at Lima Site 85 were captured, not killed. A former high-ranking Pathet Lao officer told Castle that prisoners were taken. He, however, had not been present at Phou Pha Thi, and his statement was contradicted by the statements of others, including former enemy soldiers who were there. They said there had been no prisoners. The detailed North Vietnamese account of the attack, published in 1996, did not report any prisoners either.

The Department of Defense credited the statement of the American survivors and other evidence, including study of aerial photos of the site taken on March 11, and held to its assessment and carried the 11 airmen on its rolls as "Killed in Action/Body Not Recovered."

Return to the Mountain

Since 1994, the Joint POW/MIA Accounting Command, headquartered at Hickam AFB, Hawaii, has interviewed

witnesses and made trips to Laos and Vietnam, gathering information about the fate of Americans at Phou Pha Thi. Among those interviewed have been villagers who lived near the site and former enemy soldiers who took part in the attack.

Excavations at Phou Pha Thi in December 1994 and January 1995 produced no information about American casualties. In March 2003, however, acting on information from new witnesses, representatives of the command searched the summit, the eastern and western slopes, the western cliffs, and the slopes below.

Two former North Vietnamese commandos who took part in the attack showed the investigators three places where they had thrown bodies over the cliff. The investigators threw mannequins over the edge at those points while a photographer in a helicopter videotaped their fall. That pointed the investigators to a ledge, 540 feet below.

Mountaineer-qualified specialists scaled down cliffs to the ledge, where they discovered human remains, leather boots in four different sizes, five survival vests, and other fragments of material that indicated the presence of at least four Americans. The team worked in hazardous conditions, including strong winds and falling rocks, which constrained the search.

In December 2005, the Defense Prisoner of War/Missing Personnel Office announced the identification of the remains of TSgt. Patrick L. Shannon, one of the 11 airmen at Phou Pha Thi. Further excavation of the ledges is planned, assuming the willingness of the Laotian government to approve access to the site.

Today, commentaries on the fall of Lima Site 85 appear with some regularity in newspapers and military journals, but interpretations differ and the controversy continues.

The losses at Phou Pha Thi seem all the more tragic because, 20 days after the attack, the White House put an end to Rolling Thunder operations above the 20th parallel, of which the Lima Site 85 radar was a part, and the bombing of Hanoi came to a halt. The courage and sacrifice of those who died on the mountaintop stood in counterpoint to the strategic indecision and changing political winds in Washington. ■

John T. Correll was editor in chief of Air Force Magazine for 18 years and is now a contributing editor. His most recent article, "Determination of a Sandy," appeared in the March issue.

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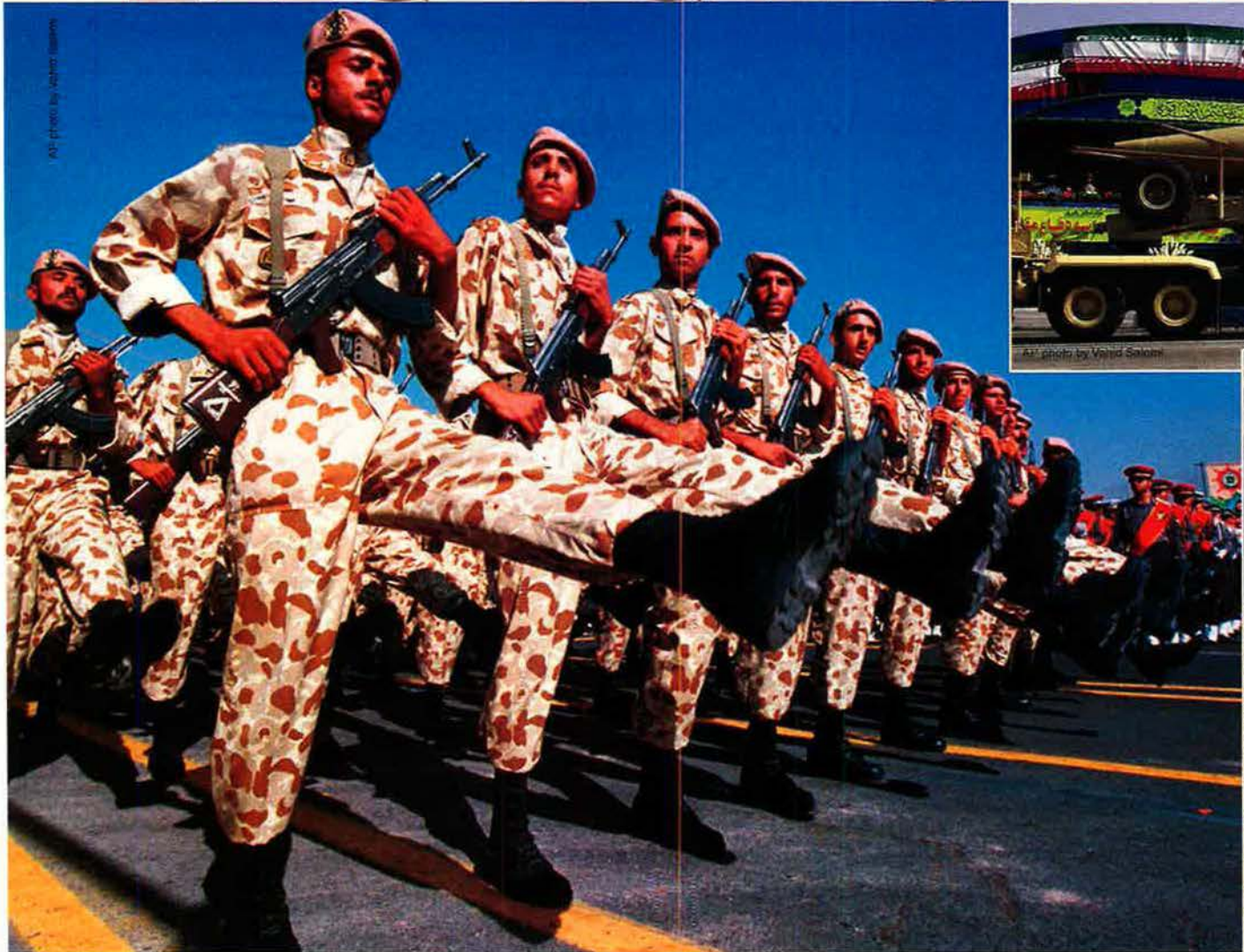
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Iran is "Exhibit A" for the danger posed by smaller nations that embrace "asymmetric warfare."

The Tehran Tr



Clockwise from above: Iranian soldiers goose step at a parade; Iran's Shahab-3 missile; South Pars gas field.

By James A. Kitfield

A series of events has propelled Iran onto what might prove to be a dangerous collision course with the United States.

President Mahmoud Ahmadinejad, a former member of the Revolutionary Guard who runs the Tehran regime,

threatened Israel by claiming it should be wiped from the face of the Earth. His remark was followed by a worse provocation—Tehran's decision to plunge ahead with a program that the West fears could produce a doomsday weapon.

The Islamic Republic sits on the State Department's list of state sponsors of terrorism—where it has been for years—and offers safe haven to leaders of al Qaeda and other extremist groups. Washington and London complain that Iranian provocateurs

iad



AP photo by Hasan Sarbakhshian

the decades since the 1979 revolution. The United States Air Force, Navy, and special operations forces certainly could deal a blow to Iran's nuclear infrastructure.

Why, many ask, would such a politically unpopular and militarily weak regime run the risk of provoking the American superpower and a nuclear-armed Israel?

That Was Then

Indeed, just a few years ago, Tehran's hard-line mullahs were actually making conciliatory gestures, seeking to placate a superpower on the warpath of the Global War on Terrorism.

At that time, the Taliban regime in Afghanistan and Saddam Hussein's thugocracy in Iraq had both recently been routed in US-led military campaigns. Operation Enduring Freedom and Operation Iraqi Freedom left Iran bracketed by US forces, east and west.

In just a few years, however, the strategic picture has changed considerably, US officials and other experts report. Few believe that a military attack makes much sense at this time. Indeed, the Bush Administration has followed a patient approach, trying to isolate Iran diplomatically over its nuclear program. The question is, why?

The reason is easy enough to see. Put in simplest terms, American war planners believe that Iran would prove to be a tough military target. Having studied the lessons of Israel's bombing of Iraq's Osirak nuclear reactor in 1981, Tehran has taken great pains to disperse its nuclear infrastructure and bury some key facilities underground. (See "Osirak and Beyond," August 2002, p. 74.)

A heavy attack would seriously damage, but not destroy, the Iranian nuclear program. The disruption might buy the West a few years of delay.

Moreover, the magnitude of the postwar problems that could arise in the wake of a US attack or invasion could dwarf those that Washington has encountered in Iraq. Iran is much larger than Iraq and much more populous, as well as more volatile.

Also, Iran is politically more cohesive. With the success of the rigged August 2005 election of firebrand Ahmadinejad, the hard-line religious leaders and Revolutionary Guard ideologues achieved something close to total consolidation into their hands of Iranian political power.

There are indications that the Iranian leadership views nuclear weapons as the best long-term way to deter or defeat the problem of foreign military and political coercion.

Iran also clearly thinks it can use its oil weapon as a trump card against any American move to isolate the regime. Iran possesses about 10 percent of the world's known oil reserves and much of its natural gas reserves. The global energy market has tightened in the past few years, giving Tehran greater leverage in its dealings with oil-consuming nations. Today, these include China, one of Iran's largest customers.

Nor are Iranian officials shy about making threats to retaliate against any military strike on their country with means such as terror, incitement of an already explosive situation in Iraq, or by closing the strategic Strait of Hormuz, through which 40 percent of the world's oil flows.

In short, Iran is seen as "Exhibit A" for the danger posed by smaller, less-powerful nations that have embraced techniques of "asymmetric warfare" to counter United States dominance in conventional military, political, and economic power.

The Tehran Triad

"Iran is pursuing its own military triad of terror, oil, and weapons of mass destruction," said Andrew F. Krepinevich Jr., executive director of the Center for Strategic and Budgetary Assessments in Washington.

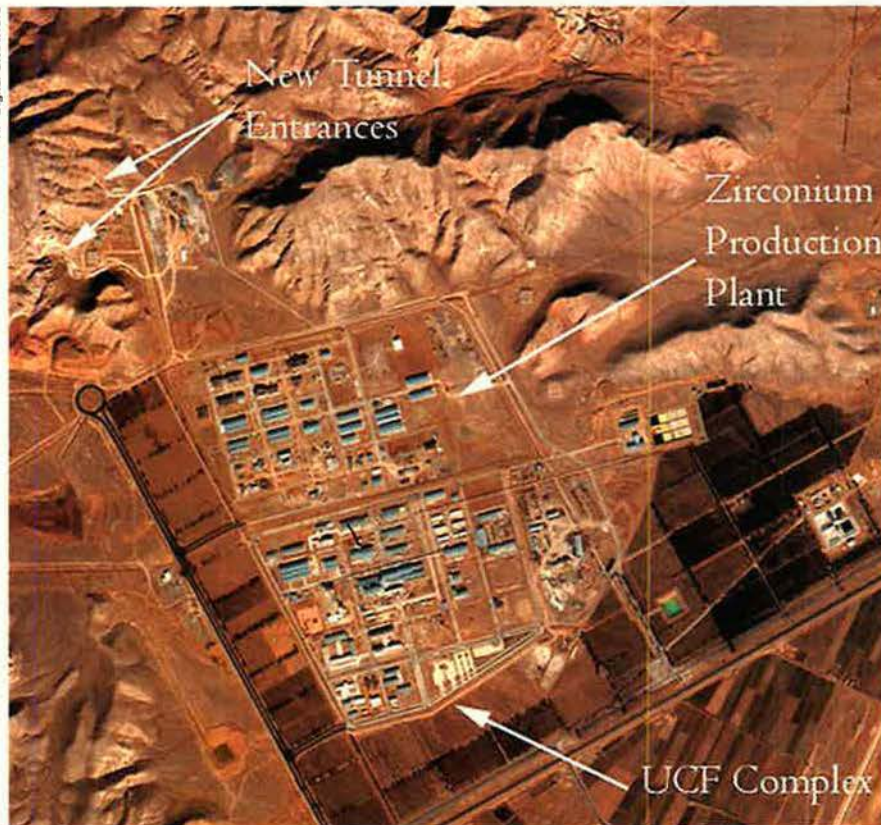
Iran's threat to use terror against any nation that strikes it, he said, is implicit in its support for terrorist groups such as Hezbollah, which is widely believed to have executed the June 1996 Khobar Towers bombing in Saudi Arabia. Nineteen Air Force airmen died in the attack, and hundreds more were wounded, many of them grievously.

Krepinevich spoke for many in the Western defense field when he said, "I think Iran has also looked at North Korea and decided that acquiring a nuclear weapon can be a winning hand in terms of deterring the United States, and they've dispersed their nuclear infrastructure geographically and underground as a result."

Iranian leaders evidently do not believe many countries would line up with Washington in an attack, he asserted, because of the risk that Iran would take its oil off the world market.

are infiltrating post-Saddam Iraq, fomenting instability.

These actions appear bold in the extreme, given the existence of antiregime discontent throughout Iran's own restive population and the collapse of Iran's conventional military power in



This Feb. 12, 2005 satellite image of the Iranian Uranium Conversion Facility at Isfahan shows new tunnel entrances. Tehran has taken great pains to disperse its nuclear infrastructure and bury some key facilities underground.

“They see our forces already stretched too thin in Iraq to cope with an invasion of Iran,” he said. “So Iranian leaders have adopted an aggressive and belligerent stance ... backed by this triad that has little to do with tank armies or naval fleets. It’s a very asymmetric approach.”

When contemplating hostilities with Iran, US experts generally ignore the Gulf nation’s conventional forces. While the exact size of the force is difficult to determine, most think Iran keeps about 540,000 men under arms, with another 350,000 in the reserves. The Iranian regular Army is thought to have about 350,000 troops, the more-capable Revolutionary Guard about 120,000, and the rest in the naval and air forces.

The force is poorly equipped. Iran is thought to have about 1,600 tanks, though lack of spare parts and sound maintenance has left as few as 1,000 fully operational. Technically, they are no match for US or other Western systems. Roughly half of Iran’s armor force is the export version of the Soviet T72. About 100 are Iranian-made Zulfiqar tanks, having more modern fire-control systems and armor-piercing ammunition.

Iranian mechanized forces are filled out by an estimated 1,500 armored fighting vehicles, backed in indirect-fire support by an estimated 3,200 artillery pieces.

The Iranian Air Force consists of some 300 combat aircraft, though they are a mishmash of models and

makes. Iran is known to have purchased between 30 and 40 advanced MiG-29 aircraft from Russia and is thought to have between 30 to 40 Chinese F-6s and F-7s. The Iranian Air Force also includes a handful of French Mirage F-1s flown over by Iraqi pilots when they fled the USAF onslaught during the 1991 Persian Gulf War.

Experts estimate that Iran can actually operate only 10 or fewer of the F-14 Tomcats that the former Shah of Iran purchased from the United States in the 1970s.

Though it has made some upgrades, Iran also is thought to lack a state-of-the-art command, control, communications, computer and intelligence system, the nerve center of a modern military force.

Down From the Shah

Anthony H. Cordesman, a defense scholar at the Center for Strategic and International Studies in Washington, D.C., concluded his 2005 book, *Iran’s Developing Military Capabilities*, with this assessment: “Iran is a far less modern military power, in comparative terms, than it was during the time of the Shah, or during the Iran-Iraq War.” Nevertheless, he added, the nation is “improving its conventional forces, and is now the only regional military power that poses a serious conventional military threat to Gulf stability.”

The United States could certainly launch highly accurate and destructive air strikes against Iran’s nuclear facilities, even though targeting would



Iran’s President Mahmoud Ahmadinejad speaks at a news conference in Tehran on Jan. 14. Just a few years ago, Iran was making conciliatory gestures, but recently Ahmadinejad has changed that with his provocative statements.

be complicated and a large number of sites would have to be hit. Most experts believe that US air and ground forces could easily defeat their Iranian counterparts at the tip of the spear. It is the aftermath of any invasion, however, that gives them pause.

"The problem is what happens next," observed Joseph Cirincione, a non-proliferation expert at the Carnegie Endowment for International Peace who visited Iran last year. "The unpredictable regime in Tehran has a broad set of options that it could pursue in response to an air strike, from simply turning off its oil spigot and sending world oil prices spiking ... to inciting an insurrection among Shiites in neighboring Iraq."

When asked whether an Iraqi-style invasion could topple the Iranian regime with acceptable risks, a knowledgeable Army planner in the Pentagon shook his head, indicating no.

The United States "certainly couldn't roll into Tehran as easily as we rolled into Baghdad," he said. "You're talking about a nation of 67 million Persians who are very nationalistic and unlikely to sit still for an invasion."

He added that Iran has for several years observed how a relatively small insurgency in Iraq has tied down US forces.

Iranian ground forces aren't particularly good, "nor would their air force be difficult for US forces to defeat," said Michael E. O'Hanlon, defense analyst with the Brookings Institution. While American forces could probably reach Tehran much like they did Baghdad in 2003, "the approach to Tehran from the Iraqi border is longer than the distance from Kuwait to Baghdad," O'Hanlon noted, and "there is mountainous terrain and a number of potentially problematic chokepoints to negotiate."

Even if US forces were able to achieve a quick and decisive victory, however, the bigger challenge would be maintaining order among millions of likely hostile Iranians after the war.

Iraq's population is 26 million; Iran has nearly 70 million residents. O'Hanlon noted that even if the US invasion force were to mirror the relatively light force-to-population ratio used in the invasion of Iraq, a much more populous Iran would require an invasion force of nearly half-a-million US troops.

"The United States military simply doesn't have that kind of force structure," O'Hanlon said. "I think the lesson



AP-Iran Atomic Energy Organization photo

Pictured in this undated photo is an interior view of Iran's Boushehr nuclear power plant. The US could certainly launch highly destructive air strikes against Iran's nuclear facilities, but the possible aftermath gives Washington pause.

of Iraq is that occupation is something that an all-volunteer force can only accomplish in small to midsize countries. Unless you're willing to restart the draft and put millions of Americans back in uniform like we had during World War II, I don't think it would be practical to try and occupy Iran."

An Asymmetric Threat

In keeping with the philosophy behind its own "military triad," Iran has focused military modernization on areas that might allow it to exact a disproportionate price for US or Israeli action—air defenses, missiles, and naval forces tailored for a "sea denial" mission.

In a major December 2005 arms deal that was denounced by the US and Israel, Iran agreed to pay \$700 million for 29 Russian Tor-M1 air defense systems. Tehran and Moscow are reportedly also in talks about Iran's potential purchase of the longer-range S-300 air defense missile system. (See "The Double-Digit SAMs," June 2001, p. 48.) That will add to an Iranian air defense system that already reportedly includes 10 to 15 Russian SA-5 surface-to-air missile batteries, up to 100 Russian ZSU-23-4 radar-guided anti-aircraft guns, and up to 180 Bofors 40 mm guns. All of this is in addition to roughly 1,700 anti-aircraft guns of various types.

In testimony before the Senate Select Committee on Intelligence last year, Vice Adm. Lowell E. Jacoby, director of the Defense Intelligence Agency

until his retirement in November, said the Iranian capability that most worries military planners is its own version of long-range strike capability. The nation has the means to strike at Israel or at American bases throughout the Persian Gulf region with a growing arsenal of surface-to-surface missiles.

That inventory is thought to include between 200 to 300 Shahab-1 missiles (also known as Scud-Bs) with a range of roughly 186 miles; 100 to 150 Shahab-2 missiles with a range of roughly 311 miles; and 25 to 100 Shahab-3 missiles with a range of roughly 808 miles.

The Shahab-3s bring most of Israel within the potential Iranian target area. Iran also may be developing missiles with a range of 2,175 miles—based on long-range cruise missiles it imported from Ukraine a few years ago.

In recent years, Iran has also significantly upgraded its naval and antishipping capabilities with an aim to hold at risk oil tanker traffic in the Persian Gulf. Those upgrades include the purchase from North Korea of roughly 20 fast-attack patrol boats armed with Chinese C-802 antiship cruise missiles, said to have a 60-mile range.

Iran has Chinese HY-2 Silkworm antiship cruise missiles. In the 1990s, Tehran also purchased three Russian Kilo-class diesel submarines that are armed with torpedoes and capable of laying underwater mines.

In what some experts see as a likely sign of its intentions in the event of a conflict, Iran also occupied the disputed Persian Gulf island of Abu Musa



An Iranian helicopter flies over an anti-aircraft gun at the Natanz uranium enrichment facility some 200 miles south of Tehran. Iran has agreed to pay \$700 million for 29 Russian Tor-M1 air defense systems, and other deals are in the works.

in the 1990s. According to published reports, Iran placed Silkworm and Seersucker antiship cruise missiles on the island, where it has deployed Revolutionary Guard forces. Also present are SA-6 and US-made Hawk anti-aircraft missile batteries obtained in the 1970s.

Tellingly, Abu Musa sits within range of the Strait of Hormuz, the strategic chokepoint in the Persian Gulf.

They Have It Now

“Do the Iranians have the ability to close oil tanker traffic through the Strait of Hormuz, either through direct action or intimidation? Yes they do,” said Ronald O’Rourke, a longtime naval analyst at the nonpartisan Congressional Research Service.

The Navy would undoubtedly be able to reopen the strait, but the endeavor would take “significant effort and fighting,” O’Rourke said.

During the Iran-Iraq War of the 1980s, for instance, the Navy was forced into difficult tanker convoy duty, to protect oil traffic from both belligerents. Despite its efforts, 30 million tons of shipping was damaged by either Iraq or Iran, more than three dozen ships were declared total losses, and 11 were sunk outright.

USS *Stark* was badly damaged and very nearly sunk by an Iraqi air-to-ship missile; USS *Samuel B. Roberts* was nearly cut in two by an underwater mine in the Persian Gulf during the operation; and USS *Vincennes* mistakenly shot down a civilian Iranian airliner during

a battle with Iranian fast-attack boats in the Strait of Hormuz.

Iran has since pursued a classic sea denial anti-access strategy.

“Iran has significantly upgraded its antishipping capability, especially with the purchase of the three Russian submarines,” said O’Rourke. “As the British learned during the Falklands War, even one enemy submarine proficiently operated can take a lot of time and effort to counter.”

In the near term, Iran’s ability to influence and potentially inflame an already volatile situation in neighboring Iraq causes experts most concern.

In a recent trip to Tehran, for instance, renegade Iraqi cleric Muqtada al-Sadr publicly pledged to come to Iran’s defense if Iran were attacked by any outside force. Sadr and his “Mahdi Militia” were central to an April 2004 insurrection that sparked the worst crisis of the US tenure in Iraq, according to former Coalition Provisional Authority head L. Paul Bremer. Sadr is now a major political force in the Iraqi government elected last December.

Also of concern are indications that the Iranian-backed terror group Hezbollah is stepping up its activities inside Iraq. There are indications that Hezbollah, considered the master bomb-makers in the terrorist pantheon, may already be supplying sophisticated explosive

devices to the Iraqi insurgency. That may help explain the increased lethality of improvised explosive devices (IEDs) used over the past year against US and coalition forces.

All of the Earmarks

At a news conference last year, British Prime Minister Tony Blair said a bomb that killed eight British soldiers in Iraq bore the hallmarks of the Iranian Revolutionary Guards or possibly Hezbollah. “What is clear is that there have been new explosive devices used not just against British forces but elsewhere in Iraq,” said Blair. “The particular nature of those devices leads us either to Iranian elements or to Hezbollah.”

In the past, Tehran has carefully kept its provocations and support for terrorists just below the level likely to invite a direct US or Israeli military response. If Iran is really determined to acquire nuclear weapons, the Bush Administration is equally adamant that it cannot be allowed to succeed.

“No one believes that the United States military is in the position to invade Iran, and it’s unlikely that we could decapitate the Tehran regime simply with air strikes because its hold on power is not fragile,” said Cordesman.

But that does not mean the United States is without options. If war planners know where the “smoking guns” are in terms of Iran’s nuclear infrastructure—and no one, including the Iranians, can be sure whether they do or not—then Cordesman believes air strikes could do that program great harm.

“Should we launch a massive air strike, however, Iran may well be willing to sacrifice a lot to demonstrate that they can’t be attacked with impunity,” he said. “In that case, we can expect the kind of asymmetric warfare that Iran has long focused on and organized for. This response could manifest itself through Iranian threats to the world’s oil supply or by Iran striking out in ways that create problems in Iraq and Afghanistan.”

Although they are generally cautious, the hard-liners and Revolutionary Guards of Iran have shown themselves to be risk takers on occasion. All of this conspires to make the outcome of the colliding American and Iranian interests highly uncertain. ■

James A. Kitfield is the defense correspondent for National Journal in Washington, D.C. His most recent article for Air Force Magazine, “Dragon, Eagle, and Rising Sun,” appeared in the June 2005 issue.

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For 44 years, USAF managed the National Reconnaissance Office, but that's all over now.

The Split-Up in Space

By Marc V. Schanz, Associate Editor

Air Force Secretary Michael W. Wynne would like to get the service back in the "black," secret, space game.

The Air Force and the National Reconnaissance Office have, to an extent, drifted apart, both at the top and among the rank and file. First, the two agencies lost some of their daily operational contact when USAF's Space Operations and Integration Office closed in 2002.

Then, this past summer, one of the Air Force's longest-lived relationships was disrupted. On July 26, Defense

Secretary Donald H. Rumsfeld announced that Donald M. Kerr, a Central Intelligence Agency veteran, would be the new director of the NRO—the Pentagon's once-clandestine intelligence agency responsible for America's spy satellite fleet.

Prior to Kerr's appointment, every NRO director had also been a senior USAF official, but Kerr was not given an Air Force position.

The decision to sever the NRO and Air Force positions was made after heavy deliberations by Rumsfeld and John D. Negroponte, the new Director

of National Intelligence. When Air Force undersecretary and NRO director Peter B. Teets retired in March 2005, "all these things then became ... up for debate," Wynne noted earlier this year. Former astronaut and space operations officer Ronald M. Sega became the new undersecretary of the Air Force, but not NRO director. (See "Washington Watch: NRO Job Taken From Air Force," October 2005, p. 16.)

The debate over the split has not ended, even though the complete separation did not last long.

Kerr was given a newly created



Air Force position last October, but Wynne said in February that “roles and missions” still need to be worked out between the Air Force and the NRO. “We know Don Kerr does great work, we know that the NRO does great work, we know that the Air Force does great work,” Wynne said. Yet the question remains: “How do we share, and [what] are the roles and missions?”

Wynne declined to offer a rosy assessment of the Air Force-NRO situation, saying only that the Air Force “used to have a very good relationship” with the NRO.

The two organizations cooperated very closely together in Los Angeles before the Air Force closed the Space Operations and Integration Office. Wynne doesn’t want the relationship to deteriorate any further.

“We want to investigate,” said Wynne. “We’ve talked to the space people about re-creating that capability somewhere closer.” A new joint operational office could be created at Kirtland AFB, N.M., or at the Chantilly, Va., NRO headquarters, he said. Air Force Space Command’s Joint Space Operations Center, which plans and executes unclas-

sified space missions in conjunction with US Strategic Command, could serve as the model for a new USAF-NRO operations and integration office.

Wynne said he and the Air Force Chief of Staff, Gen. T. Michael Moseley, have made a “notional decision” to pursue closer physical collaboration between the two agencies.

Evolve or Expire

Last summer’s announcement that the NRO leadership would separate from the Air Force was puzzling to virtually all and troubling to some. The relationship between the two organizations has been in flux for nearly a year. Because the issues are clearly not settled, it is useful to review developments.

The NRO had been led by a top Air Force official—usually the undersecretary—since the office’s formation in 1961.

Two weeks before the announcement, the Space Command chief, Gen. Lance W. Lord, told the House Armed Services Committee that having the undersecretary of the Air Force as the director of the NRO “is a good way to continue that black and white space integration, because it pays off not only operationally, but ... on the acquisition side as well.”

One day after Kerr’s appointment, key members of the Congressional oversight committees registered their displeasure with the split.

In a letter to Rumsfeld last July 27, Reps. Terry Everett (R-Ala.) and Silvestre Reyes (D-Tex.)—chairman and ranking member, respectively, of the House Armed Services strategic forces subcommittee—argued that the split would hamper the Air Force’s ability to oversee national security space activities and would “only serve to compound the acquisition woes that the NRO currently experiences.”

The lawmakers warned that a “weakened role and the ensuing lack of senior Air Force advocacy within and for the NRO will force a decline in the number and quality of the Air Force personnel assigned to the NRO.”

Everett and Reyes, who also sit on the House intelligence committee, urged Rumsfeld to “develop a final comprehensive solution that will address these concerns.”

The concerns were raised in the confirmation hearing for Sega, who told the Senate Armed Services Committee that he would “work to foster a close working relationship with the

director of the National Reconnaissance Office.”

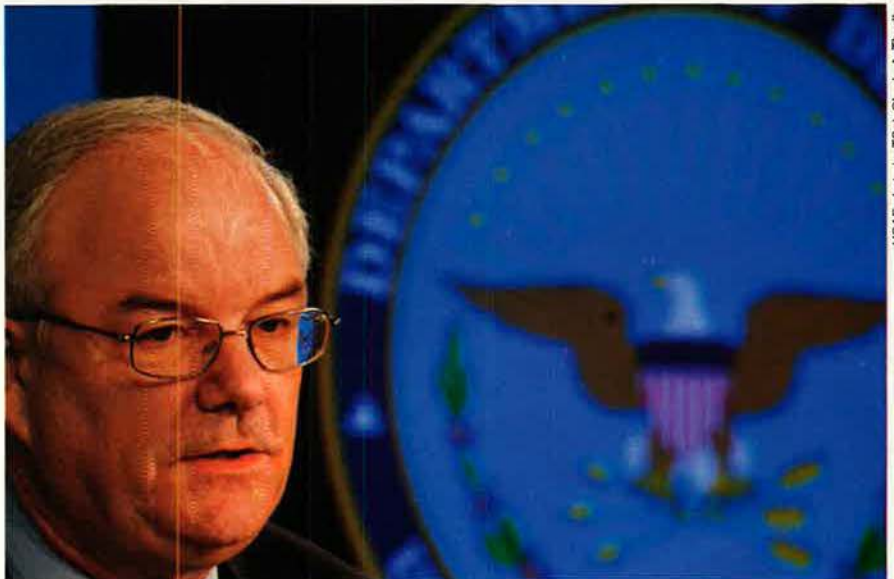
It was clear, however, that things would be different. In the introduction of last year’s “National Intelligence Strategy of the United States of America,” Negroponte had signaled his willingness to do away with long held practices. The concept of national intelligence will be “collaborative, penetrating, objective, and farsighted,” Negroponte wrote. “It must recognize that ... various institutional cultures developed as they did for good reasons, while accepting the fact that all cultures either evolve or expire.”

In a public presentation at the Institute for Foreign Policy Analysis Fletcher Conference in December, Stephen A. Cambone, the undersecretary of defense for intelligence, said DOD and the Intelligence Community must refashion their forces when necessary.

The fluid nature of transnational threats and non-state actors that dominate the landscape of the war on terror are forcing big changes to the methods of gathering and sharing intelligence. “None of you should doubt that there is a sense of urgency and commitment to transforming intelligence,” Cambone said.

“Change is hard, but we must not permit ourselves to remain wedded to past practices,” he said. “We do so at our own peril.”

Asked about the rationale for the shake-up, Cambone said the Air Force and NRO jobs are both full-time occupations. Discussions between DOD and DNI came to the conclusion that it is useful to ensure that both the



USAF photo by TSgt. Cherie A. Thurby

USAF Secretary Michael Wynne says that “roles and missions” still need to be worked out between the Air Force and the NRO.

Air Force and NRO have someone “present every day, all day, focused only on matters associated with each organization,” he said.

“That would seem to be the sensible thing to have done,” Cambone added. “There is a great deal of change and innovation that is on the way.” He argued that the country doesn’t need defense intelligence and national intelligence, but a single intelligence capability. “We are expected to figure out how to apply it across the range of means,” he said.

Sega said, “In light of the stand-up of the DNI [office], the DOD and the Intelligence Community are in the process of redefining their relationship for national security space matters.”

On Sept. 1, the newly appointed Kerr confirmed that the Pentagon was

reviewing the NRO’s role within the Intelligence Community. He said Pentagon officials were considering whether the NRO director needed an Air Force title. Kerr, who had been the CIA’s deputy director for science and technology, said that he considered his new job a “full-time responsibility,” but added he was “not against” having an Air Force title.

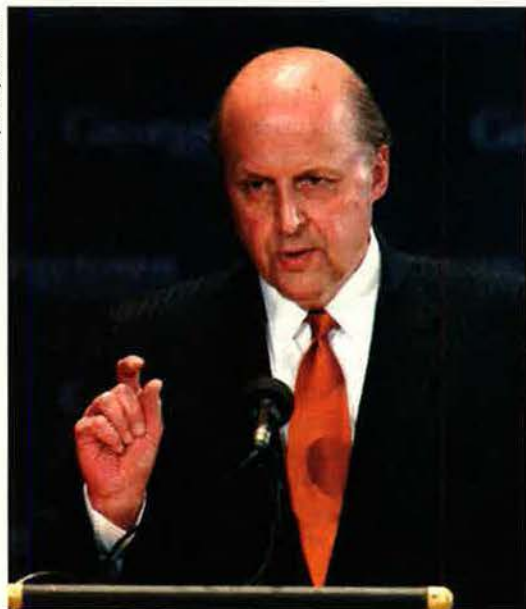
Rumsfeld elaborated slightly on the NRO split, saying the new arrangement offered “a good formula.” The task at hand, said Rumsfeld, was to make certain USAF and NRO are “still very closely connected.”

Shortly thereafter, DOD and the DNI decided to renew a formal tie of some sort between the Air Force and the NRO. On Oct. 6, 2005, the Pentagon announced that Rumsfeld had appointed Kerr to a new Air Force post, assistant to the Secretary of the Air Force for intelligence space technology. (See “Aerospace World: NRO and USAF, Together Again,” December 2005, p. 14.)

The announcement said Kerr would now support the Air Force Secretary in carrying out his responsibilities as the DOD executive agent for space and ensure DOD and NRO “programs, activities, and operations are properly aligned.”

This move does not appear to be purely ceremonial, as the NRO is dependent on specialized Air Force personnel for much of its daily operations. Lord said he spoke with Kerr at a Corona meeting of top Air Force officials late last year. They spoke about how to “hook the NRO folks in” and make sure the Air Force remains

AP photo by Kevin Wolf



John Negroponte, Director of National Intelligence, said Washington must “recognize that ... various institutional cultures developed as they did for good reasons, while accepting the fact that all cultures either evolve or expire.”

relevant at the NRO. "I think those [efforts] will come together quickly," Lord said.

The Air Force's space personnel are vital to the continued success of the NRO. "We've got a limited amount of folks in this business," Lord noted, and 1,300 airmen work for the National Reconnaissance Office. He added, "They're space professionals; they're part of our team."

Restoring integration should "pay off in terms of the systems we build in the future and how we work the taskings and all the things that go with the complicated way we operate together," Lord said. "That will come as we put the people and the talents together."

Sega serves as both DOD point man for space activities and as the Air Force space advocate. He is confident that cooperation and innovation between the two organizations will continue. "A constant crossflow of people and ideas benefits both organizations," he said.

Airmen comprise nearly 50 percent of the Chantilly, Va.-based organization's personnel. The NRO provides the United States its "eyes and ears" in space by developing, fielding, and maintaining state-of-the-art satellite systems that provide intelligence to everyone from field combat units to policy-makers in the National Command Authority.

Neither Sega nor Cambone would rule out the renewal of a "dual-hatted" leadership structure in the future. There is nothing "specifically precluding" the leadership from being joined again, Sega said—but that decision is for national leaders at another time.

The NRO—And Why the Air Force Cares About It

The National Reconnaissance Office began in the heated Cold War period when the "Space Race" kicked off—after the Soviet Union launched Sputnik in 1957 and the US undertook a buildup of strategic space forces, spearheaded by the Air Force.

In 1958, President Eisenhower authorized the work for what would become Corona—the nation's first photographic reconnaissance satellite system. Corona took its first pictures in August 1960, only months after Gary Powers' U-2 was shot down. (See "Corona Comes in From the Cold," September 1995, p. 82.) The NRO itself was established in September 1961 as a classified agency within the Department of Defense. Its mission: Develop and operate space reconnaissance systems and conduct national security intelligence missions. The NRO then secretly managed Corona until 1972.

The agency was responsible for, among other things, examining the "missile gap" claims during the early 1960s, and the NRO was a closely held secret.

The NRO's historical ties to the Air Force's space cadre have been cited as one of the reasons for the office's continued innovation. The NRO is a hybrid agency, consisting of an estimated 3,000 personnel drawn from the armed services, the Central Intelligence Agency, and DOD's civilian force.

The Air Force contributes approximately 1,300 airmen to the Chantilly, Va.-based agency. The existence of the organization was declassified by DOD in September 1992. The first publicly acknowledged NRO satellite launch—on a Titan IV from Vandenberg AFB, Calif.—occurred in December 1996.

Yet, "the disappearance of a single large threat has provided a false sense of security, diverting our attention from national security issues and, for the NRO, resulting in underinvestment," the National Commission for the Review of the National Reconnaissance Office wrote in a 2000 report.

The commission (co-chaired by Porter J. Goss, the future CIA director) determined that the NRO's success was driven by a number of perishable factors. The NRO got strength through its status as the only organization responsible for space reconnaissance. Moreover, it had experienced program managers, involvement by the President and Defense Secretary, and staffing with DOD and CIA personnel.

"Failure to understand and support the indispensable nature of the NRO as the source of innovative new space-based intelligence collection systems will result in significant intelligence failures," the report read.

Working with other DOD intelligence agencies, such as the National Security Agency and the National Geospatial-Intelligence Agency, the NRO today provides global communications, signals intelligence, and near-real-time imagery to military and civilian leaders.

Cambone was equally open-minded. "The question about whether those two offices will be rejoined is a question that maybe this DNI and [the Defense Secretary] will re-engage in some number of years."

For the time being, Air Force under-

secretary and NRO director will remain their own, separate, full-time jobs.

With the leadership split now a fact of life, the Air Force is battling perceptions that it is not a good partner in the intelligence business.

Maj. Gen. Roger W. Burg, the director of strategic security on the Air Staff, said some in Washington think the black space and white space communities are "pulling towards disintegration."

"I want to assure you that, while that may be the perception of some, it is not the perception, ... and certainly not a desire, of the leadership of the Air Force," Burg said at the Air Force Association's Los Angeles National Symposium last November.

Burg, who oversees space policy guidance for the Air Force, added that the service wants to make sure it continues to work to integrate classified black and acknowledged white space operations. The Air Force wants a "very strong relationship" between Space Command's space capabilities and the NRO's more secretive activities.

Exactly how this will be accomplished is anything but obvious. ■



Air Force Undersecretary Peter Teets (left) and Gen. Lance Lord testify before a House subcommittee on space operations. Lord has said that having the undersecretary as the director of the NRO is good for space integration.

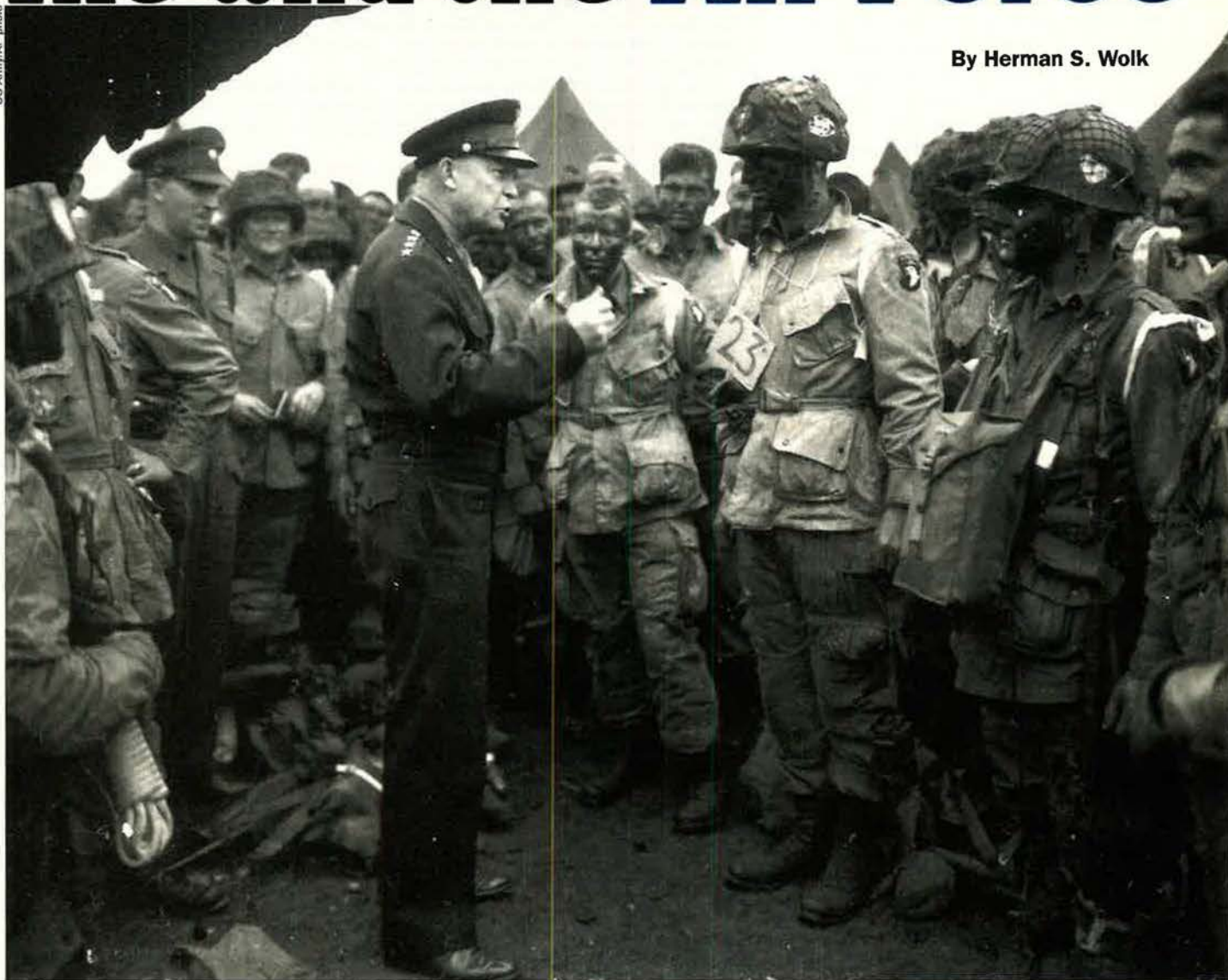
USAF photo by MSgt. Gary R. Coppage

After the war, Eisenhower came to the forefront as an advocate for an independent air arm.

Ike and the Air Force

By Herman S. Wolk

US Army/AP photo



Without doubt, Gen. of the Army Dwight D. Eisenhower is best remembered as the supreme commander of the huge Allied invasion force that on June 6, 1944 stormed the beaches of Normandy and as a popular, two-term American President in the 1950s. Even so, Eisenhower also should be recognized for another of his critical

professional roles: as a major player in the post-World War II struggle to create an independent United States Air Force.

In operations in North Africa and northwest Europe, Eisenhower the wartime leader came to depend heavily on the Army Air Forces for crucial support of ground forces. This culminated with D-Day, when the Allied air forces

Eisenhower felt airpower's role in the success of the D-Day operation could not be overemphasized. Here, Ike gives the order of the day to paratroopers at RAF Greenham Common, Britain, just before the Normandy invasion.

supported the Normandy landings and assured that Allied ground forces could move forward against a strong, well-entrenched enemy.

Immediately after the war, Eisenhower and Gen. Carl A. "Tooney" Spaatz, the USAF commander, planned the postwar reorganization in which the wartime air arm would split away and become a separate service dedicated to airpower.

Eisenhower came to the forefront as an advocate for the separate Air Force. His dramatic, landmark testimony to the Senate committee considering unification proved compelling and tipped the scales in favor of its creation.

Eisenhower always got along well with airmen. In the mid-1930s, while working directly for Douglas MacArthur in the Philippines, 46-year-old Eisenhower learned to fly. He was tutored in the Stearman PT-13 by two Air Corps officers, Lt. Hugh A. Parker and Lt. William L. Lee, both of whom became generals during World War II. Apparently, neither MacArthur nor Eisenhower's wife, Mamie, knew of the flying training.

"Crack Pilot"

Typically, Eisenhower took flying lessons in the morning before reporting for duty with MacArthur. He found flying exhilarating and challenging. "I'm really picking this business up remarkably fast," he noted. "I'll bet that if I had started a little younger I could be a crack pilot by this time."

In July 1939, after passing a flight physical, Eisenhower was certified as a private pilot. He eventually logged 320 hours, both as a pilot and observer. His biographer noted that Eisenhower's flying lessons "remained one of the memorable highlights of his career."

Eisenhower, while still a staff officer in the 1930s, started thinking about concepts calling for air-ground teamwork. Early in World War II, in North Africa, he became convinced of the crucial importance of air operations to success on the battlefield. For Eisenhower, this was the prelude to his command of Allied forces in northwest Europe.

In May and June 1943, Eisenhower was involved in one of the most dramatic demonstrations of airpower in the entire war. This was the pounding into submission of the Axis garrison on the Mediterranean island of Pantelleria, in Operation Corkscrew. (See "Pantelleria, 1943," June 2002, p. 64.) The operation was an important prelude to the Allied

invasions of Sicily and Italy and went against the advice of his own planning staff. Not long before, Eisenhower had been stung by criticism from Gen. George C. Marshall, the US Army Chief of Staff, that he—Eisenhower—lacked boldness. Eisenhower conferred with then Lieutenant General Spaatz—at the time, commander of the Northwest African Air Forces—noting that he wanted to conquer the island with little use of ground forces. In effect, Ike had decided to make the reduction of Pantelleria a "laboratory to determine the effect of concentrated heavy bombing on a defended coastline."

Eisenhower directed Spaatz to pound the island, called the Gibraltar of the central Mediterranean, "with everything we had." Led by Maj. Gen. Jimmy Doolittle's Northwest African Strategic Air Forces, American and British air forces battered the island's Italian and German defenders until they surrendered.

This was the first time in history that a land force had surrendered without being defeated by other ground forces.

The strategic importance of the Pantelleria victory was that it set the wartime pattern for island invasions and for the eventual invasion of the European continent.

Eisenhower was delighted. He had a great deal riding on the operation, and he noted that "the ground forces were very reluctant to give their consent" to the air-dominated plan. The air forces, he stressed, said, "Yes, we can do it!"

Prime Minister Winston Churchill, Marshall, and Gen. Henry H. "Hap" Arnold—who was then Army Air Forces commanding general—congratulated Eisenhower, who in turn thanked Spaatz for a great effort.

Turn to Normandy

Once the Allied leadership decided on the Normandy coast as the Allies' Western Front invasion point, the entire pre-invasion strategy revolved around the function of the air forces. (See "Eisenhower, Master of Airpower," January 2000, p. 62.) The evolving controversy over the role of airpower became so intense and potentially disruptive that Eisenhower threatened to resign his command "and go home."

Simply put, Eisenhower first made clear that the massive invasion would absolutely depend on the ability of the Air Forces to sweep the Luftwaffe out of the sky, to make certain that air supremacy was won and maintained.

Second, Eisenhower endorsed the so-called Transportation Plan, advocated by his deputy, RAF Air Chief Marshal Arthur W. Tedder, calling for massive air attacks on the French railway system to prevent the Germans from moving their forces to confront the Allied armada.

To accomplish this objective, Eisenhower required control of strategic bomber forces commanded by Spaatz and Air Chief Marshal Arthur T. Harris, both of whom argued that their bombers should strike targets inside Germany. (See "Bomber Harris," January 2005, p. 68.) Eisenhower however, emphasized that, because he had overall responsibility, he could not accept anything less than complete operational control.

Churchill supported Spaatz and Harris; Marshall and Arnold supported Eisenhower. When Churchill asked Roosevelt to help resolve the controversy, the President replied that he would not in any way insert himself into a decision made by Eisenhower as supreme commander.

Churchill ultimately gave in and Eisenhower gained control of strategic airpower for Operation Overlord.

Eisenhower felt airpower's role in the success of the D-Day operation could not be overemphasized. Mastery of the air meant that the Allied invasion force could "get and stay ashore," he said in retrospect. The decision to take control of the strategic bombers was his greatest contribution to the success of Overlord.

Less known is Eisenhower's major role in the postwar reorganization of the Army Air Forces. With instant demobilization after the war leaving the AAF a shell of its wartime composition, air forces had to fight for shares of the postwar troops.

The AAF objective of a 70-group, 400,000-man program was opposed by the War Department General Staff. In November 1945, however, Eisenhower said the importance of airpower in the postwar world "could not be overemphasized," and Army Air Forces had to have the force structure to accomplish its mission. The War Department then approved the 400,000-man force to support the 70-group program.

Eisenhower, having succeeded Marshall in November 1945 as Army Chief of Staff, then got together with Spaatz, who in February 1946 had succeeded Arnold as AAF commander.

Eisenhower and Spaatz implicitly trusted each other. They had served



body is an operator with us because even our General Staff feels they have to follow up and we have had no body which is compelled by the very nature of its organization and function to do nothing but think, and I believe we need it." Consequently, Eisenhower and Spaatz formed the Air Board in early 1946, with Maj. Gen. Hugh J. Knerr as its head, to consider major postwar issues and to recommend policies to the leadership.

In thinking about an independent air force and a reorganization of the national security establishment, Eisenhower was far ahead of his Army compatriots. One of the most interesting facets of Eisenhower's thoughts on unification was his description of the forces he commanded. Ike referred to

together and won the great battles in North Africa and Europe. Now they agreed that AAF should consist of three combat commands, each representing a major air mission: strategic, tactical, and air defense. (See "The Founding of the Force," September 1996, p. 62.) Eisenhower was naturally much concerned with tactical air support for the ground forces. His basic philosophy reflected the concept of mutual dependence of air and ground elements. The war had proved the effectiveness of unified command. The services and their missions were complementary. Air superiority over the battlefield was absolutely essential to successful ground operations. Eisenhower emphasized that forces operating under an air commander best gained control of the air.

The Army's Place

"The Army," Eisenhower stated, "does not belong in the air—it belongs on the ground." He noted that it was the responsibility of air forces to structure the operating establishment to support the tactical air forces. Ike's view was that airmen knew best how to organize and employ air forces. This was not all. Airmen should develop their own doctrine, bases, research and development systems, and logistics networks.

In January 1946, based on his discussions with Eisenhower, Spaatz ordered the creation of three major combat commands (Strategic Air Command, Tactical Air Command, and Air Defense Command) that reflected the fundamental air missions demonstrated during the war.

Spaatz and Eisenhower agreed that



Heavy bombing of Pantelleria (top) and the ensuing destruction (above) produced airpower's first defeat of a land force in the field. It was a dramatic demonstration of airpower.

this organization would be compatible with an independent air force, thus avoiding another postwar reorganization when independence ensued.

Lt. Gen. Elwood R. Quesada, appointed TAC commander, said Spaatz assured Eisenhower that the air force would always honor its tactical commitment to the Army. According to Quesada: "Spaatz meant it. ... He made strong promises to Eisenhower to the effect that the tactical air forces would ... honor their commitment and their obligation to provide that service to the Army."

Ike was convinced that the War Department was especially weak in one aspect of organization: "We have not kept a body free for thinking. Every-

the "three great fighting arms, ... the men and women of the United States Army, Navy, and Air."

Eisenhower already considered AAF as equal to the Army and Navy, even though the air arm was still part of the Army and the War Department. He continually made reference to "the three great coequal arms." Eisenhower's powerful experience as commander of the greatest military force ever assembled had convinced him, long before the end of the war, that the Army's air arm deserved independence.

This became evident shortly after the war in Eisenhower's compelling testimony to the Senate Military Affairs Committee. Before a packed room, the supreme commander stood before the



Eisenhower directed Spaatz (left) to pound Pantelleria with "everything we had." Spaatz did, and American and British Air Forces battered the island's Italian and German defenders until they surrendered.

committee members and immediately departed from his prepared text. The Normandy invasion "was based on a deep-seated faith in the power of the air forces in overwhelming numbers to intervene in the land battle, ... making it possible for a small force of land troops to invade a continent," he said.

"Without that air force, without the aid of its power, entirely aside from its ability to sweep the enemy air force out of the sky, without its power to intervene in the land battle, that invasion would have been fantastic." Similarly, he said, about the invasion of Salerno, Italy, "unless we had faith in the airpower to intervene and to make safe that landing, it would have been more than fantastic; it would have been criminal."

Postwar Vision

Eisenhower's vision for a postwar national security organization featured three separate service departments under unified direction in Washington. He told the committee that although he came from the ground forces, his colleagues in the air arm and Navy regarded him as one of their own. The nation's security establishment, Eisenhower stated, is "a single fighting team composed of three services."

Eisenhower's strong advocacy of an independent air force also rested on the requirement for postwar economy. This was a theme echoed by Marshall and Arnold. Eisenhower termed this the principle of the three-legged stool, as each service is dependent on the others. The nation could not afford to have each service strive for self-sufficiency.

Service competition carried too far could be "ruinous," he said. A single

department of defense was needed to preside over three coequal military services.

Eisenhower's view was upheld by President Harry S. Truman. The President recommended a Department of National Defense headed by a civilian Secretary. Unified direction of the military services was the major lesson taught by the war. In recommending a separate air force, Truman noted that "airpower has been developed to a point where its responsibilities are equal to those of land and sea power, and its contribution to our strategic planning is as great." (See "The Keeper File: 'Parity' For Airpower," March, p. 8.)

Ike made clear to the War Department General Staff that, as far as the issue of

an independent air force was concerned, "I for one can't even entertain any longer any doubt as to its wisdom." The air forces, he emphasized, proved both in Europe and the Pacific that they were equal to the land and sea forces.

The major hindrance to an independent air arm at the time came from the Navy. Secretary James V. Forrestal and the Navy leadership continued to stonewall unification, believing that the wartime system of coordination through the Joint Chiefs of Staff was good enough. Forrestal informed Truman in early 1946 that he was so opposed to a single defense department and an independent air force that "I do not believe there is any very helpful observation that I could make."

"We Should Proceed ..."

In 1946, Eisenhower informed the General Staff that within the Army he nonetheless was determined that airmen operate on an equal level with the land and naval forces. "We should proceed," Ike stated, "as if we are going to have that law with the understanding that if we don't get it, then we must go as far as we can within the legal limits to carry out the idea that the air commander and his staff are coordinate with and coequal to the land forces and the Navy."

Consequently, Eisenhower said he was prepared to elevate the Air Staff to an equal level with the War Department General Staff. Moreover, he would establish a separate air force promotion list, something the airmen had fought



Eisenhower makes a victory sign with pens used to sign Germany's unconditional surrender. By that time, he had already concluded that the Army's air arm deserved independence.



“practice unification in spirit and in action as a patriotic duty.”

Eisenhower made clear that he expected the friendly relations between air and ground personnel to continue after the Air Force was established. He stated that creation of the Air Force should serve “only to bring us closer together in friendship and performance of duty.” It was his desire that, although air personnel would no longer be strictly part of the Army, nonetheless they should be treated as members of the “Army family.” This was vintage Eisenhower, a mirror of his determination to recognize the Air Force as an integral part of the military team, based on the lessons of World War II.

Teamwork led to trust among associates of the various services. “There is

for over a long period. Also, the War Department would grant the air force “technical and professional independence” by giving it the personnel and functions now belonging to various Army technical and administrative corps and branches.

Despite the Navy’s opposition, the War Department and the Army Air Forces prevailed. With Truman increasing the pressure, Eisenhower and Spaatz discussed unification strategy. As a result, Maj. Gen. Lauris Norstad was appointed to advise a Congressional subcommittee considering unification legislation.

At this point, Eisenhower underlined his strong support for the airmen in their fight by naming Norstad as director of plans and operations for the War Department General Staff. This provided Norstad with the backing he needed to work with Vice Adm. Forrest P. Sherman, deputy chief of naval operations, in crafting legislation for the National Security Act of 1947 and also for creating the landmark Unified Command Plan.

Eisenhower’s influence and advice were paramount in these give-and-take discussions between Norstad and Sherman. The Navy wanted specific service roles and missions written into the National Security Act. Eisenhower, however, posited that this was unworkable. To succeed with an agreement, fundamental principles needed to be established. Legislation should not attempt to resolve controversial details.

“People solve problems,” Ike noted, “not organizations.” Roles and missions could subsequently be delineated by a Presidential executive order. Eisenhower’s



AP photo by William J. Smith

The major opposition to Air Force independence came from the Navy, including Secretary James Forrestal (top), but Eisenhower had convinced President Truman (shown here with his back to the camera) of the need for a separate force.

er’s strategy succeeded. The National Security Act was passed by Congress in July 1947 and signed into law by President Truman.

On July 26, 1947, the same day that Truman signed the legislation, Eisenhower signed a memo to all members of the US Army. The Army Chief emphasized that the legislation would integrate the Army, Navy, and Air Force into a “fighting team,” reflecting his long-held dedication to teamwork. Eisenhower directed “all ranks” to

no such thing,” he emphasized, “as a separate land, sea, or air war.”

Eisenhower saw creation of the United States Air Force as an enormously important segment of US national security. “I believe” he stressed, “that the airplane, from the day it was invented, has grown in importance to warfare.”

In looking back over his long career, Eisenhower considered his support for an independent Air Force as one of his greatest contributions to the nation’s security. ■

Herman S. Wolk recently retired as senior historian, US Air Force Historical Studies Office, Washington, D.C. He is the author of The Struggle for Air Force Independence, 1943-1947 (1997) and Fulcrum of Power (2003). He is completing a book, Reflections on Air Force Independence. His last article for Air Force Magazine, “Airman in the Shadows,” appeared in the August 2005 issue.



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By Frances McKenney, Assistant Managing Editor

Gala in Florida

Search and rescue personnel were in the spotlight at the 22nd annual Air Force Gala, sponsored by the **Central Florida Chapter**, the Air Force Association, and the Aerospace Education Foundation in Orlando, Fla.

The February gala is the culminating event for the Air Warfare Symposium.

A video on search and rescue efforts presented SAR history in World War II, including the Civil Air Patrol, and noting that Air Force helicopter crews, pararescue, and combat control teams rescued more than 4,000 people after Hurricane Katrina.

In his remarks paying tribute to search and rescue personnel, Central Florida Chapter President John Timothy Brock said, "They will risk their equipment and their very lives so that others may live."

Brock then joined Gen. Ronald E. Keys, the symposium co-host, and Central Florida Chapter's Tommy G. Harrison, the gala chairman, in naming several search and rescue personnel as AEF Jimmy Doolittle Fellows. Receiving the honor were CAP Maj. Gen. Antonio J. Pineda, national commander; Lt. Col. Benjamin Walsh, Air Force Rescue Coordination Center commander; the active duty 347th Rescue Wing from Moody AFB, Ga.; and Air Force Reserve Command's 920th Rescue Wing from Patrick AFB, Fla.

Representing the 347th RQW were Capts. Brian Kelly, Kyle Kimberlin, and Eric Stover; MSgt. Scott Young; and TSgts. Jay Lane and Douglas Musser. Their unit has carried out combat SAR in Afghanistan and Iraq and has been deployed for three of the last four years.

Representatives from the 920th RQW were Lt. Col. Hugh Funk, Maj. John Lowe, 1st Lt. Harley Doubet, MSgt. Chad Evans, and TSgts. Robert Grande and Ryan Renuart. Their unit is credited with more than 1,000 saves, made in the aftermath of Hurricane Katrina.

Among those on hand to honor search and rescue personnel were USAF Gens. Bruce Carlson, Paul V. Hester, William R. Looney III, and Duncan J. McNabb, as well as Belgian



USAF photo by Mickey W. Sanborn

The Nation's Capital Chapter (D.C.) hosted a reception in February for Air Force Secretary Michael Wynne and USAF Chief of Staff Gen. Michael Moseley (front row, third and fourth from left). Pictured are (front row, l-r) Donald Peterson, AFA executive director; Kip Hansen, chapter VP; Wynne; Moseley; and Australian Air Commodore Graham Bentley. Back row (l-r) are Tom Coney, chapter industrial associates chairman; Pat Condon, AFA Board Chairman; CMSAF Gerald Murray; Bob Largent, AFA National President; and Belgian Brig. Gen. Daniel Van de Ven, dean of the foreign air attache corps.

Brig. Gen. Daniel Van de Ven, who is the dean of the foreign air attache corps, and CMSAF Gerald R. Murray.

In other gala highlights, the Air Force Memorial Foundation received a \$10,000 donation from the Central Florida Chapter, bringing the chapter's total contribution to that fund to \$190,000. Brock and Harrison presented \$45,000 to AEF Chairman of the Board L. Boyd Anderson and AEF President Mary Anne Thompson. The chapter has donated nearly \$600,000 to AEF in its 22 years of sponsoring the Air Force Gala.

A Chat With the Chief

When cadet Robert S. Clark got up that morning, he had no idea he'd be having lunch with the former Air Force Chief of Staff, retired Gen. John P. Jumper—much less discussing short-field landings with him.

But that's the kind of opportunity given to five AFROTC cadets from Embry Riddle Aeronautical University when they were presented with scholarships recently. Along with Clark, the other

cadet honorees were Alex D. Ladysh, Veda A. Nayak, Noelle C. Niblack, and Matthew T. Schneider.

William W. Spruance, an AFA national director emeritus and member of the **Brig. Gen. Bill Spruance Chapter (Del.)**, funded the \$1,000 scholarships. They are given annually to selected cadets at Embry Riddle's Daytona Beach, Fla., campus and are presented each year as part of the joint board meeting of AFA and AEF, held in conjunction with the Air Warfare Symposium.

This year, Spruance chose to donate the scholarships in the name of Jumper, now an AFA national director; Stephen P. "Pat" Condon, AFA Chairman of the Board; John J. Politi, the former AFA Board Chairman; David T. Buckwalter, an AFA national director; and Julie E. Petrina, an AEF trustee.

Before the scholarship presentations, these five AFA leaders attended a luncheon at the Buena Vista Palace Hotel, sitting with the cadets who would be receiving awards in their name. This is how Clark ended up trading stories with—and later being formally



1501 Lee Highway, Arlington, Virginia 22209-1198 (703) 247-5800
An Independent Non Profit Aerospace Organization

March 31, 2006

Dear Air Force Association Members and Friends:

We are pleased to announce that on April 1, 2006, the activities of the Air Force Association and the Aerospace Education Foundation will be combined into a single organization. This consolidation is the result of actions taken by delegates at our National Convention this past September and by the joint boards of the Air Force Association (AFA) and the Aerospace Education Foundation (AEF) on February 4, 2006.

The consolidation of the two organizations is an action contemplated by both organizations for several years. An article titled "afa21 Roadmap" in the November issue of *AIR FORCE* Magazine outlined activities and issues which led to the consolidation and listed three major objectives of the consolidation: 1. Restructure our tax status to become more inclusive and more efficient; 2. Restructure our governance to focus on agile policy and decision-making with accountability to the membership; and, 3. Restructure the field organization to focus on mission performance.

By taking this action, we will be able to expand our outreach and improve our effectiveness by consolidating education programs within one organization. We believe our mission to educate the public about the critical role of aerospace power in the defense of our nation, advocate aerospace power and a strong national defense, and support the United States Air Force and the Air Force Family will be greatly enhanced. There are no longer any restrictions on membership or participation in AFA (no "patron" category), membership recruitment opportunity will grow, and the stated objective of becoming more inclusive can be achieved. Further, as a 501(c)(3) organization, AFA is able to accept charitable gifts, enhancing its fund-raising potential, and a combined AFA and AEF will provide significant opportunities for more efficient operations and enhanced revenue generation. The existing AFA organization is to be retained and will hold AFA's insurance business and the AFA building and be called AFA Veteran Benefits Association. To ensure we maintain our tax-exempt status, these actions have been favorably reviewed by the Internal Revenue Service.

What does the consolidation mean to the membership of AFA? Initially, the change will be most visible to those who serve on national committees, councils, and the board of directors. At the state and chapter level, nothing will change until the Association's convention delegates approve a permanent structure in September of this year. For members at large, the change will be even less apparent. *AIR FORCE* Magazine will continue virtually unchanged, with only minor adjustments relating to the consolidation. AFA's Insurance programs will continue unchanged but under the AFA Veteran Benefits Association name. The programs remain available to new participants who meet the veteran eligibility requirement. All other member benefit programs will continue without change, and current Aerospace Education Foundation programs will continue to support the Air Force family, AFA members, educators, and students around the world.

The single largest change affects those approximately 9,000 individuals who have elected to be Patrons of the Air Force Association. They automatically will receive full membership status and have the benefit of voting and holding elected office.

Our goal is to ensure that AFA accomplishes its stated objectives, as noted above, as the consolidation of our two organizations occurs during the coming months. Your support is greatly appreciated and we are pleased to welcome the former Patrons as full members of the Air Force Association.

Sincerely,

Stephen P. "Pat" Condon
AFA Chairman of the Board

L. Boyd Anderson
AEF Chairman of the Board

introduced to the audience by—the former Chief of Staff.

The Cyber-Defenders

In San Antonio, the **Alamo Chapter's** aerospace education foundation joined the local University of Texas and AFJROTC units in sponsoring a cyber-defense competition for local high school students.

The purpose was to raise the level of awareness of computer and network security. It was not an easy contest.

It began last October, when the chapter sent out flyers advertising the competition. Students were required to send in a letter by November declaring their intent to compete. Twenty-five high schoolers then wrote papers—due in December—on why securing one's home personal computer is important to the nation's critical infrastructures.

On Feb. 11, the contestants faced two more hurdles: They took a written exam, created by staff members at UT San Antonio's Center for Infrastructure Assurance and Security and judged by volunteers from the Information Systems

Security Association. Then they took a "practical exam," where they had to find and fix security problems in a computer system. The top \$500 prize for the individual winner went to Kyle Broekers from Judson High School in Converse. He also won a \$500 prize for submitting the best paper.

AFJROTC units competed as four-person teams, with the task of securing four-system networks having different operating systems and applications. The AFJROTC cadets from Medina Valley High School in Castroville took home \$500 each.

The Alamo Chapter put together more than \$3,000 in prize money for winners of this rigorous competition: \$2,000 came from the chapter's educational foundation; \$750 came from the chapter; and AEF provided a matching grant of \$750. Alamo Chapter's William D. Croom Jr., Kermit V. Bjorge, and Kaye H. Biggar, president of the chapter's aerospace education foundation, presented the awards.

Return of the Warthog

It was a return engagement for for-

mer A-10 pilot Capt. Kim N. Campbell. In November, she spoke at the **Iron Gate Chapter (N.Y.)** meeting, held at the Cradle of Aviation Museum, in Garden City, N.Y.

Campbell had first visited with the chapter almost exactly two years ago, when she had earned nationwide media attention for flying her Warthog back to base in Iraq, despite severe damage from ground fire. (See photo, "Aerospace World," May 2003, p. 20.)

Chapter President Frank T. Hayes had kept in touch with Campbell, who is now a project officer with the 422nd Test and Evaluation Squadron, Nellis AFB, Nev. This time, Hayes arranged first for Campbell and her mother, Paula Reed, to visit Northrop Grumman's fatigue analysis lab where Campbell's battle-damaged A-10 is now a test article.

The chapter's reception took place the next day, arranged by Iron Gate Secretary Carol Nelson and enhanced by several organizations that volunteered to contribute to the event: The USO learned about this reception and sent a troupe of five entertainers. The FAA also asked Hayes if it could present

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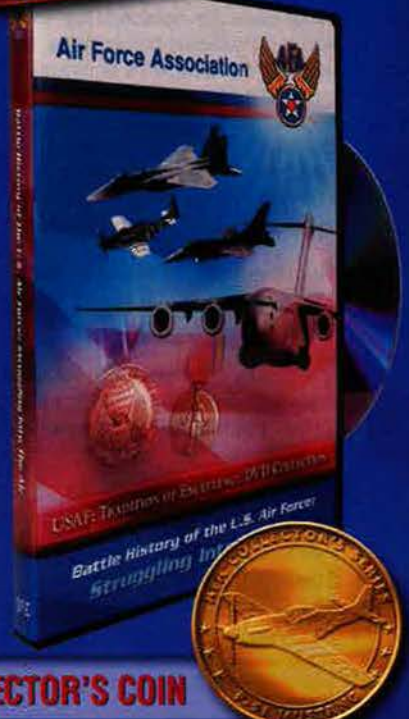
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FREE COLLECTOR'S COIN

AFA In Action

The Air Force Association works closely with lawmakers on Capitol Hill, bringing to their attention issues of importance to the Air Force and its people.

AFA Counters Proposed Tricare Fees

Air Force Association Chairman of the Board Stephen P. "Pat" Condon, National President Robert E. "Bob" Largent, and Executive Director Donald L. Peterson recently participated in numerous meetings with members of Congress and staffers on Capitol Hill in an effort to bring attention to the proposed Tricare rate increases. (See "Action in Congress: Higher Tricare Fees Loom," March, p. 26.)

The AFA leaders met personally with Rep. Bob Filner (D-Calif.) and Jim Marshall (D-Ga.).

Meetings have been held with staffers from the offices of Reps. Terry Everett (R-Ala.), John Kilne (R-Minn.), Mike Conaway (R-Tex.), Mark Udall (D-Colo.), Michael Bilirakis (R-Fla.), Ted Strickland (D-Ohio), and Thelma D. Drake (R-Va.).

In a further effort to bring attention to the Tricare issue, AFA's Government Relations team issued a Call to Action. As a result, AFA members generated more than 6,500 messages, sending them to the President, Secretary of Defense, and members of Congress, protesting the proposed fee increase.

AFA National President Addresses Guard Leaders

On Feb. 27, while addressing the adjutants general of the National Guard, National President Largent unveiled the new policy statement reaffirming AFA's commitment to all aspects of the Total Force—the active duty, Guard, and Reserve.

Largent also addressed recent challenges the Guard has faced: the Base Realignment and Closure actions, Quadrennial Defense Review, austere budget environment, and proposed future personnel cuts.

The new policy statement can be found at <http://www.afa.org/media/press/totalforce.asp>.

its Wright Brothers Master Pilot awards during the meeting. This included a posthumous award honoring two-war ace Col. Francis S. Gabreski.

Hayes contacted the Gabreski family; they sent nine members to receive the award. Other VIP guests were New York State President Fred Di Fabio; Long Island Chapter President Alphonse Parise; and Col. Michael F. Canders, commander of the 106th Rescue Wing (ANG), Gabreski Arpt., N.Y. Canders brought five Iraq War veteran helicopter pilots to the meeting.

Hayes reported that during her presentation, Campbell—a 1997 Air Force Academy graduate who invited two of her classmates to the meeting—gave all credit to her crew chiefs, flight instructors, and unit leaders.

Emergency Lighting

The electricity went out just before the February meeting of the Columbus-Bakalar Chapter (Ind.). The audience was undeterred. By the dim illumination of emergency lights, they listened to Robert W. Palmer describe his World War II experiences in the South Pacific.

Chapter members even rounded up flashlights so they could look at some photos Palmer had brought in of his crew and their aircraft.

Former bomber pilot Palmer evoked the era for his audience by wearing a leather A-2 jacket, a tan 50-mission crush hat, and aviator sunglasses. Palmer said that he had set out to enlist the day after Pearl Harbor was bombed. After some delay, he got his wish in March 1942 and trained as an aviation cadet. He learned to fly the P-40 Thunderbolt and P-51 Mustang but was soon flying B-24s because of the need for bomber pilots in the Pacific Theater.

Palmer was stationed with the 400th Bomb Squadron, based in New Guinea, and completed 175 missions. He remained with the squadron, becoming an instrument instructor pilot, to the end of the war. By then, the unit had moved to several South Pacific islands, the Philippines, and to Ie Shima, where it had been preparing for the invasion of Japan. After the war, Palmer became a physician.

Among the guests enjoying Palmer's wartime recollections were Great Lakes Region President William A. Howard Jr. and State President Thomas Eisenhuth—who drove 170 miles from Fort Wayne to Columbus to attend the meeting—and a fellow Liberator pilot, Robert E. Kirk.

Keeping Count

AEF recently awarded 140 Educator Grants to teachers from Maui to



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Maine. The awards encourage aerospace education in classrooms from kindergarten through 12th grade by funding activities that school districts cannot afford.

In Florida, **Central Florida Chapter's** aerospace education VP Richard A. Ortega noted the numbers. More grant recipients—32 of 140—came from the Sunshine State than any other, he wrote. Ortega, who also serves as state aerospace education VP, said that he and his chapter president, John Timothy Brock, sent letters of appreciation to each Educator Grant teacher in their state.

Since the AEF program strives to build a relationship between a grant recipient and the local chapter, in February Ortega visited the classroom of local-area winner James Bowlin to offer congratulations. Bowlin is a retired naval aviator and teaches science at Oviedo High School. Ortega used the classroom visit to introduce Bowlin to AFA and AEF and to invite him to join the association.

Bowlin plans to use the Educator Grant to fund a class field trip to the Kennedy Space Center.

More AFA News

■ A former photojournalist who covered wars in Somalia, Haiti, Kosovo, and Iraq described his experiences to the **Gen. Charles A. Horner Chapter** in January in Des Moines, Iowa. John Gaps III spoke about his nine years as an Associated Press photographer—"global exploits following the American warrior," as Chapter President Richard R. Schlegel II characterized it. Gaps was shot by a sniper in the Gaza Strip in 1994 and, during recovery, compiled a book of black and white photos and poetry chronicling his experiences. Schlegel said Gaps brought the book, *God Left Us Alone Here: A Book of War*, to the chapter meeting.

■ A retired Air Force F-4 pilot "dazzled" members of the **Tarheel Chapter (N.C.)** with a presentation on the Joint Strike Fighter, reported Troy D. Cash, chapter secretary. Clint Null, from the Lockheed Martin Center for Innovation in Suffolk, Va., gave a multimedia briefing on the F-35 to a February meeting. Null was able to explain clearly the complex technologies involved in the fifth generation fighter, Cash said. The 50,000-square-foot Center for Innovation opened last April and focuses on analysis, rapid prototyping, and collaborative experimentation. Last fall it added a net-enabled air combat simulation capability to help investigate the performance of the JSF and the F-22.



Photo by Dan Higgins

At the Air Force Gala in Orlando, Fla., in February, Central Florida Chapter's Tommy Harrison (far left) and Chapter President John Timothy Brock (far right) present a donation in support of AEF to its President Mary Anne Thompson and AEF Chairman Boyd Anderson. See "Gala in Florida," p. 90.

■ The **Gen. Robert E. Huyser Chapter** helped host a Colorado Department of Transportation aerospace education workshop for teachers. Chapter President Michael E. Peterson said more than 30 elementary and middle school teachers spent two days in Grand Junction, learning "the basics of flight" and "how to get the airplane story across to their students." The workshop's highlight was orientation flights, provided by volunteers from the Experimental Aircraft Association. ■

Have AFA/AEF News?
 Contributions to "AFA/AEF National Report" should be sent to *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Phone: (703) 247-5828. Fax: (703) 247-5855. E-mail: afa-aef@afa.org. Digital images submitted for consideration should have a minimum pixel count of 900 by 1,500 pixels.

AFA Conventions	
April 28-29	Ohio State Convention, Dayton, Ohio
April 29	Virginia State Convention, Blacksburg, Va.
May 5-6	South Carolina State Convention, Clemson, S.C.
May 12-13	Tennessee State Convention, Arnold AFB, Tenn.
June 3	Alabama State Convention, Montgomery, Ala
June 9-10	New York State Convention, Hammondsport, N.Y.
June 15-17	Oklahoma State Convention, Oklahoma City
July 14-15	Florida State Convention, Fort Walton Beach, Fla.
July 21-23	Texas State Convention, Houston
Aug. 5	Georgia State Convention, Warner Robins, Ga.
Aug. 11-12	Colorado State Convention, Pueblo, Colo.
Aug. 19	Indiana State Convention, Indianapolis
Sept. 24-27	Air and Space Conference, Washington, D.C.

Reunions

reunions@afa.org

33rd Troop Carrier Sq, 374th Troop Carrier Gp, Fifth AF (WWII). April 20-23 at the Adam's Mark Hotel in Indianapolis. **Contact:** B.J. Plog, 4 West Perris, PO Box 332, Ridge Farm, IL 61870-0332 (217-247-2491) (bjplog@hotmail.com).

317th TCG, Hq and all squadrons (WWII). Sept. 28-Oct. 1 in St. Louis. **Contact:** Vince Krobath, 22 Lantana Dr., St. Louis, MO 63123 (314-842-2484).

384th ARW, maintenance squadrons. June 23-25 at McConnell AFB, KS. **Contact:** Jay Stark (817-246-3664) (papasstark@aol.com) (www.384threunion.org).

391st BG, Ninth AF. Sept. 21-24 in Phoenix. **Contact:** Bill Graves (256-534-6711).

469th TFS, Korat RTAB, Thailand (1965-68). Sept. 6-9, 2007, at Wright-Patterson AFB, Ohio. **Contact:** Roy Dickey, 6490 Jesse Allen Rd., Milton, FL 32570 (phone: 850-983-9095 or fax: 850-985-9029) (rysdcy@aol.com).

485th Tactical Missile Wg Alumni Assn. June 1-5 in Washington, DC. **Contact:** Lt. Col. Chris Ayres (540-288-1835) (christopher.ayres@js.pentagon.mil).

600th Photo Sq/601st Photo Flight. Sept. 27-30 in San Antonio. **Contact:** Ron Marshall, 254 Quetzal Dr. S.W., Albuquerque, NM 87105-0304 (505-254-7984) (rronmarshall@aol.com).

AACS Alumni Assn. Sept. 28-Oct. 1 at the Radisson Cincinnati Riverfront Hotel in Covington, KY. **Contact:** Mac Maginnis (1-866-299-1045) (c.maginnis@comcast.net).

Air Force Photo Mapping Assn. Sept. 27-Oct. 1 at the Sheraton Hotel in Omaha, NE. **Contact:** Dale Kingsbury (314-961-0519) (photomapper@charter.net).

Flying Tigers of the 14th AF (WWII), veterans of the American Volunteer Gp (1941-42), China Air Task Force (1942-43), and 14th AF (1943-45). May 25-28 at the Crystal Gateway Marriott Hotel in Arlington, VA. **Contact:** Robert Lee, 717 19th St. S., Arlington, VA 22202-2704 (703-920-8384).

Pilot Training Class 56-H. Oct. 4-6 at Wright-Patterson AFB, Ohio. **Contacts:** Tom McHugh, 3591 Eastmoor Dr., Dayton, OH 45431 (937-429-3382) (tbmch@sbcglobal.net) or Robert Kruse, 13872 N. 89th St., Scottsdale, AZ 85260 (480-391-1228) (point9kruse@aol.com).

Pilot Training Class 76-08, Craig AFB, AL. July in Las Vegas. **Contact:** Jim Snowden (713-963-0464) (jsnowden@houston.rr.com).

Sembach AB, Germany, including DOD civilians. June 12-16 at the Palace Station Hotel in Las Vegas. **Contact:** Ed Albert (704-822-6886) (evalbert@aol.com) (www.sembachveterans.org).

Mall unit reunion notices four months ahead of the event to "Unit Reunions," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Please designate the unit holding the reunion, time, location, and a contact for more information. We reserve the right to condense notices.

AFA Directory Project Under Way

As a result of numerous requests for membership directory updates, work has begun on your 2006/2007 Air Force Association Membership Directory.

Directory questionnaires will be sent to all members and patrons in May and June. The publisher will follow up by telephone to confirm directory listings and to provide purchase information.

Directory listing information is being compiled now. Final printed edition will be delivered to purchasers in early 2007. The 2006/2007 AFA Membership Directory is in commemoration of both the Air Force Association's (2006) and the United States Air Force's (2007) 60th anniversaries.

Members who do not return a directory questionnaire or provide the information to representatives by telephone will not be listed in the directory. You may also choose to opt out of a listing in the directory.

This directory will be copyrighted. It cannot be used for marketing or mailing lists of any type. Listings will include residential, professional, academic, and military and civilian career highlights.

Watch your mailbox (both e-mail and USPS) for your 2006/2007 AFA Membership Directory questionnaire.

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F6F Hellcat



The F6F Hellcat may well be the most important fighter in US Navy history. For the critical final two years of World War II, it served as the US fleet's primary carrier combat aircraft, and it had a decisive impact on the Pacific war at sea.

For the Navy, initial contact with superior Japanese fighters such as the Zero was a shock. The F6F, which began as an improved model of Grumman's smaller F4F Wildcat, soon became a major new design. Like the Wildcat, the Hellcat was simple, rugged, and easy to build, fly, and maintain. However, it had much more power than the F4F. It had heavy cockpit armor, a bullet-resistant windshield, self-sealing tanks, and an armored oil tank. It could take severe damage and keep flying.

The Hellcat was fast, maneuverable, and heavily armed and had stable flight charac-

teristics. The design was such a hit that it went straight to production. Starting in 1943, Grumman delivered 12,275 Hellcats. There were two major variants—the F6F-3 and F6F-5. The Navy produced the final "Dash Five" airplane in November 1945.

This new fighter entered the combat arena on Aug. 31, 1943, in a series of raids showing that US pilots now had a fighter able to overmatch the best Japan could muster. The Hellcat's most successful day in combat came on June 19, 1944, in an air battle over the Mariana Islands. Japan lost more than 270 fighters, compared to 26 Hellcats lost. So lopsided was this battle that it is called "the Great Marianas Turkey Shoot." Over all, the F6F is credited with destroying some 5,156 Japanese aircraft—4,947 by Navy aviators, 209 by land-based Marine Corps pilots. It turned the tide of Pacific naval action.



This aircraft: F6F-3—No. 36—as it looked in June 1944 when flown by Ens. Wilbur B. "Spider" Webb, "Fighting 2" Squadron, USS *Hornet*.

In Brief

Designed, built by Grumman ★ deployed principally on Navy carriers ★ first flight June 26, 1942 ★ crew of one ★ number built 12,275 ★ one P&W R-2800 18-cylinder radial engine ★ armament, six wing-mounted .50 cal machine guns ★ later models carried bombs, rockets ★ **Specific to F6F-3:** max speed 375 mph ★ cruise speed 160 mph ★ max range 1,590 mi ★ weight (loaded) 12,441 lb. ★ span 42' 10" ★ length 33' 7" ★ height 13' 1".

Famous Fliers

Cmdr. David McCampbell, Medal of Honor, Navy's top ace with 34 victories ★ Lt. Cmdr. Cecil E. Harris, 24 victories ★ Lt. Cmdr. Eugene A. Valencia, 23 victories ★ Lt. Richard Loesch, first F6F pilot to claim a victory (1943) ★ former enlisted pilot Ens. Wilbur B. "Spider" Webb, an ace.

Interesting Facts

Achieved astounding 19:1 victory-to-loss ratio ★ flown by 305 aces, most of any US fighter in World War II ★ nicknamed "the Ace Maker" ★ 605 Hellcats produced in a single month (March 1945) ★ flown by Britain, France, Argentina, Paraguay, and Uruguay ★ briefly equipped Blue Angels after World War II.



"Aura" forms around prop of Hellcat aboard USS *Yorktown*.

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