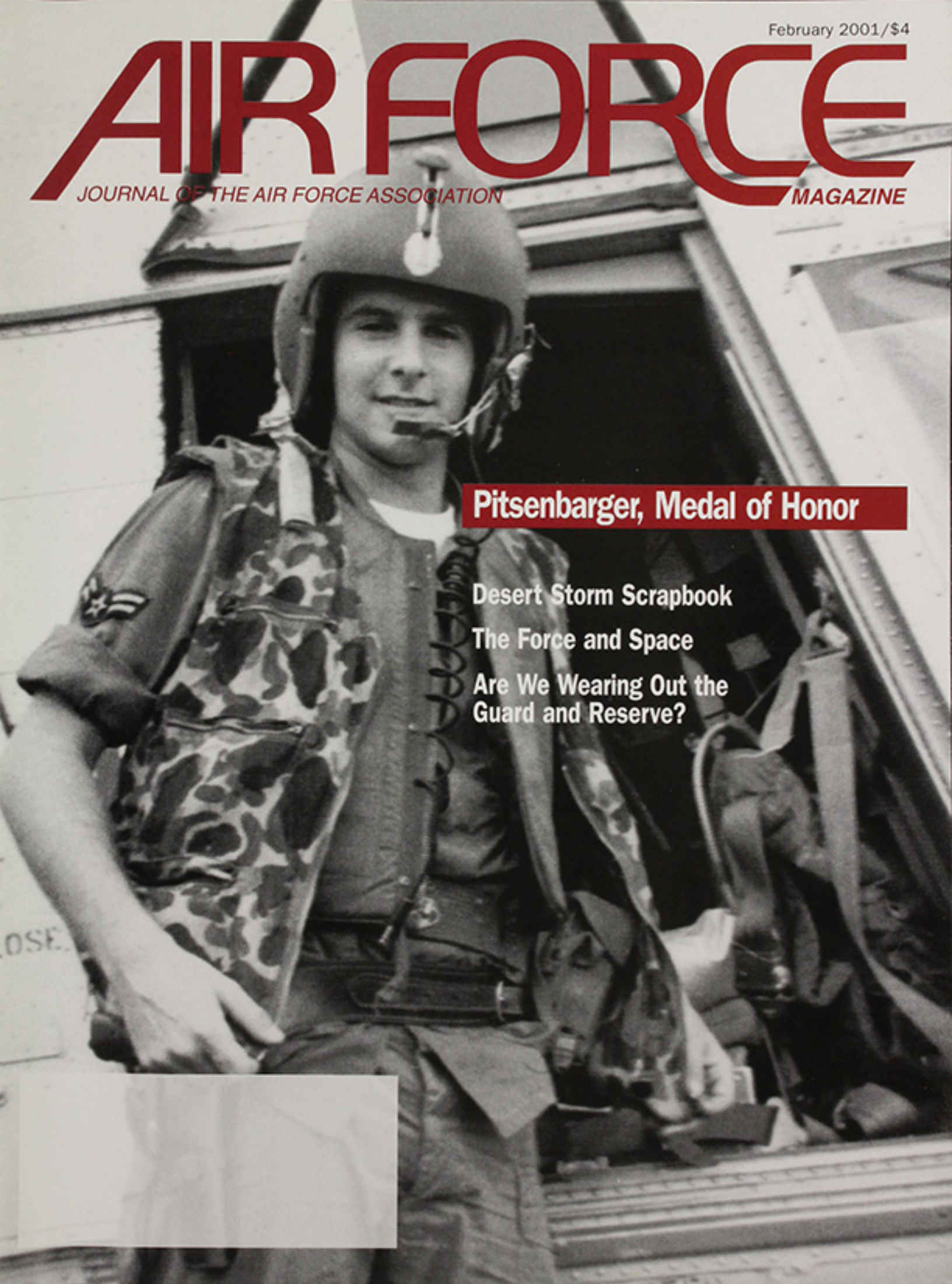


February 2001/\$4

# AIR FORCE

JOURNAL OF THE AIR FORCE ASSOCIATION

MAGAZINE



**Pitsenbarger, Medal of Honor**

**Desert Storm Scrapbook**

**The Force and Space**

**Are We Wearing Out the  
Guard and Reserve?**

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**About the cover:** A1C William H. Pitsenbarger's heroic sacrifice is finally acknowledged with the nation's highest military award. See "Pitsenbarger, Medal of Honor," p. 26.



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By John T. Correll, Editor in Chief

## The Threshold of War

**U**NDER what circumstances should US armed forces be sent into combat? The question has its roots in Vietnam, where more than 47,000 Americans died in a war their nation lacked the will to win.

In 1984, Secretary of Defense Caspar Weinberger announced a new doctrine on use of force. Troops should not be committed to combat unless a vital national interest was at stake and until other options were exhausted. If we went to war, it would be with sufficient force and a determination to win.

A leading advocate of that change was Colin Powell, who was Weinberger's military assistant in 1984. He was also Chairman of the Joint Chiefs of Staff in 1991 when the precepts of the Weinberger-Powell Doctrine were applied with great success in the Persian Gulf War.

Ironically, it was during the Presidency of Bill Clinton, noted for his protest to the Vietnam War, that the policy was rolled back.

Madeleine Albright, ambassador to the UN, captured the tone in a question to Powell in 1993: "What's the point of having this superb military that you're always talking about if we can't use it?"

The threshold of combat fell lower. American officials quoted by the *New York Times* said the reason for air-strikes near Sarajevo in May 1995 was to "drop a few bombs and see what happens."

The Pentagon announced that US forces would be used to defend "important" but not necessarily vital interests, and the strange concept of "combat operations other than war" appeared in joint military doctrine.

In operations from Somalia to Haiti to Bosnia, the dividing lines blurred between peace and war. When substantial strikes against Iraq were being considered in February 1998, Albright, by then Secretary of State, said, "We are talking about using military force, but we are not talking about war."

Nor was it war in August 1998 when we fired 79 sea-launched Tomahawk cruise missiles at terrorist

camps in Afghanistan and at what may or may not have been a chemical plant in Sudan. And that was that.

We moved into and out of combat without sustained purpose. In December 1998, Operation Desert Fox sent 650 air sorties and 400 cruise missile strikes against Iraq, but it

### The dividing line between peace and war has been blurred in recent years.

was called off after 70 hours, in part because bombing during the Islamic holy month of Ramadan would be "profoundly offensive."

Only rarely—notably in Kosovo in 1999—has a combat operation persisted until a major military objective was achieved, and even in Kosovo, the armed forces were bogged down by gradual escalation and political constraints reminiscent of Vietnam. In the 10 years since the Gulf War, the nation has come full circle on the use of force.

The issue now awaits a decision by the Bush Administration. President Bush and his advisors are considerably less inclined than the Clinton team was toward military excursions abroad. Powell, as Secretary of State, will not follow Albright's freewheeling attitude toward armed conflict.

Bush's view is "old fashioned," says Gordon Adams, senior budget official in the Clinton Administration. "We will have a well-funded military that is designed to go nowhere and prepared to do nothing, because they are only there to fight the nation's wars, and we are not having any," Adams told the *New York Times*.

Clinton's first Secretary of Defense, Les Aspin, said almost the same thing when he took office.

Within a year, Aspin was dismissed after an insufficiently supported humanitarian mission suddenly escalated. Eighteen American soldiers were killed trying to capture a local warlord who was riding around in US aircraft two months later.

The next war will come along soon enough, and when it does, it is profoundly to be hoped that the armed forces will be ready for it. Until then, strong military forces will serve to defend the nation and its interests by deterring those who might wish us harm. A well-funded military might even increase the interval between wars.

The armed forces have always performed noncombat roles. The classic example is the Berlin Airlift in the 1940s, a humanitarian mission that had strategic consequences when it thwarted a Soviet attempt to starve West Berlin into submission.

In some cases, it may also be necessary to send the armed forces into combat in situations short of all-out war.

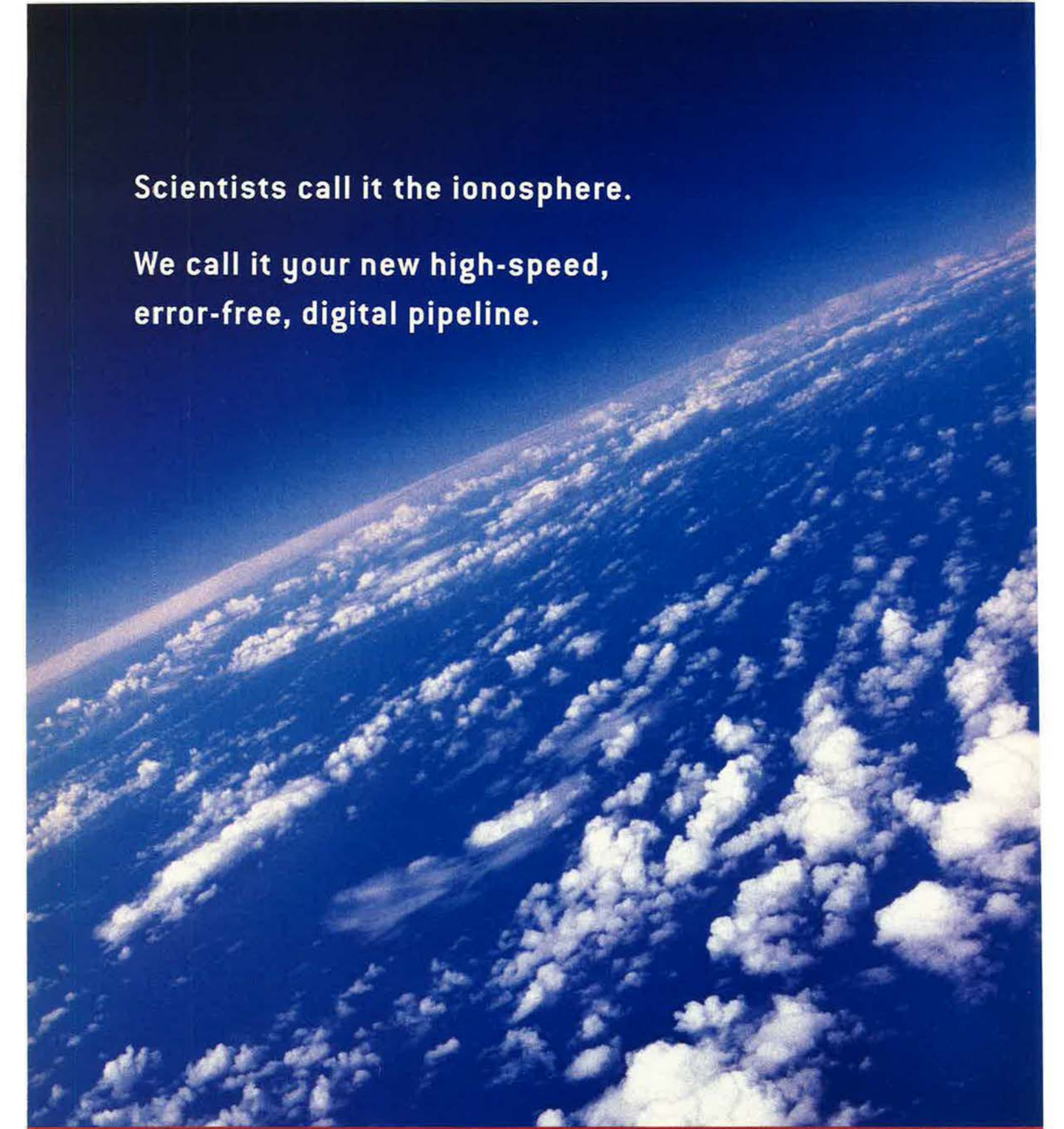
Military historian Richard H. Kohn told the *Washington Post* that "sometimes force is not the last resort, and if it's saved for a last resort, it might then have to be used—and used in much more massive and destructive terms than if it was threatened, or applied in more ambiguous ways, earlier in dealing with a problem."

There is a world of difference between that and dropping a few bombs to see what happens.

When we cross the threshold to combat of any scope or scale, it should not be a casual decision.

When lethal military force is used or threatened, it should be for a well-defined purpose that is important to the nation. It should be for an objective that can be met by military means. We should be willing to support and sustain the action until the objective has been achieved.

The Bush Administration would do well to adopt that as the standard it uses in committing the nation's armed forces to combat. ■



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## Civil Air Patrol

I was disappointed to read the December article on p. 20, "IG Blasts Civil Air Patrol." The article was apparently designed to provide a short summary of an [Inspector General] report critical of the CAP, but I suggest it unnecessarily served to pull the scab off a wound—especially for those who are both Air Force Association and CAP members. The report had been on the street for months, acknowledged problems are either fixed or resolution is well under way, and both the Air Force and CAP appear to be jointly in a forward-looking, let's-get-on-with-business mode.

Given that we are the "host" AFA chapter for CAP headquarters and that three of our chapter's vice presidents (aerospace education, CAP affairs, and leadership development) are on the CAP headquarters staff, we are perhaps more sensitive than most to criticism of the CAP. Regardless of that acknowledged bias, I suggest that an article supportive of where the CAP is going—not where it had allegedly been—would have been a more appropriate tack for the Air Force's "support organization" to have taken.

I have seen no indication that the Air Force is looking to pile on the CAP over this report. Rather, both Air Force and CAP leaders are taking the positive path by restructuring where needed, emphasizing the strong points (especially the CAP's aerospace education and cadet programs), and forming a virtual USAF-CAP team to accomplish a critical mission.

We, as an AFA chapter, reach out to embrace the CAP as an important organization of dedicated people worthy of our AFA and Aerospace Education Foundation focus. They, in turn, are providing strong support to our AFA and AEF—across the board. We need that support. They deserve ours.

I suggest highlighting the good points of the CAP and publicly applauding their achievements. We, as an AFA chapter, look forward to continuing to provide all the support we

can muster as the Air Force and Civil Air Patrol press ahead toward common goals.

Frederick A. "Rick" Zehrer III  
Pres., Montgomery Chapter of AFA  
Montgomery, Ala.

## About That MiG

There is additional information not mentioned [about the MiG-15 on p. 36.] [See "Keepsakes From Korea," December, p. 32.] That MiG was first taken to Kadena AB in Okinawa. Gen. [Otto P.] Weyland, then commanding general of Far East Air Forces, wanted to see the MiG and talk to the pilot. I, along with other members of his staff, flew from Tokyo to Kadena.

Test pilots [Chuck] Yeager, [H.E. "Tom"] Collins, and [Albert] Boyd were there to test-fly the MiG. Due to [bad] weather, there [was] no test flight, so we flew back to Tokyo. En route, the general was notified that the weather at Kadena had cleared and the MiG was flown.

Lt. Col. Russell R. Simpson,  
USAF (Ret.)  
Columbus, Ohio

I was the director of finance of 20th Air Force with headquarters at Kadena AB, Okinawa, when the MiG-15 was received there from South Korea. The MiG was reassembled there at Kadena and test flown there. Your article fails to mention the stop at Kadena and test flight there.

Lt. Col. I.J. Harris,  
USAF (Ret.)  
La Mesa, Calif.

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

## A Vacuum?

It is obvious to anyone involved in the procurement process that the CBO Report was prepared in a vacuum. [See "CBO Confirms the Defense Spending Gap," December, p. 39.] It fails to take into account the "politicizing" of the budget process.

Services are forced to procure unneeded or unwanted systems simply because a particular company resides in the district or state of a politically influential Congressman. The same holds true for infrastructure construction and repairs, including military family housing work. Higher priority projects go begging because a politician with more clout gets the money allocated to his or her district.

It's time to remove politics from the process. Let the services determine their priorities and how they will fund them. The service chiefs [should] get together and meld their lists into a single, prioritized list of the most critical needs. Then funds [would be] allocated to the highest priority projects until exhausted. If the service chiefs cannot reach agreement on the priority lists, the matter is referred to the Secretary of Defense for resolution.

This certainly isn't perfect, but it's better than the current system that has the wrong people making decisions on service priorities.

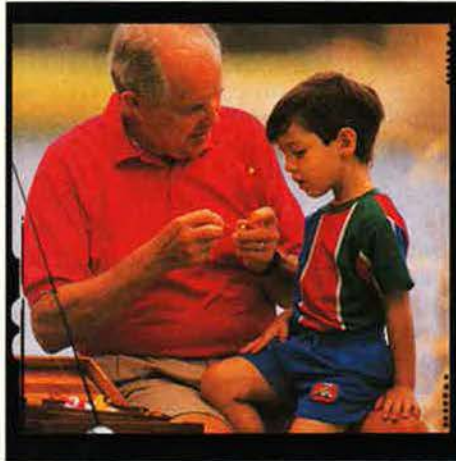
MSgt. Boyd A. "Bud" Hemphill Jr.,  
USAF (Ret.)  
Montgomery, Ala.

## Did They Consult?

I just finished reading "Tricare for Life" in the December *Air Force Magazine* [p. 52]. Nowhere in the article does it mention whether the legislature consulted with the Health Care Financing Administration about the changes the law makes.

As far as I know, Medicare is always secondary if a beneficiary is enrolled in a large group health plan. I believe Tricare qualifies as a large group health plan. There are about 70 or so companies processing Medicare claims for Parts A and B that will have to modify their processes in order to accommodate this, and this may take rule making by HCFA to

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## Letters

make those changes. Anyone who's dealt with the administrative rule-making process knows this might take awhile.

A Tricare "official" is referenced as saying that the use of Tricare Standard as a supplement should have no impact on a patient's choice of physician. My wife was recently referred to a specialist in a nearby city. We have Tricare Standard as our primary insurance. The claim was denied because the specialist had allowed his enrollment as a Tricare provider to lapse. The provider didn't renew his enrollment because of the low payments (the same as Medicare) and problems getting paid. We ended up paying for the visit out of pocket and none of the payment was credited to our deductible or catastrophic cap because the claim was denied.

I work for a group medical practice in an area not covered by either the HMO or PPO plans under Tricare. We are required to re-enroll every year to participate. If your physician isn't "enrolled" he won't get paid.

I believe the unnamed Tricare official had it right when he said implementation will "take a Manhattan Project level of effort."

Maj. John E. Lopes Jr.,  
USAF (Ret.)  
Ellery, Ill.

### Spaatz

The article describing [Gen. Carl A.] Spaatz is the best and most accurate I have ever read and it is years overdue. [See "Spaatz," December, p. 66.] I was a B-24 pilot in Eighth Air Force during World War II and lived and flew under his command and direction. He was one of the key commanders responsible for the success of the air war.

Following the war, I did have the opportunity to interface with him personally, albeit briefly. When he was [head of the] Army Air Corps/Air Force, I was chief of training and a [special air mission] pilot in the Air Force 1st Base Unit at Bolling [AFB, D.C.]. One of our missions was transporting Air Force VIPs. The most senior military officer was, of course, Spaatz. He had a primary crew and aide that flew his B-17. I was a backup for short trips, flying a modified B-25. He was the most thoughtful, kind, and considerate VIP I ever flew, and I flew many.

Col. W.H. Norris,  
USAF (Ret.)  
Albuquerque, N.M.

I was a member of the Spaatz Squadron of the Civil Air Patrol. I read

the article and was very surprised that the CAP was not mentioned. I believe the general was very instrumental in establishing the organization and was its first commander. They call the newsletter of the squadron "The Question Mark."

SMSgt. Robert B. Kerr,  
USAF (Ret.)  
Perkiomenville, Pa.

### A Gallant Time

The photo spread in the December issue was a real keeper. [See "The Lafayette Escadrille," p. 74.] In the mid-1970s I was fortunate to meet Carl Dolan (the last surviving member of the group) when he was living in Hawaii. He autographed a painting of "The Last Patrol" of himself and Raoul Lufbery that was done by [Robert] Carlin. The letter Carl gave me listed the members who had "Gone West," and I was able from your article to match up faces with some of the names on that list. I believe it was 1982 or so that Dolan died while attending the air show in Paris. Anyway your article is a very welcome addition to what I have, and treasure, from that gallant time of our history.

John Stepp  
Evergreen, Colo.

### Limit the Bronze

The comments by Secretary of the Air Force F. Whitten Peters concerning Bronze Star eligibility are most regrettable. [See "Aerospace World: Bronze Star Eligibility Narrowed," December, p. 10.] I guess the guy who painted the floor of the shop that machined the fins of the bomb that the fighter dropped in Kosovo ought to get a Bronze Star.

I know for a fact that many of the recommendations for awards during the Vietnam conflict were the result of someone's vivid imagination, loosely based on fact. If you are at Langley [AFB, Va.] turning wrenches or mission planning, you do not deserve a Bronze Star for any mission in Kosovo or anywhere else.

Lt. Col. Wallace L. Giles,  
USAF (Ret.)  
Sedona, Ariz.

### The Tip Tank Issue

In response to [retired] SMSgt. Gail H. Meyer's comments [See "Letters: Air War Korea, 1950-53," December, p. 7] on my letter regarding the design and assembly of the Misawa [AB, Japan] tip tanks for the F-80: Yes, things did change quite a bit between the 1940s and the 1970s as far as a maintenance officer's direct

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involvement in the hands-on projects such as assembling the larger tip tanks. I don't know whether Lieutenants Eckman, Johnson, and Flynn actually assembled the large tanks at Misawa, but I do know that after that first successful mission on June 28, 1950, all of the pilots in the 9th Fighter-Bomber Squadron helped unload, uncrate, and disassemble the 165-gallon tip tanks.

We then removed the center sections and took the three center sections and added the nose and tail sections of one tank to complete the assembly of the 265-gallon Misawa tank. We were operating away from our own group and occupying the area on the opposite side of the field from the 8th Fighter-Bomber Group.

[We] pilots had to put up our own tents, help install the fins on the 5-inch HVAR rocket motors, and "belt" .50-cal. ammunition, while our ordnance men and crew chiefs were servicing the aircraft for the next mission. During the first several weeks of the war there was never any time to relax between missions as were operating at 200 percent effort with less than 100 percent of our required complement of men or ground support equipment.

I was fortunate to have had the tanks installed on my aircraft for that first mission. All of my combat missions during the first days of the war were flown in that aircraft and therefore flown with large Misawa tanks. All of my 160 F-80 combat missions in the Korean conflict were flown with those large tip tanks.

Lt. Col. Norvin C. "Bud" Evans,  
USAF (Ret.)  
Indianapolis, Fla.

The letter [from retired Lt. Col. Norvin C. Evans] concerning drop tanks for the F-80 [See "Letters: Air War Korea, 1950-53," November, p.8] got my attention because I per-

sonally helped build the first of these enlarged tanks used in the Korean War. When the war began, I was a staff sergeant [and] chief of the propeller shop of the 49th Aircraft Maintenance Squadron, Misawa.

As I remember it, an urgent request came down to our shops from the operations group to build these larger tanks. This was to be [done] by adding two tank sections to the center of the then existing drop tank sections. They provided us with several tanks and the sections but did not furnish us any drawings or specs to do the job.

We had to find the center of gravity of the longer tank to locate the exact position on the tank to install the bracket that secured the tank to the wingtip shackle. The interior rod assembly which held the tank segments together had to be lengthened and reworked to accommodate the longer tank. The wingtip shackle had to be beefed up to handle the added force of the larger tank.

After a pair of these tanks were built and installed on an F-80, a pilot flight-tested this aircraft and found no problems with the new tanks. We then began mass assembly of these new tanks, working two shifts and seven days a week. I can't remember exactly how many were built, but I know it was in the hundreds.

SMSGt. Watson W. Smith,  
USAF (Ret.)  
Colorado Springs, Colo.

### A Fixed Carriage

[Retired] MSgt. [Joe] Franklin ["Letters: On Pieces of History," December, p. 7] is in error. The BT-9 had fixed landing gear. The BC-1 was the forerunner of the T-6, [with] retractable landing gear. I flew BT-9s at Randolph [Field, Tex.] as a cadet and the BC-1 [in] Panama.

Lt. Col. Hal Doughty,  
USAF (Ret.)  
Eau Claire, Wis.

# Aerospace World

By Peter Grier

## Air Force Launches AEF Cycle 2

The Air Force's evolution into an Expeditionary Aerospace Force passed a major milestone on Dec. 1 with the beginning of Aerospace Expeditionary Force Cycle 2.

Officials said the start of a second round indicates that the concept is maturing and taking hold in the force.

During the cycle, each of the 10 AEFs will stand ready for immediate deployment during a three-month window. In addition, two standing Aerospace Expeditionary Wings (assigned to Seymour Johnson AFB, N.C., and Mountain Home AFB, Idaho) will rotate on-call status every 120 days. If needed, the on-call unit will respond quickly to a pop-up contingency anywhere in the world.

Finally, the Air Force's five lead mobility wings will be ready to help out in humanitarian crises.

"Since the first AEF cycle began Oct. 1, 1999, we have greatly improved deployment predictability and stability for our Air Force members," said Brig. Gen. Dennis Larsen, commander of the Aerospace Expeditionary Force Center at Langley AFB, Va.

## Second Crash Clouds Osprey's Future

The second lethal crash of a V-22 Osprey in 1999 has led to a pause in flying for all models of the tilt rotor aircraft and raised questions about the future of the V-22 program.

The Marine Corps suspended all MV-22 operations one day after the Dec. 11 accident, in which an aircraft returning to its North Carolina base following a night training mission inexplicably plummeted to the ground only minutes from the airfield.

The crash killed four persons, including the pilot, Lt. Col. Keith M. Sweaney, the service's most experienced tilt rotor pilot and the program's test director.

Sweaney managed a Mayday call before the crash, but gave no word as to why he was in trouble.

Flight tests of the CV-22 Air Force version of the tilt rotor were also suspended following the accident. The



USAF photo by SrA. Greg L. Davis

*On the flight line at Shaw AFB, S.C., A1C Derreck Stewart's breath condenses in the frigid January air. The F-16CJ crew chief from the 78th Fighter Squadron dressed warmly for his work, preparing a jet for an early morning training mission.*

## National Security Heavyweights Join the Bush Team

When it comes to national security, George W. Bush will be guided by the voice of experience. Several voices, in fact.

The President, himself a novice in world affairs, takes office with support of a highly experienced vice president, **Dick Cheney**, who served as Secretary of Defense under President George H. Bush in 1989-93 and played a major role in the planning and execution of the Gulf War.

Early signs were that Cheney would exert significant influence on US policy formulation.

In the weeks preceding his Jan. 20 inauguration, Bush also pulled together a veteran group of Republican defense and foreign policy all-stars to fill key appointive posts.

■ **Secretary of Defense: Donald H. Rumsfeld**, a prominent Republican who served as President Ford's Pentagon chief in the period 1975-77, has been deeply involved in missile defense and military space issues in recent years. The President-elect tapped Rumsfeld for the job on Dec. 28, declaring, "He's going to be a great Secretary of Defense—again."

■ **Secretary of State: Retired Army Gen. Colin Powell**, the former Chairman of the Joint Chiefs of Staff, 1989-93, is another key Gulf War figure selected for high office. Powell is perhaps best known for his advocacy of the use of "decisive" force in any overseas US engagement. He also warns that Washington should be more selective when committing forces abroad.

■ **National Security Advisor: Condoleezza Rice**, Bush's principal security advisor during the Presidential campaign, has intimate knowledge of Russian affairs and arms control. She served on the National Security Council staff from 1989 to 1991 as director and then senior director of Soviet and East European affairs, and then as special assistant to the national security affairs advisor.

## USAF, Boeing Commercial C-17

In an effort to boost the number of big airlifters available in a crisis, the Air Force will help Boeing create a commercial market for the C-17, service officials said in December.

Under the arrangement, the Air Force would work to ease restrictions on the sale of the C-17 to commercial operators and pay a fee to them that would guarantee the service's access to the aircraft—dubbed BC-17X—in a crisis. It would mark the first time that aircraft in the Civil Reserve Air Fleet would offer oversize/outsize cargo capability.

USAF would also obtain the cost benefits of maintaining the rate of production on the C-17 at 15 aircraft a year, which is considered the most efficient rate. The Air Force's 80-aircraft multiyear buy of the C-17 is beginning to wind down, and in the absence of more orders, the production rate will decrease and the service will pay more for each aircraft beyond the previously planned fleet of 120 aircraft. The production rate dips to eight in Fiscal 2003, with long-lead funding for only five more now in the budget pipeline.

The Air Force is expected to need as many as 50 more C-17s to meet airlift obligations identified under the latest Mobility Requirements Study.

Darleen Druyun, principal deputy assistant secretary of the Air Force for acquisition and management, said if the freight industry were to buy 10 C-17s, USAF would obtain a substantial wartime airlift capability at a fraction of the cost of buying the aircraft for organic service use. There would be an acquisition cost savings of \$1.5 billion to \$2.5 billion, plus a further savings of \$6.8 billion to \$7.3 billion in operating costs over 20 years of service. Of course, the commercial aircraft would not be in the day-to-day operating fleet but would be a significant way "to reduce risk" in meeting wartime surge requirements, she said.

A private study done for the Air Force identified a potential market for 10 C-17s in the current decade and possibly many more as further commercial applications are developed for the airlifter. The figure of 10 is "highly conservative," Druyun said. Sufficient work could be found for as many as 18 to 26 of the aircraft, without cutting into the oversize/outsize market being served by a handful of Ukrainian An-124 Condor transports. USAF and its consultants predict an annual growth of 6 to 17 percent in the need for commercial oversize/outsize cargo aircraft.

Besides commercial work, the aircraft could also be hired to support US government humanitarian relief operations, to carry out missions for the Federal Emergency Management Agency, or other nonmilitary operations when Air Mobility Command doesn't have an airlifter available.

"I know we will have to buy more aircraft," Druyun said, and "innovative" ways of meeting airlift requirements within expected budgets have to be explored.

Freight-carrying companies were invited to a symposium in January to assess the industry's interest in buying the airplanes.

Druyun said USAF was willing to consider buy-back clauses in the sales to get banks to approve financing of such ventures and that USAF could buy insurance against having to make such buy-backs.

Commercial operators of the C-17 would likely be guaranteed a certain percentage of CRAF contracts, about 20 per-

cent, according to Col. Greg Lockhart, the Air Force's deputy director of global reach programs.

Bugs still need to be worked out of the concept, Druyun acknowledged. The C-17 is still on the State Department's list of restricted armaments. "We would work to get it off," she said. Likewise, the State Department might have veto power over where the commercially owned aircraft could fly overseas and might have to issue export licenses to send a part if a C-17 broke down on a foreign airfield.

However, Druyun said the problems can be worked out and anticipated that the market for C-17s could "support itself" without any US government work by 2010.

The concept would, however, require that the Air Force itself buy at least 50 more C-17s, Druyun admitted. Without that production base, it would not be economically feasible to build commercial C-17s. The additional BC-17Xs would also make the military C-17 cost-efficient enough to keep it attractive to other allied militaries to consider for their own air forces. Britain will lease four of the airplanes for its military use.

While it's likely the C-17s sold to commercial users would be slightly modified to remove some sensitive equipment—such as self-defense anti-missile countermeasures—Druyun said she's hoping for a very high degree of commonality on the production line.

"Two production lines defeat the purpose" of the arrangement, she said.

To sweeten the deal, USAF would likely not charge end users the typical fees to defray research and development costs.

"I'm buying a readiness option," Druyun explained. "I won't charge myself ... to get it. That wouldn't meet the commonsense test." However, operators would negotiate pricing with Boeing, not the Air Force.

Maintaining the production line has become an acutely important issue because deliveries of C-17s are now running an average of 132 days ahead of schedule.

Boeing never succeeded in getting the State Department to relax its rules on selling or exporting a commercial version of the C-17, called the MD-17. However, Druyun said she feels the State Department can approve the BC-17X because the technology involved is simply "a cargo airplane" and not a weapon system as such. Early on, it made sense to be "conservative" in withholding the C-17, but the same technologies can now be found on the 747-5400 freighter, which is liberally sold overseas, she noted.

The concept would not complicate the depots issue, she said, because it would only bring more airplanes into the depot pipeline.

"There will be more work for the depots ... not less," she said.

Druyun said the concept should be "very attractive" to commercial interests because it represents a chance to get in on the ground floor of a new market with guaranteed work while sharing the risk and cost with the government.

US Transportation Command is enthusiastic about the concept, Druyun said. The board of directors exploring the concept includes Druyun, USTRANSCOM Commander in Chief Gen. Charles T. Robertson Jr., and Boeing chief Harry Stonecipher.

—John A. Tirpak

Air Force plans to purchase 50 of the tilt rotors to replace its aging fleet of MH-35J Pave Low helicopters. The Marines plan to buy 360 MV-22s by 2013 and have so far received 10 production models. The Navy plans to buy 48.

"We have never had anything happen to this aircraft that was not [caused by] human factors in the past,"

said Lt. Gen. Fred McCorkle, Marine Corps deputy commandant for aviation. "We don't know yet what caused this one."

McCorkle, at a meeting with reporters Dec. 12, conceded that the V-22 program could be said to be in trouble.

But he added that "if there was something wrong with it to cause this

accident, we plan on finding out what it was and fixing it."

### Delay Sought in V-22 Decision

Significant delays in the V-22's acquisition cycle now appear inevitable.

The Pentagon had been prepared to decide whether to proceed with full-rate production of the aircraft in late December. That decision has

now been pushed forward to March or April at Marine Corps request.

Secretary of Defense William S. Cohen named an independent blue-ribbon panel to study the airplane's performance and safety. The members are retired Marine Corps Gen. John R. Dailey, retired USAF Gen. James B. Davis, Norman R. Augustine, and Eugene E. Covert.

Throughout its development the V-22 has attracted both committed proponents and fierce critics. Vice President Dick Cheney, for one, tried to kill off the program when he was Secretary of Defense.

An April Osprey crash near Tucson, Ariz., which killed 19 Marines was caused by a chain of human errors that led to a too-speedy descent, according to the results of an accident investigation board. In 1992, an engine fire caused a test aircraft to crash, killing seven.

### **Fire Destroys Missile Alert Facility**

A devastating fire Nov. 30 raced through and destroyed an Air Force Missile Alert Facility near Minot AFB, N.D. No one was injured during the incident, which was the first major fire at an MAF.

"All weapons systems are safe and secure," said Col. Kim McKenzie, 91st Space Wing commander at Minot, on Dec. 1.

Throughout the fire, the two-member missile crew working in the underground Launch Control Center continued to carry out its normal duties of monitoring 10 Minuteman ICBMs. By closing the blast doors, they protected themselves from the flames some 65 feet over their heads.

Missileers have enough food, water, and air to maintain sealed underground operations for several days. Control of their ICBMs can be transferred to another LCC if necessary.

Crews train constantly for just such a situation, said base officials. A normal crew change took place after the fire was extinguished.

Authorities had not determined the cause of the fire, which was discovered around 5 a.m. when some of the 13 inhabitants of MAF Golf-01 smelled smoke. Above-ground personnel were quickly evacuated and fire crews from the base and surrounding towns responded within minutes. Still, the blaze spread rapidly at the 1960s-era MAF, valued at around \$2.5 million.

### **Sidewinder Update Completed**

The Missiles Division of the Space

and Special Systems Management Directorate, at Warner Robins Air Logistics Center in Georgia, recently celebrated the completion of a major program upgrade with the building of the last updated AIM-9M-9 Sidewinder missile.

The Sidewinder short-range air-to-air heat-seeking missile is one of the US Air Force's most trusted weapons and is used by most USAF fighter aircraft. The upgrade was intended to improve counter-countermeasure capability.

"Enemy aircraft throw out flares to confuse the missile and we corrected

that problem," said Paul Wellborn, deputy chief of the Missiles Division. "It gives the warfighter's missiles a higher probability of a kill."

The program shipped 6,600 modified weapons to Air Force field units. Some 179 deliveries were made to 84 locations in the US and around the world.

### **DoD Helps Save Iridium Satellites**

The Pentagon on Dec. 5 agreed to pay Iridium Satellite LLC \$72 million for two years of satellite communications services. The contract gives 20,000 government users unlimited

## **Lockheed Martin Naval JSF Takes Flight**

The X-35C, Lockheed Martin's concept demonstrator for its proposed Joint Strike Fighter naval variant, flew for the first time Dec. 16, in a 27-minute flight that kicked off a planned short but intense period of testing and evaluation.

Lockheed Martin pilot Joe Sweeney flew the X-35C from the company's Palmdale, Calif., facility to Edwards AFB, Calif. Along the way he raised the landing gear, performed rolls, sideslips, and aircraft checks, and reached 10,000 feet altitude and a speed of nearly 300 mph. Sweeney reported the flight was "very smooth."

About two months of flight testing are anticipated with the X-35C, to explore low-speed handling qualities, approaches and takeoffs at varying speeds, and simulated carrier landings.

The JSF program, in which Boeing is the other competitor, aims to develop a highly common family of aircraft for three of the armed services. The Air Force requires an inexpensive yet stealthy replacement for its large fleet of F-16s; the Navy needs a stealthy, longer-ranged attack airplane/fighter, and the Marine Corps wants a stealthy Short Takeoff and Vertical Landing fighter for close air support of its troops.

The X-35C approximates the naval version of Lockheed Martin's airplane. It has larger wings than its Air Force version, as well as stronger landing gear to deal with hard carrier landings. The X-35A, which characterizes the USAF version, completed its month-long flight test program on Nov. 22, when it went back to the factory to be refitted into a demonstrator for the Marine STOVL model. It will be rechristened the X-35B and begin flight tests in the spring.

The concept demonstrator aircraft—Boeing's versions are the X-32A, B, and C—are intended to generate data to verify claims made by both companies about the performance and durability of their designs. They are not intended to be prototypes, and in fact, Boeing's concept demonstrator aircraft varies significantly in appearance from what is called its Preferred Weapon System Concept.


However, Lockheed Martin aimed to produce demonstrators very close to its proposed final design.

"Our X-35C is highly representative of the aircraft we've planned for production, so its in-flight behavior will be an extremely accurate predictor of the production airplane's flight characteristics," asserted Tom Burbage, Lockheed Martin executive vice president and JSF program general manager. He added that the Lockheed Martin naval JSF is a "very low observable" design, meaning its stealth characteristics are on a par with—or better than—the F-117 stealth attack airplane in USAF service.

Such a degree of stealth will give the Navy "first look, first shot air supremacy" in the air-to-air role, Burbage said.

The JSF competitors are to submit their proposals this spring; a winner in the contest, which is valued at more than \$300 billion over 20 years—including export as well as domestic orders—will be chosen in the fall. Plans call for the first JSFs to enter service around 2008.

—John A. Tirpak



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## Military Vote Bill Dies in Senate

A bill that would have allowed, but not required, polling places on military bases died when the Senate adjourned for 2000 without taking it up for consideration.

Republicans said some Democratic Senators objected to the bill, which had passed the House on Oct. 12. The Clinton Administration was opposed to it, as well. The Republicans said that, rather than try to force it through in the session's waning days, they would fold their hands and try again in 2001.

A Civil War era statute prohibits the establishment of voting places at active duty military establishments, although some isolated bases, such as Edwards AFB, Calif., have obtained waivers from the policy on an ad hoc basis.

Backers of the bill believe the repeal of this law would lower a barrier that now stands in the way of military men and women exercising their democratic franchise.

In the House, the bill was chiefly sponsored by Rep. Bill Thomas (R-Calif.), whose district includes Edwards.

The ballot mess in Florida simply demonstrated why a more rational approach to military voting is needed, said backers.

The Administration objected that the bill could politicize bases by allowing partisan activity on military grounds. It would help relatively few personnel, since many in the military vote absentee.

airtime and was a huge boost for the Iridium satellite network.

The system provides mobile, cryptographically secure telephone services to small handsets anywhere on the globe, 24 hours per day, according to DoD. Since the Navy alone needs more than twice DoD's current capability, Pentagon officials say they need the Iridium capacity.

Special forces units, search-and-rescue crews, and polar operation groups are among the military customers DoD believes will be heavy users of Iridium service. Early this year, per the Pentagon, Iridium will offer a classified capability.

The \$5 billion Iridium system was designed, built, and operated by Motorola initially. Its purpose was to provide secure, wireless communications to customers anywhere in the world. The Motorola-owned Iridium LLC was charging some of its 60,000 customers \$5 per minute when it went bankrupt in 1999, less than a year after start-up.

A new company, Iridium Satellite LLC, purchased the assets of Iridium LLC last November. The new Iridium has contracted with Boeing to operate and maintain the satellite system. Company officials believe they need only find 40,000 additional private subscribers at 80 cents per minute to break even.

## DoD Delays Anthrax Vaccination Again

DoD on Nov. 30 announced it will further reduce the scope of its anthrax vaccination effort. The reason: a dwindling vaccine stockpile.

Service personnel now in or preparing to enter the Korean theater of

operations will no longer receive vaccinations, said DoD spokesman Ken Bacon. That will conserve approximately 12,500 doses monthly.

Only personnel headed to Southwest Asia will now get the shots. About 5,000 doses monthly are administered to those headed to the Gulf region.

"We want to conserve our supplies and still protect people going to the highest threat areas," said Bacon. "We know the Iraqis produced anthrax. We know they weaponized anthrax."

At the revised pace of usage, cur-

rent stocks of anthrax vaccine are predicted to last until November. The Pentagon expects the sole current manufacturer of anthrax vaccine, BioPort Corp. of Michigan, to resume full-scale production in October.

## RAND Says Take a Look at Nerve Gas

A new RAND study says the US cannot rule out exposure to low levels of Iraqi nerve gas as a factor in what has come to be known as Gulf War syndrome.

The RAND work called for more study into the long-term effects of exposures to small doses of chemical warfare agents—such as those that may have affected some 100,000 US troops near Khamisiyah, an Iraqi ammo dump blown up after the war.

It was only after Khamisiyah's destruction that US intelligence determined the site had contained a number of warheads filled with nerve agents.

"It is not possible to eliminate nerve agents categorically from playing a role in some cases of illnesses of Gulf War veterans," said the RAND report.

Even so, the report found no existing scientific evidence that nerve gas-related symptoms would appear years after exposure in a war. Of Gulf War vets who have reported health problems, approximately half did so a year or more after the end of the conflict.



The 2001 Mars Odyssey probe is destined for a trip to Mars in April, but in early January, it sits at Buckley AFB, Colo., awaiting a flight aboard a C-17 flown by an aircrew from Air Force Reserve Command's 315th Airlift Wing to the Kennedy Space Center in Florida. The spacecraft will be launched by a Delta II rocket and spend seven months in flight, on a more than 400-million-mile voyage.

USAF photo by SSgt. Devin Fisher

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## Cohen Pays Tribute to His Hollywood Heroes

On Nov. 30 Secretary of Defense William S. Cohen threw a black-tie bash at a Beverly Hills, Calif., hotel in an effort to foster goodwill between the military and moviemaking professionals.

Cohen presented Jack Valenti, president of the Motion Picture Association of America, with the first Citizen Patriot award for his efforts on behalf of those who wear America's uniform. Valenti, a top lobbyist and former aide to President Lyndon Johnson, is also a decorated ex-Army Air Corps pilot with 51 combat missions over Italy to his credit.

USO icon Bob Hope received a Spirit of Hope award for his decades of involvement with military entertainment. The honor was accepted by Hope's son, Tony.

Cost of the bash? About \$295,000. That includes the price of flying 94 military performers to Los Angeles and a \$218-per-person dinner for the likes of Steven Spielberg and "JAG" star Catherine Bell.

The price tag was worth it, insisted defense officials. A prime-time recruiting ad costs \$300,000 a minute. Furthermore, the dinner fits in with Cohen's long-standing goal of reconnecting the US military with key segments of American society.

"I think it will have benefits for years to come," said department spokesman Ken Bacon.

## DoD Issues New Report on Khamisiyah

DoD has revised its best estimate as to which US personnel were in the Khamisiyah danger zone at the time of the weapons storage area's destruction.

"Khamisiyah is the benchmark incident for all our investigations," said Bernard D. Rostker, undersecretary of defense for personnel and readiness and special assistant for Gulf War illnesses. "Today, after three more years of investigation and more precise computer simulations, we can present a better picture of the events than was possible before."

New CIA estimates about the volume of chemical weapons at the site, plus a more detailed DoD study of what units were where at the time of explosions, have led Pentagon experts to conclude that 101,000 people possibly were exposed to low levels of toxins at Khamisiyah. Previous estimates had put the total at 99,000.

Furthermore, DoD now believes that 32,000 of the original 99,000 number were never in a hazard area at all, while 34,000 personnel originally thought clear of the exposure footprint are now inside the boundary of the area of concern.

Officials said they were notifying all affected servicemen and -women of the change.

## Link Between Kelly, Illness?

Several studies, including some partly funded by the Air Force, are seeking to determine whether former and current workers at Kelly AFB, Tex., are at unusually high risk for acquiring a rare disease.

A San Antonio chapter of the Amyotrophic Lateral Sclerosis Association fears the workers face disproportionately high risk for ALS, also known as Lou Gehrig's disease. The *San Antonio Express-News* first reported a suspected link.

At least 39 Kelly workers have been diagnosed with ALS, according to local association officials. They say that number is worrisome, since the rate in the general US population is one to two new cases of ALS per year for every 100,000 people.

But epidemiologists from Brooks AFB, Tex., say they are not so sure. Considering the number of people who have passed through the base, anywhere from 15 to 43 ALS cases

over the past 20 years might not be out of the ordinary.

Kelly, picked for closure during the last round of base realignment and closure actions, will finish conversion this year into KellyUSA, a commercial air cargo and logistics site with a projected 21,000 workers.

## USAF Seeks Retired Aviators

Under a newly authorized Retired Aviator Recall Program, USAF seeks up to 208 eligible retired pilots, navigators, and air battle managers who want to fill headquarters rated staff positions.

Those eligible must have separated from the service at the rank of lieutenant colonel and below and have been retired no more than five years.

"This ensures they have current rated experience," says Col. Kathleen Pivarsky, chief of the military policy division at the Air Staff. "The officers will fill key rated staff positions above the wing level for up to nearly three years."

The program will continue through Sept. 30, 2002. Participants must be released from active duty by Sept. 30, 2003.

This recall effort is just one part of the overall plan to ease a headquarters personnel crunch caused by the Air Force goal of 100 percent rated manning at the wing level. Combat units are fully filled, but higher staff are feeling the pinch, said officials.

"This program will allow them to recapture valuable rated expertise," said Pivarsky.

The program was contained in the

## More Cold War Cat and Mouse?

Russian military aircraft buzzed the aircraft carrier USS *Kitty Hawk* on two occasions this fall, the Department of Defense confirmed.

Both incidents occurred while the carrier was on maneuvers in the Sea of Japan. The Cold War-style incidents contributed to a heightened alert status of the *Kitty Hawk* group.

"They have changed their procedures to deal with flyovers like this," said Pentagon spokesman Ken Bacon. He declined to provide details other than to say the alert posture had been enhanced.

The first incident took place Oct. 17. Two Russian jets—an Su-24 and an Su-27—came within a few hundred feet of the giant US warship.

Navy aircraft were delayed getting into the air to chase the interlopers because the carrier was refueling and the commander saw no need to break off refueling operations, according to Bacon.

"These planes were acquired by the battle group's radar at some distance off," said Bacon. "They were followed."

Then on Nov. 9 two Russian aircraft overflew *Kitty Hawk* at 1,000 to 2,000 feet. The Russians, inexplicably, e-mailed to *Kitty Hawk* some reconnaissance photos taken by the airplanes.

US officials said the overflights were nothing more than a curiosity. They have similarly downplayed the significance of Russian Tu-95 bombers being moved to Siberian air bases close to US Alaskan airspace.

"We regard the Cold War as being over," Bacon sniffed.

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### **USAF Ups Ante in ACP Program**

The Air Force is sweetening the pot of its Aviator Continuation Pay program as it continues to try and lure pilots away from civilian employment opportunities.

The highlights of the new 2001 ACP program include a higher cap on lump-sum payments, USAF officials announced Nov. 29. The cap on up-front cash for first-time eligibles has been raised from \$100,000 to \$150,000, not to exceed 50 percent of the total agreement value.

### **China Tested New Missile as Shelton Visited**

The Pentagon on Dec. 12 confirmed that China carried out a successful test of its newest long-range nuclear missile during a November visit by Gen. Henry H. Shelton, Chairman of the Joint Chiefs of Staff.

The DF-31 ICBM is road-mobile, carries a single warhead, and has an estimated 5,000-mile range. The Nov. 4 test inside Chinese territory did not reach maximum range, said Pentagon spokesman Ken Bacon.

"This is a program that's been ongoing—the DF-31 program—since the late 1980s, and the test was pretty much as expected in terms of timing and in terms of results," said Bacon.

Some analysts saw the timing of the test as a shot across the bow to the United States as a new Administration prepared to come to power in Washington. Shelton's Nov. 3–5 visit took place on the eve of US national elections.

Bacon downplayed the political significance of the test. "China has been working on modernizing its long-range missile program ... for some time," said Bacon.

### **Boost DoD Budget 20 Percent, Say Brown and Schlesinger**

The following is excerpted from a Dec. 20 *Washington Post* article by James Schlesinger and Harold Brown. Schlesinger was Secretary of Defense (1973–75) under President Ford, while Brown was the Pentagon head (1977–81) under President Carter.

"Over the next decade, the nation will need to spend significantly more—certainly hundreds of billions of dollars—on defense and foreign assistance if we are to maintain a military force capable of doing the things that both candidates seemed to feel it would have to do.

"The US military that President-elect Bush inherits, while far superior to any other, is not what it needs to be. ... This is a problem that cannot be solved without more money. The alternative, a substantial reduction in force structure, must be resisted. Recent events in the Middle East should underscore that we are living in unpredictable and even dangerous times. A strong military is a bulwark against threats to US vital interests and to our homeland.

"While the additional sums required to restore our military are large in absolute terms, it must be remembered that the United States today spends slightly less than 3 percent of its gross domestic product on defense, the lowest level since before Pearl Harbor.

"Even with all the efficiencies and management improvements that are politically feasible, to make up the current shortfall will require a phased increase in defense spending to a level about 20 percent higher than the present one. An additional one-half percent out of the national economic dollar to be allocated to national security is well within the capability of the US economy."

"While this does not increase the total contract amount, it enhances the attractiveness of our longer-term agreements," said Lt. Gen. Donald L. Peterson, deputy chief of staff for personnel.

The Air Force is also offering more options to tailor these up-front payments to individual needs, said Peterson.

Other program features include:

- Agreement options of three or five years in length, as well as agreements to 20 or 25 years of aviation service.

- Contract values at \$15,000 per year for agreements three years or less in length, and \$25,000 annually for agreements longer than three years.

- Flexibility to allow pilots holding agreements struck in Fiscal 1999 or earlier to convert or amend their pacts to fit the new structure.

Pilots should not view ACP as an entitlement program that will be available throughout their careers, said officials. Pilot bonuses, like selective re-enlistment bonuses for the enlisted force, are tactical force-shaping tools.

"As conditions change there may be no need to offer similar agreement lengths and payment amounts in the future," said Peterson.

### **Cohen Says Allies Must Invest in NATO**

Secretary of Defense William Cohen said the NATO allies must invest

in new technologies outlined in the Defense Capabilities Initiative. Otherwise, said the Pentagon chief, the alliance will become a "relic" of the past.

Cohen delivered his views to attendees at a NATO Defense Ministerial in Brussels, Belgium, on Dec. 5.

Operation Allied Force revealed huge disparities in the military capabilities of NATO members and showed that significant allocations of money are necessary to improve the alliance's ability to fight in a unified manner.

Capabilities outlined in the DCI include more sealift, more airlift, and more precision guided munitions, as well as a better command-and-control system.

"I indicated NATO could become a relic if a number of factors were to present themselves and if a number of caveats were not at least adhered to," Cohen told reporters.

Cohen also said the US supports

### **British Cast Jaundiced Eye on the ERRF**

A Gallup survey finds that British subjects don't exactly relish the idea of participating in the new European Union defense force.

A special Gallup survey for *The Telegraph* of London found serious doubts about the benefits of joining the EU's so-called European Rapid Reaction Force.

Half of Gallup's respondents see the force as signaling the ultimate creation of a European Union army. Of those who believe that the force will lead to such an army, 61 percent say they are opposed to the idea.

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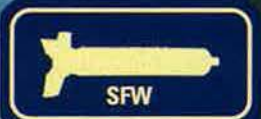
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the European Union's drive to create its own European Rapid Reaction Force—but that planning for such a force should be done within the existing NATO infrastructure.

Otherwise the two organizations risk creating duplicative planning teams.

"To establish such duplications would in fact result in a weakening of NATO capabilities and result in a situation in which we would have the United States of America, Canada, and European allies responding to threats and crises on an ad hoc and fragmented and inefficient fashion," said Cohen. "That is not desirable for the Europeans or for the United States."

### **Tricare Proposes Simplified Pharmacy Schedule**

Tricare is moving to simplify its schedule of co-payments for prescription drugs, per a Congressional mandate from the Fiscal 2000 defense authorization act.

The new co-pay schedule will be the same for all beneficiaries and will be based on whether users choose generic or brand-name medication.

If approved, it will take effect on April 1, 2001.

"We're trying to improve the Tricare pharmacy benefit, to make it simpler to understand and more uniform, consistent, and equitable for everyone," said Army Lt. Col. William G. Davies, director of DoD Pharmacy Programs.

Under the new schedule, Tricare-affiliated retail drug stores would

### **Legislation Forges Closer Ties Between USAF, CAP**

New legislation promises to bring a new era of cooperation between USAF and the Civil Air Patrol, claim USAF officials.

CAP provisions within the Fiscal 2001 National Defense Authorization Act set clear lines of authority and establish the level and type of support CAP will receive as an auxiliary of the Air Force.

It sets policy for equipment, personnel, and financial support. The legislation also establishes a Board of Governors having Air Force, CAP, and private sector members.

The new law significantly broadens the ability of the Air Force to support the Civil Air Patrol at every level. It is called the most significant legislation affecting the organization in nearly 50 years.

"The legislation will foster a closer relationship between the Air Force and the Civil Air Patrol," said Brig. Gen. Robert D. Bishop Jr., USAF's deputy director of operations and training and chairman of the CAP Management Improvement Team.

"The Air Force will ensure the CAP is properly supported and not overextended," he said.

charge beneficiaries \$3 for up to a 30-day supply of generic prescription drugs and \$9 for brand names.

Rates would be the same at the National Mail Order Pharmacy program for up to a 90-day supply—a better value.

Tricare Prime enrollees would still pay a 50 percent point-of-service penalty after meeting their deductible if they opt to use non-Tricare affiliated retail outlets. Other Tricare participants would pay whatever is greater: a 20 percent co-pay or a \$9-per-prescription charge.

Prescriptions filled at military hospital and clinic pharmacies would still

have no co-pay charge. "There are cost savings available to the majority of the beneficiary population," said Davies.

### **Kirtland Housing Project Moves Forward**

USAF's largest current effort to privatize its on-base housing—involving 1,890 old homes at Kirtland AFB, N.M.—has developers lined up, waiting to bid for the work.

During the fall, an industry forum for potential bidders, sponsored by the Air Force Center for Environmental Excellence at Brooks AFB, Tex., attracted 23 developers from 10 states, as well as eight prime contractors, 17 subcontractors, six suppliers, and eight architectural/engineering firms, reported the *Albuquerque Tribune*.

Specifically, the project will entail the destruction of 1,573 houses built in the 1940s and 1950s, construction of 953 new ones to start, plus a long-term management contract. The winning bidder will own the homes themselves, while leasing the land from the government under 50-year terms.

This is one of the projects under a 10-base pilot program the Air Force began in 1996. Three privatization contracts have been awarded so far. The first was at Lackland AFB, Tex., for 420 homes, second at Robins AFB, Ga., for 670 units, and third, Dyess AFB, Tex., 402.

These housing initiatives are part of a DoD-wide push to replace or refurbish roughly 200,000 substandard units that DoD has today.

### **IG Reviews Military Ballot Issues** Secretary of Defense William Co-

## **Senior Staff Changes**

**RESIGNATION:** Carol DiBattiste.

**RETIREMENTS:** Lt. Gen. David W. McIlvoy, Brig. Gen. Rodney W. Wood.

**CHANGE:** Maj. Gen. Walter E.L. Buchanan III, from Spec. Asst., DCS, Air & Space Ops., USAF, Pentagon, to Dir., Ops. & Tng., DCS, Air & Space Ops., USAF, Pentagon.

**COMMAND CHIEF MASTER SERGEANT RETIREMENT:** CMSgt. David Hill.

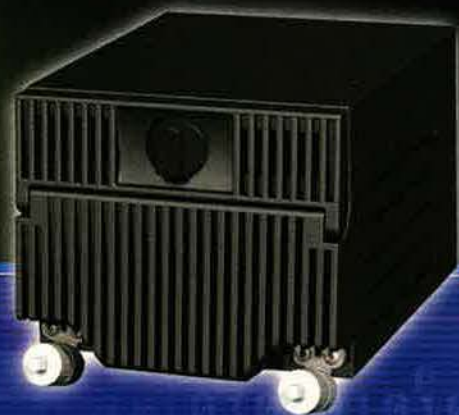
**CCMS CHANGES:** CMSgt. Billy Blackburn, to Superintendent, AF Basic Military Tng., 737th Tng. Gp., Lackland AFB, Tex. ... CMSgt. Donald W. Hatcher, to CCMS, AIA, Kelly AFB, Tex.

**SENIOR EXECUTIVE SERVICE RETIREMENTS:** Morris D. Goodrich, Steve Smith.

**SES CHANGES:** Christine M. Anderson, to Prgm. Dir., MILSATCOM Jt. Prgm. Office, SMC, Los Angeles AFB, Calif. ... Daniel S. Butler, to Exec. Dir., AFOSI, Andrews AFB, Md. ... Kathern L. Gaskins, to Dir., Systems Acq., SMC, Los Angeles AFB, Calif. ... Robert B. Green, to Dep. Asst. Secy., Reserve Affairs, SECAF, Pentagon ... Stephen C. Korn, to Associate Dir., Weapons, AFRL, Eglin AFB, Fla. ... James D. Marlowe, to Technical Dir., AFOTEC, Kirtland AFB, N.M. ... Carl C. McRorie, to Dir., Log. Mgmt., Oklahoma City ALC, Tinker AFB, Okla. ■

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## Clinton Offers Deep Regret Over No Gun Ri

President Clinton on Jan. 11 expressed "regret" that Korean civilians were killed by retreating US troops near the village of No Gun Ri at the start of the Korean War.

Even so, Clinton stopped short of saying that the killings were committed under orders. Nor did he apologize for the US actions, as many South Koreans had demanded.

"On behalf of the United States of America, I deeply regret that Korean civilians lost their lives at No Gun Ri," Clinton said in a written statement.

A US official on Dec. 8 said that US and South Korean negotiators in Seoul reached a mutual understanding that American soldiers did, in fact, kill South Korean civilian refugees in the chaotic early days of the Korean War.

The agreement marked the first US acknowledgement that US forces, fearful of North Korean infiltrators, fired into refugees huddled under a railroad trestle near No Gun Ri in July 1950.

Was it deliberate, however? Were the troops ordered to shoot the civilians? No, said Secretary of the Army Louis A. Caldera at a Dec. 14 session with reporters. American investigators have found no documentary evidence of such orders, instead concluding that the killings were caused by panic among green troops.

hen on Nov. 28 instructed DoD's Inspector General to study problems concerning military absentee ballots.

He took the move following widespread reports during the post-election furor in Florida about such ballots being discarded because they lacked postmarks.

"The Secretary's goal and his instruction to the IG is to make sure we have a system that makes every vote count," said Pentagon spokesman Ken Bacon.

DoD regulations require postmarks on all mail, including such postage-free mail as absentee ballots. The IG will examine current procedures for handling ballots, cancellation, and postmarking, and how those procedures are actually implemented.

### Large Housing Allowance Increase Kicks In

The Pentagon on Dec. 21 announced the Fiscal 2001 Basic Allowance for Housing rates, due to give service members one of the largest increases ever.

The new rates are part of the DoD initiative to eliminate service members' out-of-pocket expenses by 2005 and incorporate a number of major changes to the BAH program. In total, the planned increase in housing allowance funds for Fiscal 2001 above the Fiscal 2000 amount is more than \$700 million.

Average increases in the BAH are to range from 12 to 17 percent by grade, with the typical increase in the range of 14.5 percent. A typical married E-5's BAH will increase \$100 per month. A typical married E-8's pay will increase \$125.

Out-of-pocket expense, the portion of the typical member's housing

cost that the member is not compensated for, has been reduced from 18.8 percent in 1999 to no more than 15 percent in 2000. Out-of-pocket expense is to be reduced to 11.3 percent in 2001.

### US-Russia POW/MIA Group Renews Commitment

The US-Russian Joint Commission on POWs and MIAs in November renewed its commitment to continue cooperative efforts in search of information about the fate of missing servicemen.

The commission acted during a two-day session in Moscow.

The commission was established in 1992 by the US and Russian Presidents. It is a group of senior American and Russian officials that meets periodically to assess and to coordinate policy, research, and investigative efforts on clarifying the fate of missing American and Russian servicemen.

The group reported that, in August, a team went to Kamchatka in the Russian Far East and positively identified a US PV-1 patrol bomber missing in action since March 25, 1944. Plans for a full-scale excavation of the site this summer were launched.

Denis Clift, the US co-chairman of the Cold War Working Group, reported that the group has developed new information related to incidents of US aircraft lost near the borders of the Soviet Union during the Cold War.

Similar reviews have developed information on MIAs from the Korean and Vietnam Wars.

### 58th SOW Crew Rescues Skiers

Airmen of the 58th Special Opera-

tions Wing, Kirtland AFB, N.M., used a TH-53A Pave Low training helicopter to locate and then rescue two skiers missing in the Santa Fe National Forest.

The Dec. 19 rescue effort took less than three hours. The skiers had been missing overnight and had been exposed to below-zero temperatures.

The rescue was carried out by an aircrew from the 551st Special Operations Squadron and Pararescue Jumpers from Det. 1, 342nd Training Squadron. They assisted local search-and-rescue officials.

The crew located the skiers at about 11,000 feet altitude. Because the aircrew could not land in the area, one PJ was lowered to help the skiers put on harnesses, with which they were hoisted into the aircraft.

### Commander Rules in Case of C-130 Crash

The commander of USAF's 314th Airlift Wing dismissed court-martial charges against the pilot whose C-130 crashed at Ahmed Al Jaber AB, Kuwait, in December 1999, killing three and seriously injuring seven.

Instead, Brig. Gen. Paul J. Fletcher, the special court-martial convening authority, recommended Capt. Darron A. Haughn be punished under Article 15 of the Uniform Code of Military Justice. Haughn had faced trial on charges of dereliction of duty and negligent homicide.

Fletcher forwarded his recommendation to Maj. Gen. George N. Williams, 21st Air Force commander. Williams is the ultimate judge of disciplinary action against Haughn.

Under Article 15, Haughn could be formally reprimanded, arrested in quarters for 30 days, restricted to the base for 60 days, forced to forfeit half a month's pay per month for two months, or a combination of these punishments.

### Special Operators Rescue Downed Pilot

An MH-53 Pave Low crew of the 20th Special Operations Squadron, Hurlburt Field, Fla., on Dec. 13 rescued a downed F-16 pilot who had ejected into the Gulf of Mexico six miles from land.

The fighter, assigned to the 27th Fighter Wing at Cannon AFB, N.M., had been on a training mission while on temporary duty at Tyndall AFB, Fla., when the mishap occurred.

The crew of a Coast Guard HU-25 twin-engine jet from Mobile, Ala., located the pilot—Lt. Col. John Harrison—after a 20-minute search and



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dropped a smoke marker so the rescue helicopter could find him. Visibility was only about one to three miles with 300- to 400-foot ceilings.

The helicopter crew immediately spotted the pilot, who was obviously cold and tired but still conscious in the water, said Capt. Joe Decaro, the helicopter commander. The helicopter hovered low over the water so the downed pilot could grab onto a hoist. Two 20th SOS flight engineers on board, TSgt. T.J. Carmichael and SSgt. Gary Mishye, pulled him safely inside the helicopter.

**News Notes**

■ Pilot error was the cause of the crash of an Air Force Reserve Command F-16C near Tulia, Tex., on Aug. 28, according to Air Force investigators. Maj. Stephen W. Simons, who was killed, was performing unauthorized aerobatic maneuvers over the property of his in-laws when the accident occurred.

■ Engine failure was the cause of an Air National Guard F-16C crash into the ocean off Atlantic City, N.J., on Aug. 31, according to an accident report. A turbine blade separated and damaged the oil system and other power plant parts. The pilot safely ejected and sustained minor injuries.

■ The Air Force won the 2000 Armed Forces Basketball Tournament, held Nov. 15-17 at Charleston AFB, S.C. The margin of victory over the Marines, the defending champions, was 71-59.

■ On Nov. 24 the "Rocket Site" at Edwards AFB, Calif., was designated one of the nation's historic aerospace

sites by the American Institute of Aeronautics and Astronautics. Officially named the Air Force Research Laboratory Edwards Research Site, it is a 65-mile-square patch on the corner of the base that contains two-thirds of the nation's high-thrust static rocket test stands as well as unique space altitude and propulsion research facilities.

■ On May 1 the US Postal Service will issue a new first-class stamp to honor those who have served in the nation's armed forces. The stamp will feature a photograph of the flag and the phrases "Honoring Veterans" and "Continuing to Serve."

■ USAF successfully launched an Atlas IIAS rocket from Cape Canaveral AFS, Fla., on Dec. 5. Payload was a National Reconnaissance Office satellite.

■ A pilot's inadvertent killing of his engine caused the crash of an Air Force T-6A Texan II trainer near San Antonio on Aug. 31, according to Air Force investigators. The pilot, who was on an "instructor enrichment training" flight, turned off the engine when attempting to move the wing flaps lever. The pilot and the instructor pilot attempted to restart the engine with no success. They ejected safely, receiving only minor injuries.

■ The 357th Fighter Squadron, 355th Wing, Davis-Monthan AFB, Ariz., finished on top when Gila Bomb 00-2 wound up Nov. 17. Gila Bomb is a competition sponsored by 12th Air Force. Top Wrench for best maintenance team went to the maintainers of the 34th Fighter Squadron, 388th Fighter Wing, Hill AFB, Utah.

■ MSgt. Kenneth Taylor, 19th Special Operations Squadron, Hurlburt Field, Fla., has been named the inaugural winner of the Air Force Modeling and Simulation Achievement Award. Taylor won for his development of the Visual Threat Recognition and Avoidance Trainer, an interactive computer video system that provides realistic training for threat avoidance during hostile anti-aircraft engagements.

■ Capt. Roger Klaffka and SMSgt. Darryl Cooper, 352nd Maintenance Squadron, RAF Mildenhall, UK, have been named winners of the 2000 Gen. Lew Allen Jr. Trophy. The award is sponsored by the Air Force Chief of Staff and is presented to a base-level officer and NCO in recognition of outstanding performance in aircraft sortie generation.

■ The Air Force has awarded a \$53.6 million contract to GSD&M of Austin, Tex., to provide national, regional, and local ads and marketing support for service recruitment, retention, and public awareness. The contract includes post-advertising research and tracking as well as recruiter training and special event marketing.

■ The Pentagon's Joint Configuration Control Board recently made the Theater Battle Management Core System the system of record for air battle command and control. The TBMCS, developed by Electronic Systems Center at Hanscom AFB, Mass., combines a contingency theater air planning system, a combat intelligence system, and a wing command-and-control system into one integrated command-and-control system.

■ On Dec. 5 Secretary of Defense William Cohen held an awards ceremony in Brussels, Belgium, to honor the contributions of two Americans to NATO's continued development. Robert B. Hall, Secretary of Defense representative for Europe and defense advisor to the US ambassador to NATO, received the DoD Medal for Distinguished Public Service. Clarence H. Juhl, deputy defense advisor, received the Secretary of Defense Medal for Meritorious Civilian Service.

■ Six former Chairmen of the Joint Chiefs of Staff met Dec. 4 at the Pentagon with the current occupant of the office, Army Gen. Henry H. Shelton. Shelton was seeking the advice and perspective of retired Army Gen. Colin Powell, John Shalikashvili, and John Vessey, retired Navy Adms. William Crowe Jr. and Thomas Moorer, and retired USAF Gen. David Jones. ■

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At long last, the actions of the heroic PJ are fully recognized.

# Pitsenbarger, Medal of Honor

By John T. Correll, Editor in Chief

It was Easter Monday, 1966, in Vietnam. The US 1st Infantry Division was pushing through the dense jungle east of Saigon in search of the Viet Cong battalion known as D-800.

Three rifle companies—Alpha, Bravo, and Charlie—of the 2nd Battalion of the 16th Infantry Regiment were conducting the search near the village of Cam My. As the day wore on, the unevenness of the terrain led Charlie Company away from the other two.

Early that afternoon, Charlie Company flushed a Viet Cong platoon, killed several VC, and pursued the others deeper into the jungle.

The Americans knew from intelligence reports that D-800 was a first-line battalion with 400 troops and a backup force of women and children. Charlie Company had 134 troops.

The mismatch was of little concern, since the soldiers expected to be reinforced if they encountered the enemy in strength.

“What we didn’t know on Monday, April 11, was that we were walking straight into D-800’s base camp, and that the undergrowth was so ut-

terly dense in this part of the jungle that we couldn’t be reinforced easily,” said John W. Libs, who in 1966 was a first lieutenant leading C Company’s 2nd Platoon.

By mid-afternoon, D-800 had Charlie Company isolated and encircled. The VC sprang the trap, and the fighting grew desperate. Of the 134 men who went into the jungle that day, all except 28 would be either wounded or killed before the battle was over.

The nearest clearing where the Army could land a Huey medevac helicopter was four miles away, so as the casualties began to mount, a call went to Det. 6, 38th Aerospace Rescue and Recovery Squadron, at Bien Hoa, 20 miles northeast of Saigon. The Air Force’s HH-43 helicopters could lower a hoist to the jungle floor.

## Two Helicopters Respond

At 3:07 p.m., Bien Hoa got the call to go from the search-and-rescue control center in Saigon. The Army was reporting at least six casualties. With that many wounded to bring out, two helicopters would go.

A1C William H. Pitsenbarger was

*William H. Pitsenbarger stands outside an HH-43 “Pedro” in this photo, taken about 1965. As a highly trained Pararescue Jumper, he was both a medic and survival specialist.*



LOSE

STEP

in the alert trailer when the call came in. He would be the PJ—the Pararescue Jumper—on the second crew.

He spoke briefly with A2C Roy Boudreaux, one of the three airmen with whom he shared a cubicle in a Quonset hut. Pitsenbarger told him they were going to help an Army company in trouble. “There’s about a million VC in the area,” he said. “I don’t have a good feeling about this one.”

Pitsenbarger was 21 years old. He had been in Vietnam for eight months.

He had not yet completed his first enlistment in the Air Force. As a PJ, he was both a medic and a survival specialist. He had been through Army jump school at Ft. Benning, Ga., and qualified by the Navy as a scuba diver. He had also been to Air Force “tree jump” school, training that included three parachute jumps into a forest, wearing tree jumping suits.

He planned to leave the Air Force when his hitch was up. He had applied to Arizona State, where he hoped to study to become a nurse.

Search-and-rescue missions did not happen every day, but when they did, the choppers often flew multiple sorties, searching the jungles or shuttling between battle zones,



*Pitsenbarger sits in an HH-43 in flight in this October 1965 photo. The small utility helicopter was adapted for jungle rescue and along with a stretcher, litter, and medical kits, carried a forest penetrator as part of its equipment.*

bases, and field hospitals. Pitsenbarger had five oak leaf clusters to his Air Medal, each representing 25 flights over hostile territory, and more clusters were pending.

In March 1966, Pitsenbarger had descended from a helicopter into a burning minefield to rescue a Vietnamese soldier who had stepped on a land mine. For that action, he had

been recommended for the Airman’s Medal. It would be awarded posthumously.

When he was growing up in Piqua, Ohio, he had been called “Bill,” but to his colleagues at Bien Hoa, he was more often “Pits.”

#### **Problems With the Pickup**

The first rescue helicopter, Pedro 97, flown by Capt. Ronald Bachman, was airborne at 3:12 p.m. Pitsenbarger was on Pedro 73, which was close behind.

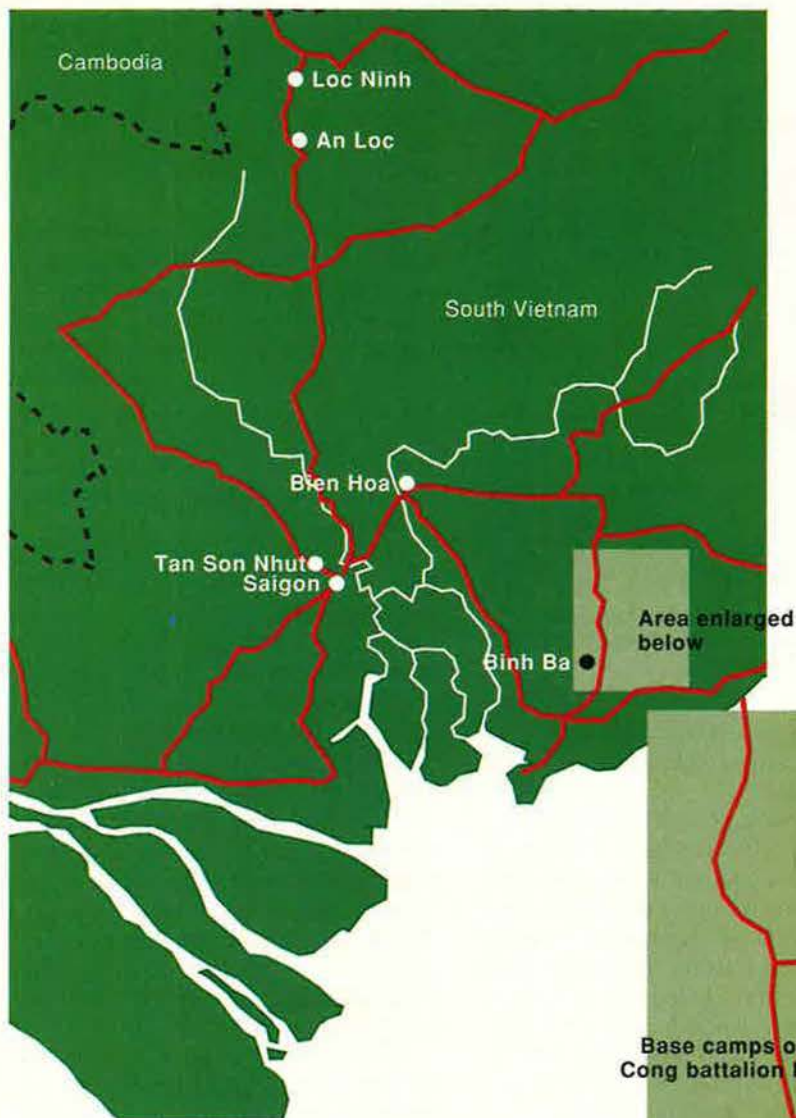
The first of the formidable HH-3 Jolly Green Giant rescue helicopters had recently arrived in Southeast Asia, but Bien Hoa did not have any of those. What the detachment there flew was the HH-43F Huskie—known everywhere as “Pedro”—the small utility helicopter that hovered over the runway, prepared for fire suppression, when an airplane landed with a gear malfunction, a warning light, or some other problem or emergency.

It performed that role at Bien Hoa, but it had also been adapted for jungle rescue. In that configuration, it carried two pilots, a crew chief, and a PJ, plus the forest penetrator, a litter, a stretcher, and medical kits.

The pilot of Pedro 73 was Capt. Hal Salem. The detachment commander, Maj. Maurice Kessler, was flying as copilot. Capt. Dale Potter, regularly the other pilot on the crew, had gone to Saigon to pick up some litters. Beside Pitsenbarger in the



*In this April 1963 photo, Pitsenbarger wears scuba gear. Scuba diving was just one of the special skills required of PJs.*



the litter. The extraction was precarious because the soldiers had not strapped the wounded man in.

The litter snagged repeatedly on the way up, and the stretcher could not be brought all the way into the helicopter. It was a struggle to get the soldier aboard. The pickup took far too long to complete, with the helicopter hovering there as a provocative target for ground fire.

"We had no direct communications with the people below, except through hand signals," Salem said. "We really couldn't advise them on how to speed up the process or to help them evaluate the extent of the injuries. Hopefully, some of the wounded could be sent up on the forest penetrator, which was much faster but certainly couldn't be used for hoisting the critically wounded."

rear seats was A1C Gerald Hammond, the crew chief.

It took the two helicopters about half an hour to reach the battle. Charlie Company had marked its location with colored smoke.

All around them was triple-canopy jungle, the tallest trees reaching up 150 feet. However, there was a place where the trees topped out at 100 feet. Beneath that, thick brush grew from the ground to about 30 feet up, but there was a hole in the canopy just large enough for a Stokes litter—essentially a wire basket—to get through.

Bachman maneuvered the first helicopter, Pedro 97, into place. He hovered below treetop level. The opening was so tight that the whirling helicopter blades passed within five feet of the trees.

Pedro 97 lowered its litter, picked up the first casualty, then pulled back to transfer him from the Stokes litter to a folding litter. Pedro 73 moved into the hole and made the next pickup, but it did not go smoothly. The wounded soldier was in a makeshift stretcher, crafted from tree limbs and a poncho, and the ground party had put him, stretcher and all, into

Bachman's crew took another soldier aboard, and the two helicopters took the wounded to an Army hospital at Binh Ba, eight miles to the south.

### Pits to the Ground

When the choppers returned to the jungle site, Pitsenbarger asked the pilot to put him on the ground.

"Once I'm down there I can really help out," he told Salem. "I can show those guys how to rig the Stokes litter and load it right. It will be much faster, and you can put more people in the bird."



*Pitsenbarger carries an M-16 at Bien Hoa AB. On his final rescue mission, he volunteered to be lowered into the jungle—into fierce combat between the VC and a besieged Army company—to evacuate the wounded.*

Salem thought about it, discussed it with the crew, and decided that Pitsenbarger was right.

"We wished Pits good luck," Salem said. "I maneuvered the helicopter into the pickup hole as Hammond strapped Pits onto the penetrator and disconnected his mike cord. I took my last glimpse of Pits as Hammond swung him out of the cabin.

"Pits had a big grin on his face. He was holding his medical kit, his M-16 rifle, and an armful of splints. I said a silent prayer for him. I have a feeling the rest of the crew said a prayer for him, too. We just never talked about it.

"Down he went as Hammond snaked him down through the trees to the wounded and survivors waiting below. I'm sure they were surprised to see someone come down into their hellhole. Hammond hoisted the penetrator back up and sent a Stokes litter down to Pits."

With Pits on the ground, the helicopters took turns extracting wounded soldiers from the jungle. Pitsenbarger was sending them up both in the litter and on the forest penetrator.

The situation on the ground was described by 1st Lt. Martin Kroah, leader of Charlie Company's 3rd Platoon.

"I first saw Airman Pitsenbarger when he was being lowered from an Air Force helicopter sent to medevac our wounded," Kroah said. "I observed him several more times during the course of the day. To put

down on paper what that battle was like is an impossible task.

"At times the small-arms fire would be so intense it was deafening and all a person could do was get as close to the ground as possible and pray. It was on these occasions that I saw Airman Pitsenbarger moving around and pulling wounded men out of the line of fire and then bandaging their wounds. My own platoon medic, who was later killed, was totally ineffective. He was frozen with fear, unable to move.

"The firing was so intense that a fire team leader in my platoon curled up in a fetal position and sobbed uncontrollably. He had seen combat in both World War II and Korea. The psychological pressure was beyond comprehension.

"For Airman Pitsenbarger to expose himself, on three separate occasions, to this enemy fire was certainly above and beyond the call of duty of any man. It took tremendous courage to expose himself to the possibility of an almost certain death in order to save the life of someone he didn't even know."

#### **Pedro 73 Hit**

Between them, the two helicopters had made a total of five flights into and out of the battle area and had flown nine wounded soldiers to Binh Ba. Pedro 73 moved into the hole in the jungle canopy for the next pickup.

"Hammond spotted Pits," Salem

said. "He was signaling for a Stokes litter. Hammond hooked it up and began lowering to Pits. We could hear enemy fire down below, but Pits was ignoring it and kept motioning for us to continue lowering the Stokes litter."

The litter had almost reached Pitsenbarger when the helicopter was raked by automatic weapons fire. It lurched as it was hit and yawed severely to the left. As engine RPM dropped, the helicopter began sinking slowly. The rotor blades were out of track, and badly so. Salem applied full right rudder to correct the yaw, but he had no control over the engine.

"My immediate concern was to keep the chopper flying and not hit any trees that were just a few feet away from the tips of the rotor blades," Salem said. "Hammond kept the Stokes litter going down while signaling for Pits to grab hold of the Stokes litter when it came within reach so we could pull him out. I was able to keep the helicopter fairly steady now, using full right rudder. Finally, the rotor RPM began to increase and stopped our descent. Again, our main concern was to try some way to get Pits on board. He must have known that we were taking heavy ground fire.

"Hammond was now frantically motioning to Pits to get him to try and grab onto the Stokes litter, but Pits continued to give Hammond the wave-off and appeared to be hollering for us to get the hell out of there. This was his second wave-off. Without any hesitation, Pits elected to stay on the ground with the wounded."

As Pedro 73 maneuvered up and out of the pickup hole, the litter got hopelessly snagged in the trees and had to be cut loose.

The helicopter limped to a landing at Binh Ba, but the engine could not be shut down by either normal or emergency procedures. Hammond removed some panels in the roof of the cabin and used a hammer to beat the fuel controls closed. The helicopter had taken nine hits and both sets of rotor blades were ruined.

Pedro 73 was out of commission. Bachman in the lead helicopter was told by ground control that the area was under such intensive attack that no more extractions could be attempted.

During the night, word came that



Pitsenbarger and more Army casualties had been moved to an area where a landing zone would be cleared the next morning and that Army helicopters would bring them out at first light.

The report was wrong in all respects.

### The VC Attack Peaks

In the late afternoon of April 11, the VC battalion intensified the attack with mortars and machine guns. Snipers in the trees shot soldiers in the back as they lay prone in the firing position.

There would be no reinforcements any time soon. Bravo Company was well off to the left flank, and the jungle was so thick that it took an hour to hack out 100 yards of single-file trail.

"I had been wounded before Pitsenbarger arrived on the scene," said Army Sgt. Charles F. Navarro, a squad leader in Charlie Company's 1st Platoon. "We were getting pounded so bad that I could only lie on the ground for cover. Pitsenbarger concealed my body with a dead soldier, probably to protect me from getting hit again or even from being killed if we were overrun.

"Pitsenbarger continued cutting



A1C Harry O'Beirne, who shared a cubicle with Pitsenbarger, was the PJ in the rescue chopper that returned to the site of the battle the next day. He recovered Pitsenbarger's body from the jungle and took it to the evacuation area.

pants legs, shirts, pulling off boots, and generally taking care of the wounded. At the same time, he amazingly proceeded to return enemy fire whenever he could. During his movement around our perimeter, he would scramble past me and deliver a handful of magazines."

"After I was wounded, sometime around 6 p.m., Pitsenbarger came by

the tree where I and several other wounded and dead soldiers [were]," said Daniel Kirby, who was an infantryman in Company C. "He looked at my wound, stated that it was not overly serious, and said something to the effect of, 'Don't give up; we can get out of this mess.' He then left and that was the last time I remember seeing him."

Navarro said that Pitsenbarger gave his handgun to one of the wounded who could not hold a rifle. Running from place to place, Pitsenbarger gathered ammunition—at least 20 magazines—from the dead and distributed it to those still shooting. Several of them had been firing their weapons on full automatic and were running short of ammunition.

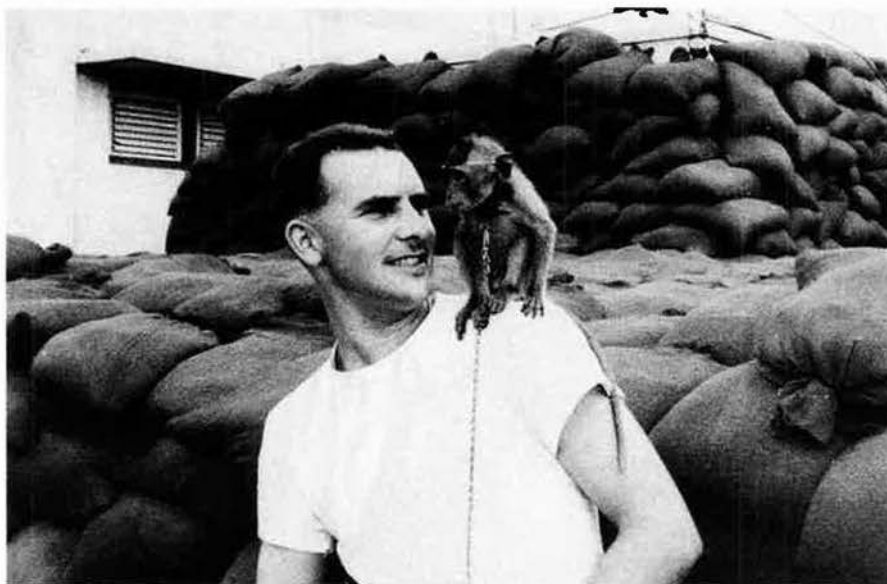
"I observed Pitsenbarger communicating with the helicopter using hand signals, waving them off at least twice," Navarro said. "At some point, the helicopter began taking heavy enemy fire. Shortly after that, I observed Pitsenbarger reaching for the Stokes litter to try and load up another wounded man. Before he reached it, the helicopter's hydraulics were hit, causing it to go out of control. The Stokes litter tore through the jungle and fell into some trees. Later, Pitsenbarger took up a position next to me. He was killed shortly thereafter."

Pitsenbarger died about 7:30 p.m., Navarro said.

The VC mounted three massive assaults against the perimeter that



An HH-43B crew demonstrates a typical rescue operation in Southeast Asia.



**Pitsenbarger plays with a spider monkey at Bien Hoa in 1966. For his heroic sacrifice, he has been honored in many ways throughout USAF over the years and in December posthumously received the nation's highest military honor.**

evening and Charlie Company survived the night only by calling in artillery almost on top of itself. After the artillery barrage, about 9 p.m., there was no further fire from the VC. Reinforcements, led by Bravo Company, arrived at dawn.

The PJ on the flight that went out from Bien Hoa the morning of April 12 was A1C Harry O'Beirne, who lived in the same cubicle as Pits.

"We got an urgent message to get back out to Binh Ba," O'Beirne said. "I was the pararescueman on the first chopper. When I was put down in the jungle, I was told that there were 30-some dead and the rest were wounded. I set about helping the wounded and evacuating them on the chopper. After the chopper took off, I headed back into the jungle to help some more wounded.

"An Army captain passing, stopped me and told me that he was sorry but my buddy had been killed. He pointed in the direction of Bill's body. I searched and found it covered with a poncho. Bill had been shot four times. I removed Bill's gear and took the body back to the evacuating area."

Pitsenbarger had been hit in the back, shoulder, and thigh but had kept working and fighting until the fatal round struck him in the head.

"Bill Pitsenbarger was an ordinary man," O'Beirne said later. "He just did extraordinary things when called upon to do so. He liked country music, loved to hear Roy Acuff sing 'The Wabash Cannonball,' liked

a beer, had a healthy interest in girls. Being brave is not the absence of fear but being able to work and do the needed thing in spite of it."

#### **The Medal of Honor**

On Salem's recommendation, Col. Arthur Beall, commander of the 3rd Aerospace Rescue and Recovery Group, nominated Pitsenbarger for the Medal of Honor. However, Military Assistance Command, Vietnam, proposed the award of the Air Force Cross instead. The Pentagon went along with MACV.

In September 1966, Pitsenbarger's Air Force Cross, awarded posthumously, was presented to his parents by Gen. John P. McConnell, Air Force Chief of Staff. He was the first Air Force enlisted man to be presented the second highest military award.

For more than 30 years, his memory has remained vibrantly alive. The Airmen Memorial Museum in Suitland, Md., has catalogued almost two dozen memorials, buildings, streets, and awards named for him.

His fellow PJs and others never gave up on their appeal to have his award upgraded to the Medal of Honor. The issue arose again in the early 1990s, when Piqua, Ohio, named a sports complex in Pitsenbarger's honor.

In 1998, the Air Force Sergeants Association took up the cause. Three

requirements had to be met for upgrade: (1) new information, (2) recommendation from someone in the chain of command, (3) submission by a member of Congress.

A concerted effort by the Airmen Memorial Museum, an arm of AFSA, documented the events of April 11, 1966, in great detail and gathered statements from eyewitnesses. Among those providing letters of support were seven of the surviving members of Charlie Company, including two of the four platoon leaders.

"I felt at the time, and still do, that Bill Pitsenbarger is one of the bravest men I have ever known," wrote former lieutenant Johnny Libs.

Hal Salem, the helicopter pilot, and retired Maj. Gen. Allison C. Brooks, former commander of the Aerospace Rescue and Recovery Service, made a new nomination of Pitsenbarger for the Medal of Honor, satisfying the second requirement.

Armed with the AFSA package and the new nomination, Rep. John A. Boehner (R-Ohio) asked the Air Force, in early 1999, to upgrade the award.

In the Pentagon, the proposal had to be reviewed by various offices and organizations and might well have mired down in bureaucratic muck had it not been for a special champion. Secretary of the Air Force F. Whitten Peters, who had heard about the case from Pitsenbarger supporters, took a personal interest. He and Joe Lineberger, director of the Air Force Review Boards Agency, put their full weight behind the effort.

With the concurrence of the Joint Chiefs of Staff, the recommendation became part of this year's National Defense Authorization Act as approved by Congress and signed into law by the President on Oct. 30.

After 34 years, Pitsenbarger's heroic actions had finally received full recognition.

*On Dec. 8, 2000, the Medal of Honor was presented posthumously to A1C William H. Pitsenbarger in a ceremony at the Air Force Museum in Dayton, Ohio, not far from his hometown of Piqua. Secretary of the Air Force F. Whitten Peters presented the award, which was accepted by William F. Pitsenbarger on his son's behalf.* ■



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**They have taken on a greater share of the military mission, but the strain has begun to show.**

# Are We Wearing Out the Guard and Reserve?

By James Kitfield



**Over There.** Guard and Reserve units increasingly deploy with AEFs. Here, Lt. Col. John Wisniewki, F-15 pilot of the 122nd Fighter Squadron, Louisiana ANG, gives a time hack at a preflight briefing at Prince Sultan AB in Saudi Arabia.

**A** FUNNY thing happened recently during a lunch break at the crowded chow hall at Tuzla AB in Bosnia.

Charles L. Cragin, the Pentagon's top official for reserve affairs, was visiting the base on a Balkans trip. He asked a table full of enlisted members to state where they were from and what they did. To exclamations of surprise from fellow troops, a number of those present identified themselves as reservists.

"These young [active duty] service members were saying, 'I didn't know you were a reservist!'" Cragin recalled, "but that's how integrated today's force has become." Cragin went on, "You don't hear the active duty guys using the old disparaging comment about 'weekend warriors' much anymore, because our reservists are showing a full-time commitment."

And so it has gone as Cragin has traveled to 42 states and 18 foreign countries, checking in on reservists on the front line of ongoing operations. There were Air National Guard F-15 and F-16 units on 17-day deployments to Turkey, flying combat missions over Iraq within 48 hours of their arrival in the region. Cragin encountered another ANG unit on deployment to New Zealand.

There were Air Force Reserve Command personnel supporting operations in Southwest Asia. In the Balkans last year, the Texas National Guard's 49th Armored Division conducted a historic tour in command of the US sector in Bosnia. This marked the first time since the Korean War that an entire Guard unit was given headquarters command over active troops. In 1996, the Air Force took the unprecedented step of placing an AFRC colonel in command of active, ANG, and AFRC forces at Tuzla when it found itself short of eligible active personnel to fill the position.

The remarkable pace and diversity of ongoing reserve operations largely reflect how the demands of the post-Cold War era are, to varying degrees, transforming all of the armed services.

After a continuous stream of peacekeeping, peace enforcement, and Smaller-Scale Contingency deployments to Iraq, Somalia, Haiti, Bosnia, and Kosovo, the US military is evolving into a more-expeditionary force that views smaller crises and operations other than war as part of its normal routine. Many senior military leaders have come to the conclusion that the United States has little choice but to engage in such operations if it is to maintain its leadership of alliances and keep regional problems from becoming full-blown wars.

That, certainly, is the view of Gen. Gregory S. Martin, the commander of US Air Forces in Europe. "If we're going to try and help shape the world environment for peace and prosperity, and ultimately keep open the markets that will allow nations to flourish, I don't see these 'engagement operations' decreasing," Martin said during a talk in his office at Ramstein AB, Germany. "In fact, I think we'll find our presence is required in more places in the future."

### Adapting for Small Wars

USAF took a major step in adapting to those demands in late 1999 when it began organizing its combat forces into 10 Aerospace Expeditionary Forces. That move followed signs of serious personnel strains as the Air Force has sent units and individuals on successive deployments to support peacekeeping operations in the Balkans and peace enforcement duties in northern and southern Iraq. The AEF reorganization is designed to put predictability into those operations by limiting an individual to one three-month deployment during any given 15-month cycle.

Reserve forces now account for roughly 10 percent of each AEF and so are serving alongside their active counterparts in virtually all ongoing Air Force operations. That contribution of reserve forces to operations is also mirrored in the other services. Arguably no component of the US military has been more trans-



**Recycling.** An F-15 fighter “owned” by the Oregon ANG takes off from a Gulf base. Aircraft are often left in place to be used by new units—whether ANG or AFRC. Guard and Reserve personnel now account for 10 percent of all AEFs.

formed by the demands of peacekeeping and other SSCs than the Guard and Reserve.

In the four decades of the Cold War, Guard and Reserve forces faced two Presidential call-ups—for the Berlin Airlift and a tightly restricted call-up during the Vietnam War. Today, for the first time in history, the Reserves are deployed on active duty under three separate Presidential reserve call-ups. Those are operations in Bosnia and Kosovo and for the no-fly operations over Iraq.

Meanwhile, despite a force cut during the 1990s drawdown of roughly 300,000 troops, reserve forces are contributing about 13 million duty days annually to ongoing operations, a 13-fold increase over the 1980s level of roughly one million duty days. That is equivalent to adding 35,000 troops—or roughly two Army divisions—to active duty end strength.

In the process, the Guard and Reserve have been transformed from organizations designed for mass mobilization in the unlikely event of a major global war to fully contributing members of a Total Force actively engaged in peacekeeping, peace enforcement, and combat operations around the world.

“In the roughly 30 years I served in the reserves, the reserve community generally believed they would not be called up unless there was a major military event like the Soviets pouring through the Fulda Gap,” said Cragin. “Today I know reservists

who have been called up four times in the past decade. The reality is the active duty force can’t do anything without relying on the reserves.”

#### A Critical Milestone

The seminal event in the transformation of the reserve forces occurred during Desert Shield in 1990, the buildup to the Persian Gulf War. In contemplating a massive deployment of US forces to the region, the Bush Administration quickly realized that it would have to order the first Presidential call-up of the reserves in decades.

The reason dated back to the original deal establishing the all-volunteer Total Force in 1973. President Johnson had resisted a major reserve call-up throughout the Vietnam years so as not to disturb his campaign for Great Society programs. He thus failed to put the nation on a war footing and, as a consequence, left the active force to fight on its own for more than eight years.

Afterward, US military leaders, led by Gen. Creighton W. Abrams, Army Chief of Staff, decided to make a wholesale transfer of combat support forces to the reserves. The result was the emergence of a military establishment purposely configured to require a Presidential reserve call-up in the event of a major mobilization.

With 70 percent of the Army’s combat service support residing in reserve forces, the Army in 1990–91 was incapable of sustaining itself in a large-

scale deployment without reserve participation. In the end, 265,000 reservists were called up in 1990–91 for the Persian Gulf conflict.

Even in confronting the Smaller-Scale Contingencies that followed in the 1990s—including Haiti, Bosnia, Kosovo, and the Southwest Asia no-fly zones—DoD officials realized that Presidential reserve call-ups would be essential. Not only did active duty forces stressed by a high operations tempo need to share some of their burden, but also some of the skills most critical to peacekeeping operations in particular turned out to be reserve specialties.

“The way the military is configured today, many of the skills critical to peacekeeping operations and smaller contingencies reside almost exclusively in the reserves,” said Cragin.

For instance, he notes, the reserve components are home to 97 percent of the Army’s civil affairs forces; 82 percent of its public affairs forces; 81 percent of its psychological operations forces; 66 percent of military police battalions; and 85 percent of medical brigades.

In the Air Force, ANG and AFRC forces account for 64 percent of tactical airlift; 55 percent of aerial refueling and strategic tankers; 38 percent of tactical air support; and 27 percent of strategic airlift.

“The numbers illuminate a central fact about America’s post-Cold War military: namely, that we cannot undertake sustained operations anywhere in the world today without calling on reserve assets to get the job done,” said Cragin.

#### Bitter Divide

The first major combat test of the Total Force during Desert Shield and Desert Storm validated the concept in the eyes of many analysts. However, it did leave bitter feelings between the active duty Army and Army Guard. The bad blood resulted from the Army’s decision that three Army Guard “round-out” brigades were not sufficiently combat-ready to deploy to the Gulf to augment active duty combat divisions.

Army officials argued that investigations showed that the Guard brigades were woefully unprepared for combat. Guard officials continued to believe the decision was an affront to their warfighting capabilities.

That experience stood in stark contrast to that of the Air Force and its reserve components, who in Desert Storm proved their ability to rapidly deploy and fight alongside one another, thereby putting to rest any doubts about the combat capabilities of ANG and Air Force Reserve units.

The lingering animus between the Army and Army Guard, however, exploded into open warfare during the 1997 Quadrennial Defense Review. Noting that the active duty and Army Reserve forces each had been reduced by more than a third since the end of the Cold War—compared with only a one-fifth reduction for the Army Guard—Army leaders proposed that the Guard take the lion's share of a proposed 45,000-troop reserve force cut by 2002. (The active Army was to be cut by an additional 15,000 during that time, the Army Guard by 38,000, and Army Reserve by 7,000.)

Given estimates at the time that it would take nine to 12 months to prepare a Guard heavy combat division for war, the Army had also resisted writing the eight Guard divisions into their war plans.

Convinced that the Army had set them up during the QDR, Guard officials launched an unusually harsh campaign to reverse proposed cuts. Led by the Guard's state adjutants general, the campaign won widespread support from many governors and members of Congress. Nearly half the nation's governors wrote Presi-

dent Clinton to protest the 38,000-troop cut in Guard strength.

### "Obstinate Shortsightedness"

"Because of the Army Staff's obstinate shortsightedness, the Total Army ... that won the Cold War is on the brink of extinction," said a 1997 paper issued jointly by the Adjutants General Association of the United States and the National Guard Association of the United States. "Because of the Army Staff's obvious personal desire to eliminate the Army National Guard as military competition, the adjutants general are shocked by the entire process."

Defense Secretary William S. Cohen's aggressive response to quell the controversy in 1997 accelerated the integration of the active and reserve force components so evident today. Under the deal that was eventually struck, the Army reserve forces would take a 20,000-troop reduction rather than the 45,000 proposed under the QDR, with the other 25,000 deferred until the next Quadrennial Defense Review in 2001. The Army Guard agreed to transform 12 combat brigades into much needed support units. Many of its remaining combat brigades would receive front-line equipment and better training under the Army's "First to Fight" funding scheme.

The Army is still in the process, reserve officials say, of writing the Guard divisions into their war plans, a potentially controversial move that

is likely to require more robust funding for identified Guard units.

Additionally, the Pentagon is moving forward with creation of two integrated divisions comprising six Army Guard enhanced brigades led by active duty cadres. Cohen also created two new JCS staff positions, each filled by a two-star general from the Guard and Reserve, to advise the Chairman of the Joint Chiefs.

"What we had in 1997 was a case of fratricide taking place within the Army, with very senior active duty and Army Guard officers lobbing incendiary hyperbole rounds at one another," said Cragin. "They were really at each other's throats. Through a lot of hard work and professional leadership, however, we worked things out."

In putting the controversy to rest, Cohen also sent out a key memorandum calling for all service secretaries, service chiefs, and global commanders in chief to tear down all remaining barriers—structural and cultural—to the seamless integration of the reserve forces into the Total Force. Forced by necessity to lean harder on Guard and Reserve forces in shouldering the burden of increased peacekeeping and peace enforcement missions, the Army chief quickly indicated he had gotten the message.

"Today, I declare that we are *The Army*—totally integrated with a unity of purpose—no longer the Total Army, no longer the One Army; we are *The Army*," Gen. Eric K. Shinseki, Army Chief of Staff, declared upon taking office in June 1999, after personally leading an integrated active and reserve force in Bosnia. "And we will march into the 21st century as *The Army*."

The experience of an airman in an ANG air refueling unit in Michigan helped convince reserve officials of the need to break down barriers blocking the access of reservists to military health care. After he was activated for a deployment to Kosovo, the airman's pregnant wife was forced to switch for monetary reasons from his private health care to his military coverage, only to discover her doctor did not participate in the new plan. Two months after the airman separated from active duty, the woman once again transitioned to his civilian health care plan, only to find that her old doctor

USAF photo by SSgt. Janice H. Cannon



**Defenders.** SSgt. Duane Fowler of Air Force Reserve Command security forces begins a base response event at a recent Defender Challenge competition. Reservists provide a critical part of a unit's security measures overseas.

could not accept any new patients. By the time the airman's baby was delivered, his wife had been through three doctors in a single pregnancy.

"That case helped persuade us to seek an option whereby the government will pay the premiums so that an activated reservist can stay with his private health coverage," said Cragin. "We're still working on that."

A DoD policy required that a service member stay on active duty for two years before his family became eligible for full benefits such as dental care. That was a Catch-22 for a reservist who, by law, can only stay on active duty for nine months, yet who had no civilian employer to provide health care coverage. The Pentagon fixed that by making reservists called to active duty for more than 30 days automatically eligible for military health benefits.

### Speed Bumps

Experts say there are many such hidden speed bumps buried in DoD regulations and, in some cases, inadequate legislation. Congress has recently expanded re-employment protection, for instance, to cover reservists who work outside the United States for US companies. Under two new statutes, reservists traveling to distant training grounds will now be granted the status and reduced airfares of "official government travelers," and in those cases where no overland transportation is available they will be allowed to

travel "space-required" on military aircraft.

Reserve officials also admit they are increasingly concerned that reservists may be approaching a saturation point in terms of their contribution to ongoing operations and the subsequent time away from family and civilian employers. The Office of Reserve Affairs has thus sent out questionnaires to more than 100,000 reservists and their spouses, its first effort in eight years to gauge the impact of increased deployments on families and finances.

"Under the old paradigm where reservists were expected to be called up only for the 'big one,' the Pentagon didn't worry too much about families or employers because we just assumed their support in the event of a major war," said Cragin. "Now those days are past, and we have to be very concerned about the unique challenges faced by the families and employers of reservists who are away more frequently and for longer periods of time."

Because Guard and Reserve families are not clustered around military installations, as is often the case for the families of active duty service members, they cannot as easily gain access to military day care, commissaries, base exchanges, and the other family support services that would otherwise be available.

Reserve officials believe part of the solution is educating reservists and their families about the many

benefits available to them. A booklet on reserve family benefits that is now available on the Web site of the Office of Reserve Affairs, for instance, has been downloaded a total of 170,000 times.

"Every week, when I visit reserve units, I always ask them how many of their spouses have military dependent ID cards, because that is the key to the military kingdom," said Pentagon official Cragin. "You cannot access much support without it. Four years ago I would not see a lot of hands, which told me that the reservists had not engaged their spouses in conversation about becoming part of the military family. Today when I ask that same question, an awful lot more hands go up. That's a [sign] that reserve families are becoming more involved."

The Office of Reserve Affairs is also closely studying the aftermath of the Texas Guard's 49th Armored Division historic rotation in command of active troops in Bosnia. Already a number of anecdotal news accounts have depicted broken marriages and lost jobs resulting from the deployment.

"As proud as Texas is and should be of its National Guard, this revolving door of Guard and Reserve forces being dispatched around the world is troubling," declared an *Austin American-Statesman* editorial. "Guard members and Reservists have been deployed to the Persian Gulf, Bosnia, Kosovo, Somalia, Haiti, and Central and South America in recent years because there are too few active duty troops to carry the load. ... Texans, and all Americans, can take pride in the strength of the Guard and Reserve. But the Pentagon has come to rely on them too heavily, and that's not good for them or the country."

### Employer Concerns

To gauge the impact of those increased deployments on employers, the Office of Reserve Affairs also sent its first-ever survey to employers in late 1999. Reserve officials were surprised to find that roughly 10 percent of reservists work for the federal government. The results also revealed that most employers supported the reserve service of their employees, but many complained that reserve call-ups were too long and unpredictable.

Employers also complained about

USAF photo by SrA. Esperanza Berrios



**Teaming Up.** For support, USAF depends heavily on ANG and AFRC. Here, three active force F-16s based at Spangdahlem AB, Germany, draw near a KC-135 refueler from AFRC's 452nd Air Mobility Wing, based at March AFB, Calif.



reservists who signed on to successive deployments voluntarily but whose jobs were nonetheless protected by federal law.

Cohen responded with an outreach program to Chambers of Commerce around the country. To date, more than 800 chambers representing 400,000 businesses have signed Statements of Support. The Army, meanwhile, has reduced the length of its reserve deployments to 179 days. In talking with the airlines, reserve officials discovered that deployments that lasted longer than 90 days required reserve pilots to get recertified on their civilian aircraft.

"What we learned is that, just because we can call up a reservist for 270 days, that doesn't necessarily mean that's the best way to manage that valuable resource," said Cragin. "So we're trying to work very closely with the airlines to devise ways to more effectively share the national treasure that our pilots represent."

Air Force and reserve officials say building in added flexibility is the key to maximizing the contribution of Guard and Reserve forces. For instance, Air Guard and AFRC units have started sharing forward deployed aircraft—either reserve or active duty—to help enable the reservists to deploy for shorter intervals. Because many ANG and AFRC pilots have already been on earlier deployments, officials say, they do not need as much time for mission preparation.

"The key to using the Guard and Reserve on missions such as Northern and Southern Watch, and for peacekeeping in the Balkans, is to give them the flexibility to organize their resources as they see fit," said Bernard D. Rostker, undersecretary of defense for personnel and readiness. "Instead of assigning one person to a job, as you would do with an active duty service member, the reserves might find it better to have five bodies doing that job in rotation. The important thing is that the job gets done."

Pentagon officials have also noticed a natural self-selection process as reservists volunteer for duty, and rotate in and out of units called up for active duty, based on their ex-



USAF photo by TSgt Lance Cheung

**Upgrade.** Once given only hand-me-downs, ANG and AFRC today get more advanced equipment. This crew of the 89th Airlift Squadron, Wright-Patterson AFB, Ohio, is flying a C-141 equipped with new "glass cockpit" technologies.

pectations of whether or not the unit will deploy.

Rostker said, "When we identified elements of the Texas 49th Armored Division for duty in Bosnia, for instance, one thing we saw happen was that people moved in and out of that division headquarters based on their understanding that it was going to deploy. And when the division came home, more than 100 of its Guardsmen decided they wanted to stay behind in Bosnia."

### Full-Speed Ahead

Indeed, while reserve officials are closely monitoring the pulse of Guard and Reserve forces for signs of unhealthy strain, they have not seen anything that overly worries them. Like the other service components, they have noted that retention actually increases in units that are deployed on real-world missions.

"In many cases," said Cragin, "we've found a greater sense of professional satisfaction among reservists who have deployed on these missions and have had an opportunity to do something more than just their regular training cycle."

Nor are Guard and Reserve officials shrinking from considering new missions for their forces. For instance, the Reserve Component Employment 2005 study, which was

conducted under the auspices of the Office of the Secretary of Defense, the Joint Staff, and the Office of Reserve Affairs, suggested that reserve forces were a particularly good fit for the emerging mission of homeland defense. The Pentagon has already established 10 Rapid Assessment and Initial Detection teams—consisting of Army National Guard and ANG personnel—to assist civil authorities in responding to a terrorist attack involving weapons of mass destruction. The Fiscal 2000 defense bill authorized the creation of 17 more RAID teams.

The Reserve Component Employment 2005 study also recommended new ways for the reserves to provide additional low-density, high-demand capabilities and to assume a greater role in sustained peacekeeping operations in Bosnia and Kosovo. The study also suggested that DoD look at rotating reserve units to US peacekeeping operations in the Sinai.

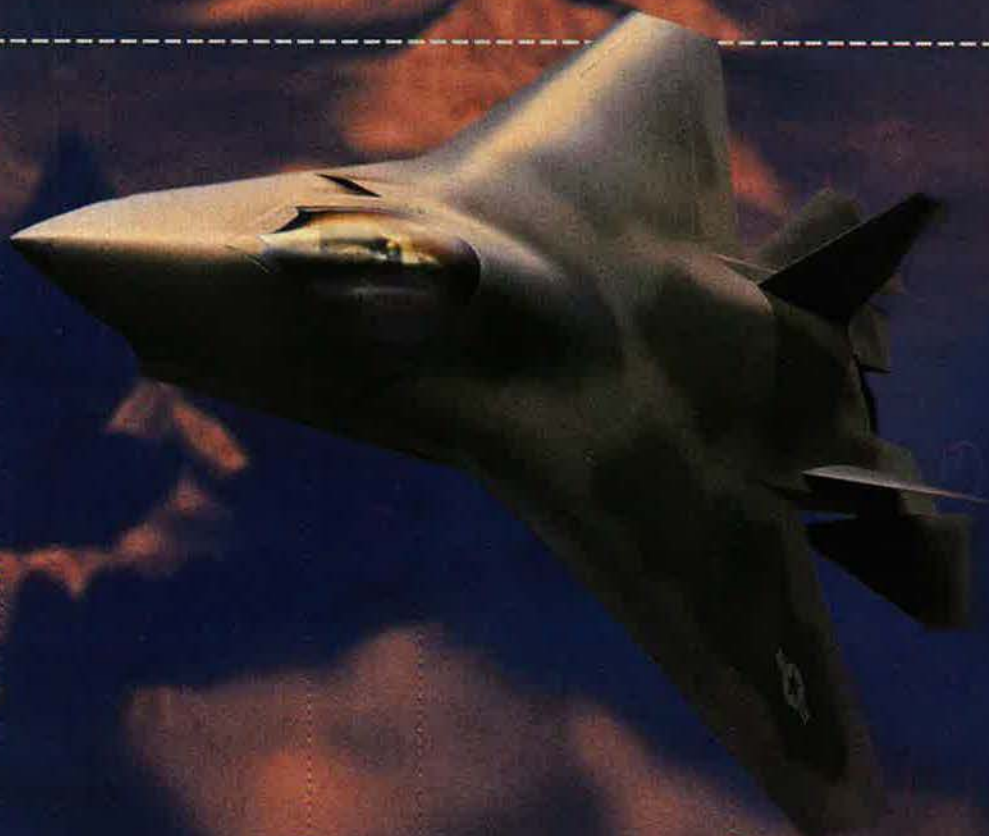
"The question is often asked whether we are approaching or have already reached the limit of what the reserve forces can accomplish. My answer is that as long as we give them the flexibility to manage their people and the resources required to get the job done, we have not reached the limit," said DoD's Rostker. "You know, in the 1970s and 1980s, the biggest complaint you heard in the Guard and Reserves was that they were bored. You don't hear that complaint much today." ■

*James Kitfield is the defense correspondent for National Journal in Washington, D.C. His most recent article for Air Force Magazine—"Will Europe Ruin NATO?"—appeared in October 2000.*



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JUST THE

These snapshots from the albums of Air Force Association members recall faces and places from the Gulf War.

# Desert Storm Scrapbook

Compiled by Juliette Kelsey Chagnon



On Jan. 17, 1991, Capt. (now Lt. Col.) William T. LeMenager (back row, second from right) and this MH-53J Pave Low combat aircrew (pictured here at Al Jawf airfield, Saudi Arabia) from the 20th Special Operations Squadron, 1st Special Operations Wing, led one of two direct assaults by Apaches and Pave Lows on Iraqi ground radar sites. The Air Force special operations helicopters, followed by Army AH-64 Apache gunships, arrived at their target at 2:38 a.m. local time, a full 22 minutes before the official start of Operation Desert Storm. They had flown their route entirely on instruments and in formation. The Apaches unleashed their Hellfire missiles, demolishing the radars and blinding the Iraqi air defense system at critical points. Soon afterward, low flying US fighter-bomber aircraft rushed through the breaches on their way to first-night targets in Iraq.



SSgt. Jack Driggers (top, third from left) and tentmates from the Aerospace Ground Equipment Branch, 4th Equipment Squadron, 4th Tactical Fighter Wing (Provisional), pose shortly after arrival in January 1991 at Al Kharj AB (now Prince Sultan AB), Saudi Arabia. Construction of a sandbag barrier, built by the group pictured, had started only one day earlier. Driggers retired from the Air Force in 2000. Also pictured is AFA member John Seroogy. From left to right, SrA. Rico McIlwain, unknown airman, Driggers, SSgt. Sami Kenty (kneeling), unknown, Seroogy, Sgt. Paul Jones, and SSgt. Chris Morrissey.



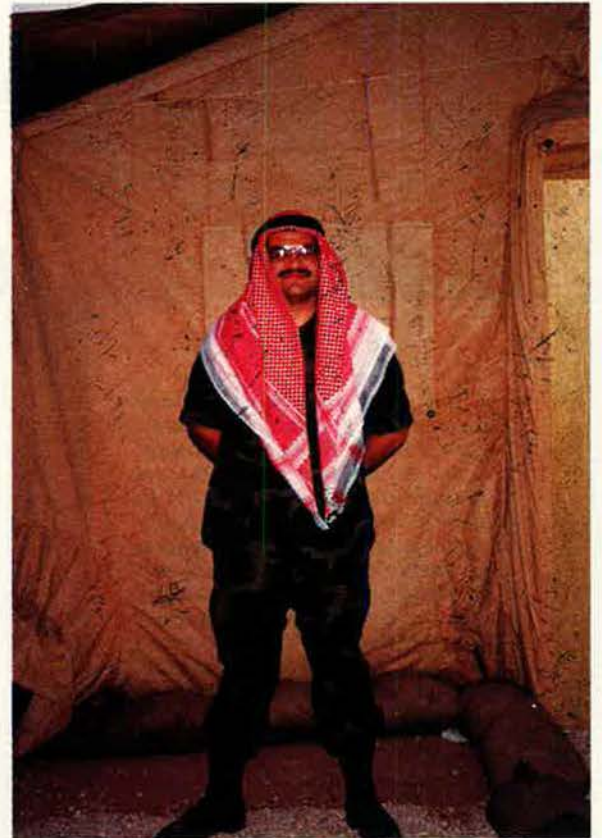
Lt. Col. (now Brig. Gen.) Richard Lewis and Brig. Gen. (now retired Lt. Gen.) Buster Glosson, the chief air war planner during Desert Storm, pull the "night shift" in Glosson's office in the Royal Saudi Air Force headquarters. As special assistant to Glosson, Lewis spent many nights going over targets hit during the day and what remained to be hit the next day to prepare Glosson for the nightly staff briefing to Army Gen. H. Norman Schwarzkopf, commander in chief of US Central Command. Lewis now serves as deputy director in the Developing Aerospace Leaders Program Office.





**Capt. (now Air Force Reserve Command Maj.) Thomas E. Kittler was assigned to the 32nd Air Refueling Squadron, Barksdale AFB, La., when Operation Desert Shield took him to Saudi Arabia, Spain, and Lajes Field in the Azores. This photo shows the 12-man tents that served as "home" in Muscat, Oman, during Desert Storm. Kittler and his crew flew KC-10s out of "Camp Nacirema" (American spelled backwards). He now is in the 95th Airlift Squadron, 440th Airlift Wing, General Mitchell IAP/ARS, Wis.**

**SSgt. Tom Vaselopoulos was an Air National Guard security police supervisor with the 240th Combat Communications Squadron from McEntire ANGB, S.C. He was attached to the 4th TFW (Provisional) from December 1990 through June 1991, stationed at Al Kharj. Vaselopoulos is pictured outside of his tent, wearing a kaffiyeh (traditional headdress) during spring 1991. The colorful headgear became a popular souvenir for many American servicemen. Vaselopoulos retired from the 169th Security Forces Squadron, South Carolina ANG.**



**Capt. (now Lt. Col.) William A. Kobren was an aircraft maintenance officer attached to the 53rd TFS, an F-15 outfit from Bitburg AB, West Germany. The squadron was deployed to Al Kharj in December 1990 and returned to Germany in May 1991. As demonstrated by the "Swim at own risk" sign at a drainage ditch, the Arabian heat and desert provided grist for many jokes and pranks. Today, Kobren serves as a logistician working on the Joint Strike Fighter Program.**

**Maj. (now AFRC Col.) David B. Casey, an RF-4C aircraft commander, is pictured here on the flight line at Sheik Isa AB, Bahrain. He stands next to a 500-pound conventional bomb, which he had "addressed" to Iraqi dictator Saddam Hussein. Casey was deployed to Bahrain with the 192nd Tactical Reconnaissance Squadron, Nevada ANG, from December 1990 to April 1991. He led the first RF-4C reconnaissance sortie over Kuwait on the morning of Jan. 17, 1991. Casey received a Distinguished Flying Cross and three Air Medals for his service during the Gulf War. He is currently assigned to Headquarters Air Force.**

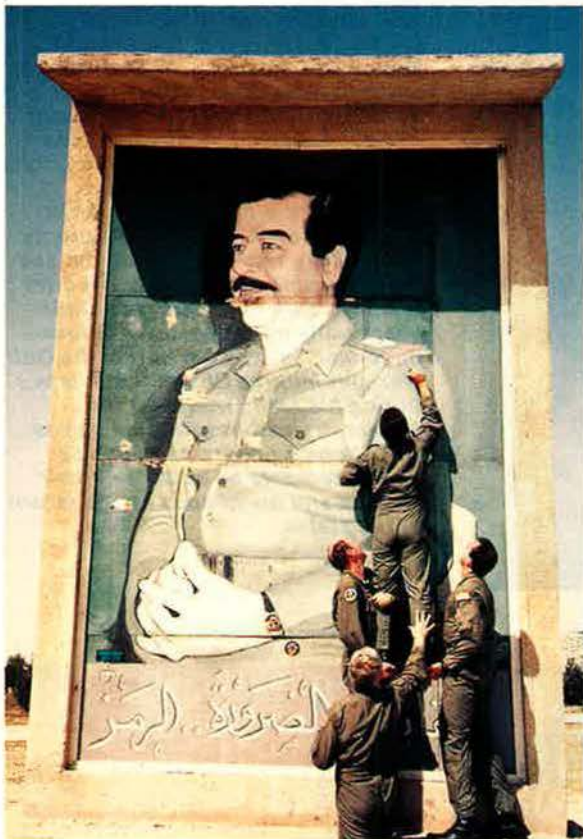


**This photo of Col. (now retired) Michael R. Gallagher and his son Marine Cpl. Robert J. Gallagher was taken in December 1990 at Jubail airfield, Saudi Arabia. Another son, Army Pvt. Peter T. Gallagher, also was deployed to the Gulf region. Gallagher, who was vice commander of the 63rd Military Airlift Wing, Norton AFB, Calif., regularly flew C-141s into the Gulf region and thus was able to stage several brief reunions with his sons. (The Gallagher family may have been unique—three members all serving in the Gulf War, but in three different services.) During his many trips into the theater, Gallagher collected names and phone numbers of troops he encountered so he could call their parents and loved ones on his return to the states.**

**Capt. (now Lt. Col.) Craig A. Hughes poses with his F-15C fighter at Dhahran AB, Saudi Arabia, the principal location of USAF's air superiority aircraft during Desert Storm. At the time that he deployed to the desert, Hughes served with the 27th Tactical Fighter Squadron, 1st TFW, Langley AFB, Va. He flew 32 combat missions, earning three Air Medals. Hughes currently is assigned as director of operations, 493rd Fighter Squadron, RAF Lakenheath, UK. He is headed back to the desert next month as part of Aerospace Expeditionary Force 4.**



**MSgt. (now retired SMSgt.) Dennis C. Jenkins** completes an aircraft inspection at King Khalid IAP, just outside the Saudi capital of Riyadh, sometime in February 1991. His airplane is an F-16C fighter from the 69th TFS, 347th TFW, Moody AFB, Ga. During Desert Storm, the 69th was attached to the 388th TFW, Hill AFB, Utah. Jenkins (and many others assigned to desert duty) always took the time to write personal messages to Saddam or the names of loved ones on munitions to be dropped during an upcoming sortie.



**MSgt. David Tarnowski** (top, reaching upward) and other members of the 328th Airlift Squadron, 914th Airlift Wing, Niagara Falls IAP/ARS, N.Y., place a decal with the squadron insignia—"The Mushroom"—on one of the many gigantic pictures of Saddam Hussein found everywhere in war-era Iraq. This particular picture was at the flight line at Tallil AB in Iraq, which was captured by coalition forces. This photo doesn't show the extent of the damage, but Tarnowski said the Tallil runway was destroyed, and the airlift team had to land on and take off from a taxiway.

This snapshot pictures 1st Lt. Will Whiteman (left) and 1st Lt. (now Maj.) Robert Myers under the "Fort Apache" sign near the 12th Tactical Reconnaissance Squadron section of the flight line at Sheik Isa AB. The 12th TRS flew RF-4Cs. AFA member Myers spent a total of 18 months in the Gulf and is currently an instructor for joint undergraduate navigator training, NAS Pensacola, Fla.





*In this February 1991 photo from the "black hole," Desert Storm's air campaign command center, Lt. Col. (now Brig. Gen.) David A. Deptula (left) and Col. (now retired Brig. Gen.) Anthony J. Tolin shake hands in front of a map showing the last strategic target struck in the war. Deptula, who was director of the Iraq Target Planning Group, is now director of the Air Force's Quadrennial Defense Review. Tolin was chief, campaign plans, for US Central Air Forces in Saudi Arabia and later commander of the 37th TFW, flying F-117 stealth fighters.*



*Capt. (now Lt. Col.) David A. Huss, pictured here with his gas mask at the ready, went to war as an air surveillance officer on the E-3 Airborne Warning and Control System aircraft. He was responsible for every sensor aboard, save the weather radar. His AWACS crew, stationed at Riyadh, flew a total of 54 sorties—650 flying hours—and provided data that led directly to the shutdown of three Iraqi fighters. Huss is currently assigned to the joint Single Integrated Air Picture System Engineering Task Force, located in Arlington, Va.*

*From left, Capt. Terry E. Hayes, 1st Lt. David A. Smithhart, and Capt. Dennis P. McDevitt Jr. adopt local headgear at Eskan Village, Riyadh, during February 1991. All were members of an AWACS crew flying 13–16 hour missions out of Riyadh and other nearby dispersal bases. These crews often would take off at night and not land until the middle of the next day.*



*The holidays are difficult for any service member stationed overseas, and with Desert Shield ongoing and Desert Storm on the horizon, the situation was no different for the troops deployed in the Gulf. Artificial fir trees were a common morale builder—but some of the local fauna found them confusing.*

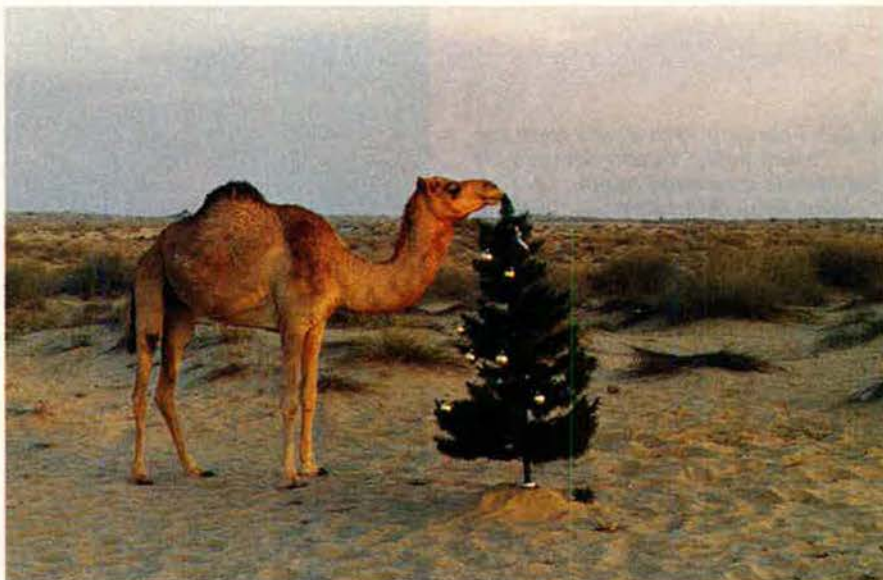


Photo from MSgt. Sidney Cole



*Col. (now retired) Claude H. Chan (seated) was commander of the 325th Tactical Hospital, a deployable air transportable hospital sent in August 1990 to King Abdul Aziz AB at Jeddah, Saudi Arabia, on the Red Sea coast. Its mission was to provide medical care for the Air Force's 1701st Strategic Wing (Provisional) and the US Navy's Red Sea Battle Group. Originally a 50-bed field hospital, it was expanded to a 100-bed facility during Desert Shield. During the war, the hospital was the target of a terrorist attack in which gunmen ambushed a bus carrying troops. The attack resulted in several casualties but no fatalities.*

*SSgt. (now MSgt.) Sidney G. Cole (wearing hat and holding rolled up poster) spent seven months deployed to Al Minhad AB, United Arab Emirates, arriving in August 1990. There, Cole was an aircraft armament systems craftsman for F-16s. His unit flew 1,044 combat sorties in the war, and Cole's own crew loaded 119 aircraft for those sorties. He is now weapons section chief for the 34th Fighter Squadron at Hill AFB. In this photo, Cole and other members of the 4th Aircraft Maintenance Unit, 388th TFW, return home to Hill in March 1991.*





**MSgt. (now retired SMSgt.) Andrew J. Miller served with Det. 2, 7th Weather Squadron, as chief of weather station operations. On Christmas Day 1990, the detachment deployed to Saudi Arabia, and when the air war started, the unit drove in a convoy all day and night from Dhahran to the US Army's 3rd Armored Division tactical assembly area near King Khalid Military City in Saudi Arabia. During Desert Storm, Miller's unit performed round-the-clock operations from KKMC for the division and its combat aviation brigade. Here, Miller is waiting for the "freedom bird" to take him and most of his unit back to Germany in mid-May 1991. He retired in December 1997.**



**Capt. (now AFRC Maj.) Mark Naumann, a C-130 navigator with the 374th TAW, Yokota AB, Japan, was deployed with the 1676th Tactical Airlift Squadron (Provisional) to Thumrait, Oman, and later to Dhahran. Here, he gets a haircut from Capt. (now Lt. Col.) William Changose. Short hair was easier and more comfortable in the desert climate, and most of the troops kept pretty closely shorn. In the background is Naumann's tent, to which was added a shaded "patio" as another way of fighting the heat. Naumann now is assigned to the 327th AS, Willow Grove ARS, Pa.**

**Members of the 914th AW deployed to Sharjah, in the United Arab Emirates, from October 1990 through April 1991—which gave the airmen plenty of time to make their tent city quarters more like home. Some doubled their living area by constructing a "Florida Room"—even building a screen door to combat the bugs. Benches and other furniture were all creatively manufactured from materials scrounged from around the base. Shown here on a homemade table is the local UAE newspaper and bottled water, plus Fanta soda, sunglasses to counter the desert glare, cards for endless Hearts games, and an "I Love You" mug. ■**



Photo from MSgt. David Tarnowski

USAF leaders survey the outlook in space at AFA's Los Angeles symposium.

# the FORCE and SPACE

By Peter Grier

## **Gen. Michael E. Ryan, USAF Chief of Staff**

The US Air Force has been a great steward of the nation's military space capabilities during the last decade of budget and personnel drawdowns, in the view of Gen. Michael E. Ryan, USAF's Chief of Staff.

He points out that funding for space programs has remained constant even as money for other categories has shrunk. USAF leaders have directed that space projects account for roughly 55 percent of the Air Force Science and Technology budget.

Every major space system has a planned replacement or upgrade over the next decade—something that is simply not true in the case of aircraft and other weapons.

The Air Force provides 90 percent of the people and 90 percent of the dollars for all US defense space activities, according to Ryan. And the Army and Navy, for the most part, like the job the Air Force is doing.

"We get a lot of applause from the other services for our handling of space," Ryan told an Air Force Association National Symposium in Los Angeles on Nov. 17.

That, however, doesn't seem to be enough. The current Congressionally mandated space commission re-

view and this year's Quadrennial Defense Review are providing forums for discussion of a wide range of issues that could affect the service's role in space and what the nation's future strategy for military space will be.

Among the issues: whether the Air Force should receive some specific legal mandate for space. The service in fact has no Title 10 space authority, a situation that in the past has led to some interesting Pentagon discussions as to what part of what kinds of capabilities to pursue.

"I think that's one of the clarifications that should come out of this QDR," said Ryan.

A second issue is how many organizations the Department of Defense needs in the space business. There might be some synergism in bringing the two existing space organizations—the Air Force space element and the National Reconnaissance Office—together.

"There are good and excellent capabilities in both organizations that I think if melded would bring this nation to an even further capability in the future," said Ryan.

Third, there is funding. The question here is not just the overall amount but also who pays for what. Should other parts of the US defense community help pay for those systems, such as the Navstar Global Positioning System, that are driven by far greater requirements than those that emanate from the Air Force alone?

Breaking out space into a separate space corps or force is not the way to go, said Ryan. The Air Force already has the capability and vision needed.

### Secretary F. Whitten Peters

America's pre-eminent position in space is not inevitable, added the Air Force's civilian chief, who urged attendees to take a look at the great seafaring nations of the past. Portugal, Spain, England, and Holland at one point all ruled the waves. All lost their advantage over time.

"We need to be ever vigilant about what we are doing in space and how we are managing space for the future," Secretary of the Air Force F. Whitten Peters told the AFA symposium.

For the Air Force itself, one of the most critical upcoming space challenges will be dealing with the impact of the space commission.

At the time of the symposium, no one could predict the outcome of the commission's work. But Peters said he believes many solutions currently being offered to the commission are solutions in search of a problem.

The Air Force is doing a pretty good job of space stewardship within the bounds of its budget. "At the risk of confirming that I am a Luddite when it comes to space, let me say that I really do not understand what the big problem is that justifies a national commission," said Peters.

"As I talk about the space commission, something else they could usefully do: Try to get Congress to try to look at space seriously and not through the eyes of ideologues, not through the eyes of people who think we should weaponize space immediately."

The Air Force and the NRO—itsself heavily staffed by the Air Force—together account for about 95 percent of US military people and dollars. Add NASA, with whom the Air Force has essential partnerships, and the figure is very close to 100 percent.

On Research and Development, the space partnership council is doing a good job coordinating Science and Technology expenditures across the spectrum of the federal government. On procurement and operations, space has increased as a proportion of the overall Air Force budget even as the total budget has declined 40 percent.

Many air assets, such as the RC-135 Rivet Joint signals-intelligence aircraft, do not have any replacement programs in the works. That's generally not the case with space.

"In fact, our airborne assets will grow to an average age of over 30 years in 2020, whereas our space assets ... will be kept relatively new and relatively robust in that same period of time," said Peters.

The Air Force position going into the space commission process is relatively clear. The US needs some sort of national-level methodology or council to integrate everyone's policy and budgets. Such efforts as the space-launch broad area review and the space range task force might be models. They have produced real results, said Peters.

"That is a real step forward and one I hope to see institutionalized," he said.

The service may need more say in how its own space money is allocated. Air Force officials have recently been trying to quickly increase S&T spending on space. Just as quickly, Department of Defense-level officials have taken some of the money back and allocated it to turbine engine technology.

Improvements in turbine engines are certainly a worthy endeavor. But the future is in space, and the service might save much money down the line by figuring out how to lower space costs now.

"We have asked and said we ought to be the executive agent for space," said Peters.

One proposed solution to solve the dollar problem is to create a new Major Force Program, or defense budget element, in much the same way that special operations forces received their own MFP in the 1980s. But in practice, said Peters, that has proved a mixed blessing in terms of budget coordination.

"Some years it is good, some years it is bad," he said.

Establishing a new force, meanwhile, would be far from cost-free. Creation of a new headquarters operation would be expensive—the Air Force, for its part, has 2,631 individuals at its headquarters, stated Peters. And a new force would still have to adjudicate the conflicting space positions of OSD, the other services, and several civilian agencies.

"The complexity of adding another player really does not seem to me to be worth the cost," said Peters.

The space commission isn't the only space challenge now in front of the Air Force, of course.

Another hurdle is developing a truly seamless aerospace force. One issue here: making sure the officers and enlisted personnel of the future Air Force have a thorough grounding in air and space operations.

"We do have some very broad thinkers in the leadership of the Air Force, but these leaders were produced as much in spite of the personnel system as because of it," said Peters.

Bandwidth is another looming problem. One major reason is that the commercial capabilities the Air Force once counted on to meet future bandwidth needs now appear unlikely to materialize. Private sat-

ellite systems such as Iridium have failed to take off, metaphorically speaking.

Yet Air Force projections for need are exploding. Operation Allied Force deployed only one-tenth the personnel sent overseas for Desert Storm, while its satellite communications bandwidth requirements were twice as large. This trend is sure to intensify as the Air Force continues to lighten its deployed footprint by using global communications to allow a greater portion of its force to remain at home.

"It seems to me that we are going to continue to work through this reachback concept for all its worth, and that is going to drive more bandwidth and ultimately more requirements for satellite communications," said Peters.

The explosion in fiber communications has not helped. Increasingly, software manufacturers are designing systems that assume ubiquitous, virtually cost-free fiber bandwidth pipes. That is fine if you work in a downtown area in the US. But austere forward deployed military forces will still depend on narrower satellite communications channels.

"This is going to be a major problem for us because I think the software world is going one way, which we aren't going to easily be able to go," said Peters.

### **Gen. Ralph E. Eberhart, US and Air Force Space Commands**

For the Air Force, the formation of the space commission has been an experience akin to a trip to the dentist. It is not something officials sought or looked forward to—but they may well be better off when it is over.

That, in any case, is the opinion of Gen. Ralph E. Eberhart, the commander in chief of NORAD and US Space Command and commander of Air Force Space Command. He told the AFA audience that, if someone had asked him early in 2000, he would have said he did not favor a space commission. Since then he has changed his mind.

The introspection forced by commission inquiries has been good for the Air Force, as well as the other services and the Department of Defense, according to Eberhart.

"I think it has helped us refocus, to chart the path ahead, and to truly

realize what our destiny is in terms of an aerospace force," said Eberhart.

The space commission has been one of the three most important tasks on Air Force Space Command's agenda in recent months. The other two: space launch and the future of ICBMs.

On space launch, the service took its eye off the ball and had failures it should not have had in late 1999. AFSPC has since refocused—but as it moves from legacy systems to evolved expendable launch vehicles, it needs to go slowly and make sure that problems do not recur.

"We cannot afford to lose those systems and payloads," said Eberhart.

ICBM modernization is currently on track for Minuteman III. It is pretty much on schedule and on cost through 2020. The path thereafter is not so clear. Options for a follow-on to the current Minuteman system remain undefined.

"Whether that is a new missile we drop in the current silos or whether that is a continued modification, [replacing] the guts of the III, I am not sure," said Eberhart. "But I don't envision a new basing mode."

By contrast, when Eberhart puts on his NORAD hat, the first issue he worries about day in and day out is cruise missile defense.

Such an attack could become increasingly likely within the next decade. And unlike a ballistic missile attack, it will not come from a known direction. Nor will it leave a "return address," as a ballistic missile flight path does.

"We just have to come to grips with what the threat is and how we counter that threat," said Eberhart.

NORAD is also concerned about bringing its command-and-control system up to date. In this case, "up to date" may mean the late 1980s or 1990s.

NORAD today has some 25 computer systems, almost as many computer languages, and more than two million lines of software code to support. "When you talk about reliability, maintainability, affordability, and you talk about interoperability, it is a real challenge," said Eberhart.

Air defense officials also struggle with relevance. The accusation that NORAD is a Cold War dinosaur is unfair, declared Eberhart. "Air sovereignty is important and will re-

main important in a nation whose armed forces have to be able to guarantee that regardless of threat," he said.

US Space Command, for its part, is struggling with two new missions: military computer network defense and computer network attack. These tasks are not a natural fit with the organization's other missions, but no other US armed force organization has more expertise pertaining to these subjects. "I don't think [they] should go to an agency," said Eberhart.

Cutting across all his jobs, Eberhart said missile warning remains job one day in and day out. That means, he believes, it is imperative that the Space Based Infrared System satellite program remain on track.

He also worries quite a bit about the continuation of integration of all the assets under his command with the warfighter systems that make use of them. After the experience of Desert Storm the charge was to find a better way to leverage space assets for the use of air, land, and sea warriors.

"I would offer to you that we ought to get a B-plus on that, if not an A-minus on that, this last decade," said Eberhart.

### **Gen. Lester L. Lyles, Air Force Materiel Command**

For all the Air Force and the nation have accomplished in space, it is still an area of operations that is in its infancy. The year 2003 will mark the centennial of flight, but Sputnik went up only in 1957 and the first US satellite, Explorer, in 1958.

"The question we have to ask ourselves is, Where will we be or where should we be in the 100th year of space activities for man?" said Gen. Lester L. Lyles, commander of Air Force Materiel Command, in his AFA presentation.

There are three categories of technologies that the Air Force knows it needs to continue working on, said the AFMC head. They are evolutionary technologies, revolutionary technologies, and commercially led technologies.

Among the evolutionary technologies are vehicle structures using composites and alloys like aluminum lithium, lighter active vibration suppression systems, innovative power storage systems to replace chemical

batteries, and very high rate long distance optical communications.

Among the revolutionary technologies in the service's sights are high-energy density chemical propellants. "We are going to be depending on chemical propellants for a long time, and those of you who have space launch backgrounds like I do know that the specific impulses we are operating at are not near what we need," said Lyles.

Engines and thermal protection systems need higher temperature materials. The Air Force needs higher performance maneuvering systems and technologies for greater generation of power, particularly in space, at the level of hundreds of kilowatts.

"If we are going to operate things like the Space Based Laser, we cannot afford to have to continuously go up to refuel it," said Lyles.

Small launch systems such as the Pegasus are examples of commercial technology development that offer military potential. Others include high data rate communications systems and better image processing and coding.

"We know that commercial technologies are being applied in this area and we need [industry] to continue doing that so we can partner," said Lyles.

Leveraging existing processes and partnerships—those with other players in military and civil space, as well as industry—could be a major way for the Air Force to get to where it needs to go with space technology. In fact, one of the suggestions service leaders have made to the space commission is the establishment of a long-term space technology strategy.

"We can actually take advantage of that and develop a national long-range technological roadmap for space . . . to ensure that somebody somewhere is working on one part of these revolutionary, evolutionary, and commercial technologies to take us forward to the future," said Lyles.

The Air Force itself has now held two annual S&T summits. These meetings bring together the Secretary, the Chief, and all the four-stars, among others, to review all service S&T efforts.

Lyles is also proposing the establishment of mini-S&T summits devoted exclusively to space technology. These would include active

participation from the NRO, NASA, and industry.

"I think we can benefit by bringing us all together and [looking] at a detailed assessment of space technologies in all those sectors and [making] sure again that we are working towards trying to fill all the gaps," said the AFMC commander.

### **Gen. Richard B. Myers, Joint Chiefs of Staff Vice Chairman**

As the US defense infrastructure aims toward the future, a persistent Cold War mind-set continues to slow its progress.

That is the conclusion of Gen. Richard B. Myers, the JCS vice chairman. This problem is particularly evident in three areas, he says: information security, technology, and processes.

During the long struggle with the Soviet Union the US developed a downright Byzantine information security structure, Myers told AFA. At the time it seemed the right thing to do. The more we knew about them and the less they knew about us, the better.

"Today we are faced with a somewhat different dynamic," said Myers. "Knowledge superiority is still power, but it is no longer an end itself."

Today anyone with a modem and credit card can buy the kind of satellite imagery the US military used to carry around in locked briefcases. Winning in the modern fast-paced, flexible battlespace depends on what conclusions are drawn from information as much as the information itself.

"You win in today's battlespace through decision superiority," said Myers.

As a result, lower-level troops and officers today need to be able to make quick calls that once might have been the purview of higher-ups. They need all the data available to make tactical decisions that in essence carry strategic implications.

"I am not advocating that we do away with all our efforts to protect information, . . . but I am suggesting that we take a look at what drives us to keep certain kinds of information classified at a particular level or compartment it into stovepipes," said Myers.

This close-hold attitude toward data can also affect technology de-

velopment. When he began his current job, Myers told his staff that he wanted everything on his desktop computer, from e-mail to contact lists to certain reference files and Internet access, transferred to a Palm Pilot or similar handheld system. The initial reaction? A good idea, but it can't be done. Some information was coming from classified files that needed to be tightly guarded—even though Myers really only wanted the unclassified part of those files.

So the vice chief found a young Air Force lieutenant who wrote a simple program that extracted and verified the unclassified portions of the data at issue whenever the Palm Pilot was updated.

"It is almost as if we are reluctant to fully exploit the advantages of what modern technology brings us, out of fear that it will upset the relative stability of the system we built to fight the Cold War," said Myers.

The satellite launch business may suffer this problem. Despite much effort, military space remains tied to big satellites and a slow launch schedule. The service has made little progress toward true launch-on-demand capability.

That has not translated into military weakness—yet. But at some point in the future the US will face a situation "in which our ability to launch space control satellites, microsats or space maneuver vehicles on demand will be key to the decision superiority we need to gain full spectrum dominance," said Myers.

This does not mean that an entrenched bureaucracy will inevitably foil technological progress. In Joint Vision 2010 the US military has a good roadmap in place for ensuring that it prevails in tomorrow's battlespace.

"The Air Force has done a pretty good job of putting their vision statement right in sync with that," said Myers. "We can achieve that vision if we cast off the bureaucratic weight that impedes our progress." ■

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*Peter Grier, a Washington editor for the Christian Science Monitor, is a longtime defense correspondent and regular contributor to Air Force Magazine. His most recent article, "A Heads-Up From Whit Peters," appeared in the November 2000 issue.*

**Although healthy enough for the near term, the US space industry faces fundamental problems.**

# Trouble on the Final Frontier

By John A. Tirpak, Senior Editor

**T**HE US space industry, though relatively healthy at the moment, is perched on the edge of what could turn into a drastic decline unless the nation takes steps to revitalize it, change its course, and improve its profitability, warned Gen. Thomas S. Moorman Jr., the retired former vice chief of staff of the Air Force and commander of Air Force Space Command.

Moorman gave his assessment in remarks to a Dec. 1 Eaker Institute Colloquy on the future of the US space industrial base. The institute is the policy and research arm of the Air Force Association's Aerospace Education Foundation.

Moorman said that, currently, the US space industry boasts plenty of competition and an overabundance of capacity. However, the industry will rapidly shrink as some anticipated markets fail to materialize and profitability of working in the field drops to a level comparable to simply buying Treasury bonds.

Moreover, the space industry is failing to attract young talent in numbers sufficient to offset an overall graying of its engineering ranks. This trend will further hamper its ability to innovate and compete in the global market, Moorman said.

Moorman's remarks drew on a broader study, conducted by Booz Allen & Hamilton, surveying the health of the entire defense industrial base. Moorman was a lead author in that study, titled "US Defense Industry Under Siege—An Agenda for Change." It was performed on

behalf of Jacques Gansler, then undersecretary of defense for acquisition, technology, and logistics.

## Dirge for the Surge

Today, "there is more than adequate capacity" in everything from launch vehicles to spacecraft bus construction and integration to sensors and beyond, Moorman noted. In fact, there is still "overcapacity" in the field, as companies maintain more production capability than the level of work will justify. Many of those companies anticipated a huge surge in satellite construction and launch in the late 1990s and early 2000s, primarily to service a burgeoning telecommunications industry.

"I was one" of those predicting the surge, Moorman said, but "the projected launch demand is not likely to occur."

One reason: the emergence of cheap, plentiful, terrestrial, fiber-optic communications. This fact, coupled with a far greater demand for data communication (relative to voice communication), has dampened the market prospects for the commercial telephone satellites planned for the 2000s, Moorman noted.

Industrial overcapacity in the field of small communications satellites runs to only about 20 percent. However, the figure rises to 52 percent for medium-size satellites and 64 percent for large satellites.

Moorman acknowledged that the US military will need to "recapitalize all of its satellites" in the coming



decade or so, as old ones wear out or become obsolete. Everything from intelligence to weather satellites will have to be replaced by an industry increasingly dubious of doing the work.

However, said Moorman, "There is a lack of innovation incentives" for industry. Part of the problem is that years of stiff competition forced companies to lower their profit margins in order to obtain "must-win" contracts that sometimes determined which companies in a given field would survive. At the same time, government customers demanded greater confidence in the hardware being purchased.

Independent research and development funds, which traditionally have been used to develop technologies of the future, are increasingly being used simply for "buying down risk" on existing programs, Moorman said.

Companies doing business in the space industry can expect a return on investment scarcely higher than that of government bonds, but at far greater risk and cost than T-bonds, he noted. The industry's annual return on sales dropped from about 8.5 percent in the 1980s to 7 percent in the late 1990s, and the trends suggest the figure is headed even lower, to perhaps 3 percent per year.

Staying in the defense industry has meant consolidation in the last decade, Moorman noted, which forced many companies to take on enormous debt as they either bought or merged with other space companies. Some took on so much debt that their credit ratings declined to a level "just above junk bonds," Moorman asserted. Stock valuations consequently plummeted among the industry players. This in turn has helped drive companies to refrain from investing in their facilities and talent

pools to the degree they did in the 1980s or even early 1990s.

### Even Martha Stewart ...

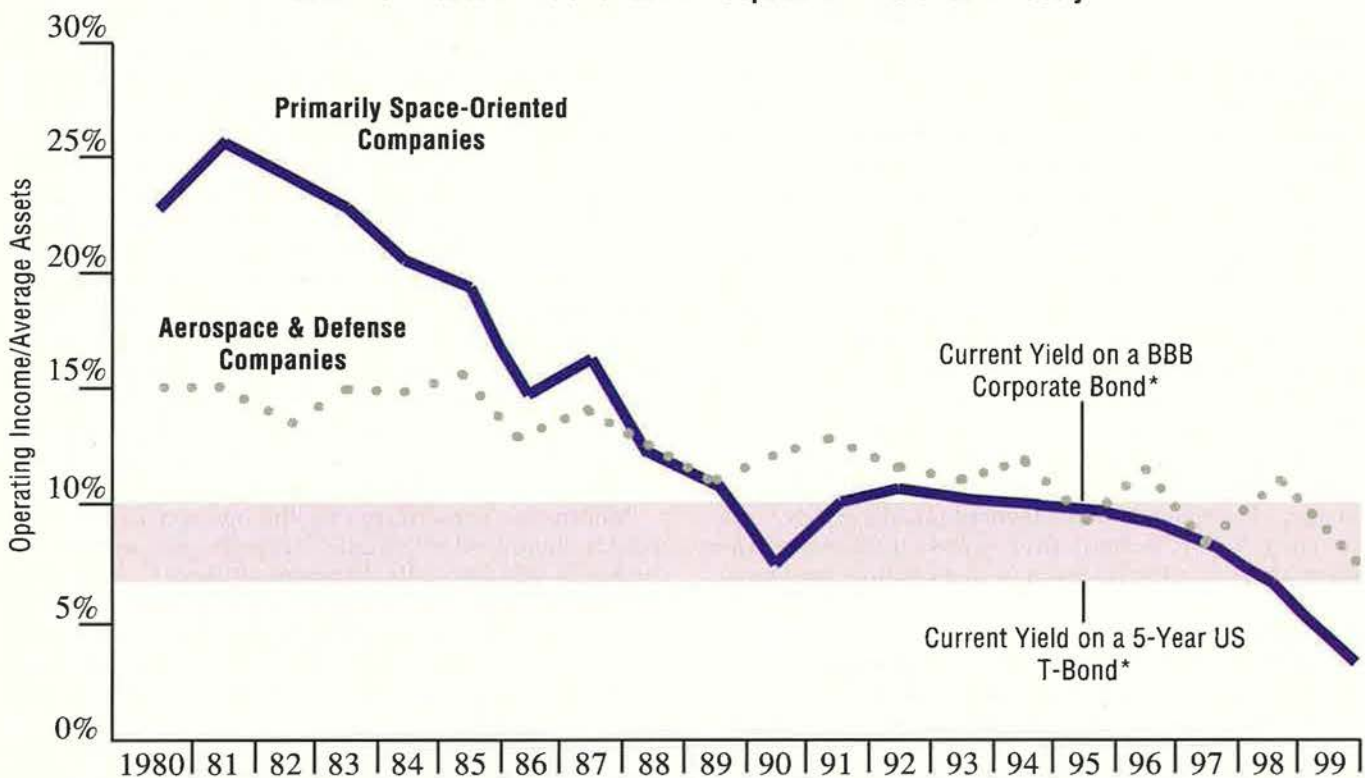
Former Deputy Defense Secretary John Hamre told a defense audience in 1999 that a danger signal could be found in the fact that the stocks of many proud names in the defense business were valued at less than the initial stock offering for the home product company, Martha Stewart Living Omnimedia.

While some defense stocks have recently rebounded, "the systemic issues [facing the industry] are still there," Moorman reported. He added that the stocks that have gone back up have benefitted from the recent "flight from NASDAQ" technology stocks, which took a beating in the last quarter.

Industry is also looking with mixed feelings at the 10-to-12-year process of replacing today's fleet of national security satellites, said Moorman. While lots of work will be available in the near term, a long procurement hiatus will follow. The satellites built will be more reliable, perform more types of missions, and last longer, meaning they will not need to be replaced again as often or in as great numbers as in the past.

A move to expand the export market for both satellites and launch services has been somewhat stymied by the US government, which has shown reluctance to possibly risk exposing its trade secrets to other countries. The Booz Allen study described this as "cutting off your nose to spite your face," since the loss of revenues allowed foreign space ventures to thrive while the US industry, short of funds, headed for stagnation.

**Return on Asset Trends for the Aerospace and Defense Industry**

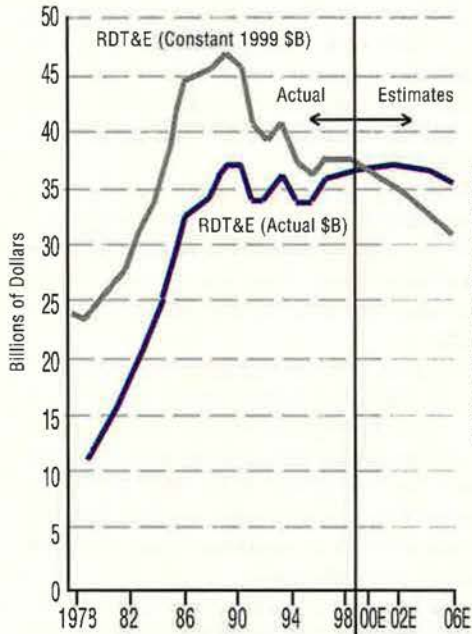


Source: Booz Allen & Hamilton: "US Defense Industry Under Siege—An Agenda for Change."

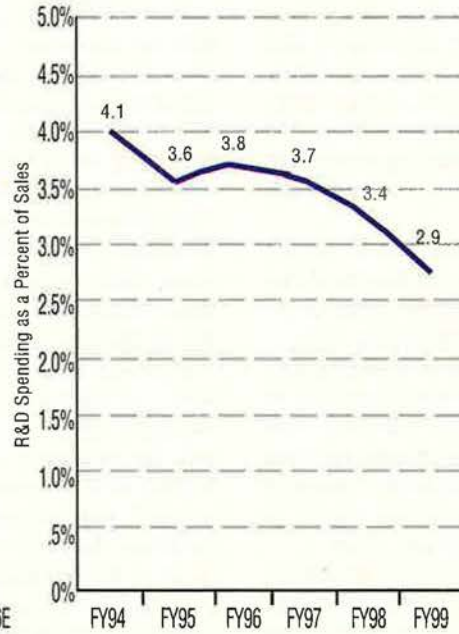
Note: The data base contains over 200 companies or sectors of large companies. Primary data are publicly released financial information, data from 10Ks, and annual reports. \*Current bond yields—the lower and upper limits will change based on market conditions.

## Decline in R&D

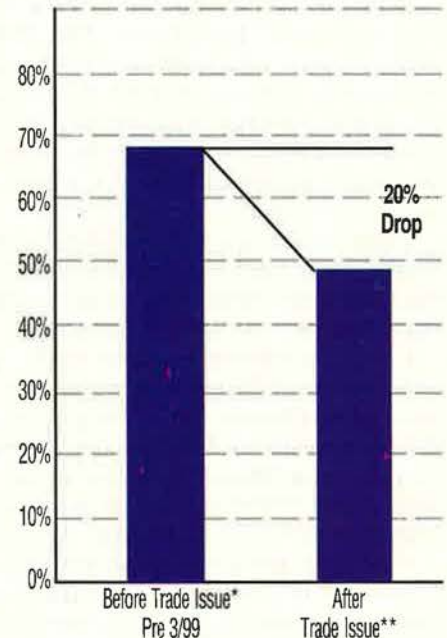
### US Government-Funded RDT&E Programs



### Company-Sponsored R&D Spending Trend



## Change in Probability of Win for US Prime on International Satellite Programs



Source for charts: Booz Allen & Hamilton: "US Defense Industry Under Siege—An Agenda for Change."

\*Estimate of probability of win based on orbit market share for US primes. \*\*Based on discussions with three large US commercial prime contractors.

The government's tendency to become involved in such transactions has reduced the US chances of winning such contracts.

Government doesn't "tend to understand industry's viewpoint" of the market, Moorman said, but it "should."

The health of the industry should be taken into account whenever program plans are reviewed, and industry's viewpoint—with its focus on return to the shareholder, profitability, and the long-term value of investment in facilities—should be part of the curriculum of procurement officer training programs, he maintained.

Furthermore, the procurement system needs to be changed to make the government a more attractive customer.

The Defense Department is "not a particularly reliable buyer," Moorman said. It is given to canceling, stretching out, or otherwise restructuring programs on a regular basis. While much of the turbulence stems from Congressional tinkering, the result is that industry becomes skittish of investing too much of its talent or facilities in projects that may never get off the ground.

The space industry's brain drain poses another enormous problem. Work in defense has acquired "a battered image," Moorman said, as technologically adept workers steer clear of defense firms whose stock prices were down and that offered few new and exciting programs.

### Attracting Youth

NASA, he said, dedicates much of its budget to innovative, "spiffy" research programs and, for that reason, is far more successful at attracting young engineers. They are looking for a place where they can make a difference, and defense houses just are not embarking on any bold new initiatives.

"Innovative stuff is what gets young people in the

door," Moorman said. Moreover, the allure of getting in on the ground floor of a wildly profitable new venture has drawn many industry workers to the "dot.com" operations.

The former space commander pointed out that fewer young Americans are even seeking to enter the science and engineering career fields. He noted that fully 40 percent of the students in American universities pursuing degrees in science and technology are foreign nationals.

Moorman said he wasn't seeking to make any kind of a "xenophobic" point about the statistic but only wished to note that the talent pool is dwindling. Foreign nationals often cannot work on the most sensitive military projects. In addition, Moorman said that many of them "go back to their country," where developing aerospace industries and national projects are held in high esteem.

Human resources specialists "have to be part of the strategic team" in setting a new course for the defense industrial base, Moorman said. He added, human resource people have "to give us data to tell us what the status of our workforce is and the quality of our workforce—very tough to do quality metrics."

Moorman's prescription for the industry is that companies should offer "unique" services and tie these together in what he calls "strategic alliances" with other companies. Eliminating unnecessary overhead will reduce costs to the customer and increase profits. Industry must also be more innovative in their way of doing business, finding less costly solutions through new processes or products.

Companies also need to do a far better job at streamlining themselves after mergers and adopt lean design and manufacturing techniques to speed and reduce the cost of new products. ■

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**“We will defend our interests from a position of strength.”**

# A Preview from **Powell**

**G**EN. Colin Powell, USA (Ret.), the 63rd US Secretary of State, is former Chairman of the Joint Chiefs of Staff (1989–93) and White House national security advisor (1987–89). On Dec. 16, then-President-elect George W. Bush announced Powell's nomination to the nation's highest diplomatic post. Here are excerpts of Powell's remarks on that occasion:

## **Sources of Strength**

“[S]trength comes to us from the power of our system, the democracy and free enterprise system. It comes to us from our economic power, it comes to us from our military power. And as we go into this new century and as we begin this new Administration, we have to make sure that all those elements of power are protected and allowed to thrive even more, with an economy that is strong, growing, part of the new international economic system, global trade, with military power. We are the best on the face of the Earth. We're going to keep it that way.”

## **US Military Power**

“[W]e're going to take actions early on to ensure that our young men and women who might be called to go in harm's way have what they need to be successful. We owe that to them. I spent a good part of my life helping those GIs get ready for battle, and I spent a good part of my life up on Congress, before Congress, working hard to get those troops what they needed. ... I will certainly be there with the Secretary of Defense, assisting the Secretary in getting what he needs for the military.”

## **The New World Map**

“[T]he old world map as we knew it—of a red side and a blue side that competed for something called ‘the Third World’—is gone. And the new map is a mosaic, a mosaic of many different pieces and many different colors spreading around the world, a world that has seen that Communism did not work, Fascism did not work, Nazism did not work. If you want to be successful in the 21st century, you must find your path to democracy, market economics, and a system which frees the talents of men and women to pursue their individual destiny.”

## **Internationalism and Allies**

“[W]e will continue to [pursue a] uniquely American internationalism, ... not by using our strength and our position of power to get back behind our walls, but by being engaged with the world, by first and foremost letting our allies know that we appreciate all we have been through over the last 50 years, and our alliances are as strong now as they ever have been, and they are as needed now as they ever have been, and we will work with our allies to expand and to make those alliances the center of our foreign policy activity.”

## **Handling Russia and China**

“We will work with those nations in the world that are transforming themselves, nations such as China and Russia. We will work with them not as potential enemies and not as adversaries, but not yet as strategic partners, but as nations that are seeking their way. We will have areas of agreement and areas of difference, and we will

## Colin Powell, Superstar

According to a recent Gallup poll, the US public has an extraordinarily positive view of retired Gen. Colin Powell, Secretary of State.

Fully 83 percent of Americans say they have a favorable opinion of him. Powell appeals to 90 percent of Republicans, 80 percent of independents, and 80 percent of Democrats.

The poll, conducted Dec. 15–17, showed Powell is better liked than other recent Secretaries of State. The favorable rating of his immediate predecessor, Madeleine Albright, was just 36 percent when she was named Secretary of State in January 1997. Her predecessor, Warren Christopher, received a 41 percent favorable rating from the public.

discuss them in rational ways, letting them know of our values, letting them know of the principles that we hold dear.”

### “We Will Stand Strong”

“For those nations that are not yet on this path of democracy and freedom, for those nations who are poorly led, led by failed leaders pursuing failed policies that will give them failed results, we will stand strong. We will stand strong with our friends and allies against those nations that pursue weapons of mass destruction, that practice terrorism. We will not be afraid of them, we will not be frightened by them. We will meet them, we will match them, we will contend with them. We will defend our interests from a position of strength.”

### Israeli–Palestinian Peace

“It is absolutely a given that, under a Bush Administration, America will remain very much engaged in the Middle East. I expect it to be a major priority of mine and of the department. It will be based on the principle that we must always ensure that Israel lives in freedom and in security and peace. But, at the same time, we have to do everything we can to deal with the aspirations of the Palestinians and other nations in the region who have an interest in this.”

### Persian Gulf Dangers

“We have a different situation now than we had in 1991 and 1992. At the end of the Gulf War, the Iraqi regime agreed to the conditions that brought an end to the conflict, that they would fully account for all the weapons of mass destruction and other evil technologies that they were working on. They have not yet fulfilled those agreements. And my judgment is that the sanctions in some form must be kept in place until they do so. We will work with our allies to re-energize the sanctions regime. And I will make the case in every opportunity I get that we’re not doing this to hurt the Iraqi people. We’re doing this to protect the peoples of the region, the children of the region, who would be the targets of these weapons of mass destruction if we didn’t contain them and get rid of them.”

### End of Saddam?

“Saddam Hussein is sitting on a failed regime that is not going to be around in a few years’ time. The world is going to leave him behind and that regime behind as the world marches to new drummers, drummers of democracy and the free enterprise system. And I don’t know what it will take to bring him to his senses. But we are in the strong position. He is in the weak position. And I think it is possible to re-energize those sanctions and to continue to contain him and then confront him, should that become necessary again.”

### Balkans Situation

“[O]ur plan is to undertake a review ... and take a look ... at our deployments ... in Bosnia and Kosovo and many other places around the world and make sure those deployments are proper. Our armed forces are stretched rather thin, and there is a limit to how many of these deployments we can sustain. So we’re going to take a look at that. We’re going to talk to our allies. We’re going to consult. We’re going to make on-the-ground assessments of what we’re doing now, what’s needed now, but also what is really going to be needed in the future and see if we can find ways that it is less of a burden on our armed forces. ... So we’re not cutting and running. We’re going to make a careful assessment of it, in consultation with our allies, and then make some judgments after that assessment is concluded.”

### National Missile Defense

“The President-elect has made a commitment to national missile defense. I have watched the debates on national missile defense for many, many years, and I think a national missile defense is an essential part of our overall strategic force posture, which consists of offensive weapons, command-and-control systems, intelligence systems, and a national missile defense. And I still harken back to the original purpose of such a defense, and that is to start diminishing the value of offensive weapons. We have been pursuing the technology. I’m quite confident that when a Secretary of Defense is named, that person will go into the Pentagon and make a full assessment of the state of technology—where are we and what can we accomplish?—and structure a plan that is consistent with the approach that then-Governor Bush gave in Washington early this year. So we’re going to go forward.”

### Persuading Allies

“We have to spend time discussing [national missile defense] with our allies, discussing it with other nations in the world that possess strategic offensive weapons and don’t yet understand our thinking with respect to national missile defense. These will be tough negotiations. I don’t expect them to be easy. But they will have to come to the understanding that we feel this is in the best interest of the American people—and not only the American people, the people of the world—to finally start to move in the direction where we can take away the currency associated with strategic offensive weapons and the blackmail that is inherent in some regime having that kind of weapon and thinking they can hold us hostage.” ■

This aircraft has been to some strange places.



By Norman Polmar

# When the U-2 Went to Sea

**D**URING 44 years of service with the Central Intelligence Agency and Air Force, the U-2 spyplane has been flown from bases in the United States, Britain, Cyprus, France, India, Pakistan, South Korea, Taiwan, Thailand, Turkey, South Vietnam, and a few other places.

And it has been operated from aircraft carriers.

Even with an operational radius of some 3,000 miles, U-2s flying out of "safe" land bases could not reach every single area of interest to the United States intelligence community. Some places were just too far away. Thus, in the late 1950s, the CIA came up with the idea of operating U-2s from carriers at sea.

Richard M. Bissell, head of the CIA's U-2 program, recalled, "Navy officials seemed interested when I approached them, but the Air Force refused to participate."

In mid-1963 the CIA initiated Project Whale Tale, the goal of which was to adapt U-2s for carrier operation. The glider-like configuration of the U-2 made it capable of taking off unassisted from a carrier when there was a high wind-over-deck factor. Its slow approach speed made arrested landings relatively easy, with the carrier's arresting cables kept at their lowest setting. The carrier could provide 30 knots of wind over deck into the face of the aircraft, resulting in a closing speed of just 50 knots. The airplane had plenty of power for a wave-off during landing.

Carrier flight tests commenced in August 1963. In the dead of night, a Navy crane lifted a U-2 onto the deck of the carrier *Kitty Hawk*, which was based at North Island naval air station in San Diego. On the next morning (Aug. 5), as the ship steamed off the California coast, Lockheed test pilot Bob Schumacher took off with a full fuel load and with a deck run of 321 feet.

### Hard Landing

Next, Schumacher made a number of practice approaches, and he then commenced landing. A CIA report said, "Although the takeoff was very successful, the attempted landing was not. The aircraft bounced, hit hard on one wingtip, and then just barely managed to become airborne again before reaching the end of the deck."

The Navy then performed modifications to three U-2A variants. It gave them stronger landing gear, an arresting hook, and wing "spoilers" capable of canceling aerodynamic lift when the aircraft came over the deck. These aircraft were designated as U-2Gs and painted with N-series civilian serial numbers and Office of Naval Research markings.

In preparation for further carrier operations, Schumacher and several other CIA pilots were checked out in the Navy's T-2A Buckeye jet trainer and made practice landings on the training carrier *Lexington*.

The first successful carrier land-

ing of a U-2G occurred March 2, 1964. Schumacher made a series of touch-and-go landings aboard the carrier *Ranger* steaming off the California coast. He then made the first full landing of a U-2 aboard a ship. In that first landing, the hook engaged, but the rear of the U-2 tipped up and the nose dug into the deck, breaking the pitot tube. After hasty repairs the U-2 was flown off.

A few days later, Schumacher and CIA pilots made several successful takeoffs from and landings on *Ranger*. The upshot of these successful trials was that the Navy considered five CIA pilots to be carrier-qualified.

The carrier-based U-2 evidently wasn't in high demand. In fact, it is known to have flown only one operational mission, as part of Operation Seeker. It occurred in May 1964. *Ranger* launched a U-2G spyplane to monitor nuclear tests carried out by France at Mururoa atoll, a Pacific test site in French Polynesia. U-2G photographs indicated that France would be ready for full-scale production of nuclear weapons within a year.

### Bigger Aircraft

Several more CIA pilots became carrier-qualified over the next few years, but the only significant event

concerned a change in aircraft when the program went to the U-2R.

The U-2R variant, which entered service in 1967, was 40 percent larger than the earlier U-2. It had twice the range and could carry a payload four times as large. The Navy aircraft had an arresting hook. The outer six feet of each wing folded back to facilitate handling aboard ship. The aircraft bore the fictitious Navy markings N812X.

The trials of the U-2R, using the deck of the carrier *America*, took place during the period Nov. 21-23, 1969, off the Virginia Capes. One of the pilots was Bill Park, a former Air Force fighter pilot and senior Lockheed test pilot. He was joined by four CIA pilots. The five of them underwent an abbreviated carrier training course and then flew the *America* trials.

Testers aborted the first landing attempt when they discovered that the ground crew had left the locking pin in the tailhook assembly. The rest were successful. In a report on the subsequent trials, Park said:

"The airplane demonstrated good wave-off characteristics, and I felt at the time that landing could be made without a hook. We required very little special handling and even took the airplane down to the hangar deck. The outer 70 inches of the



Above is a USAF U-2A. The Navy gave several U-2As stronger landing gear, an arresting hook, and spoilers. Designated U-2Gs, they were prepared for carrier operations in an effort to extend the range of US intelligence gathering.

wings fold and by careful placement on the elevator we could get it in [the hangar] with no problem.”

For all that, the idea of the seagoing U-2 just never generated much enthusiasm. The official CIA history contends that the agency conducted no further U-2 missions from an aircraft carrier. It said: “Aircraft carriers are enormously expensive to operate and require an entire flotilla of vessels to protect and service them. The movement of large numbers of big ships is difficult to conceal and cannot be hastily accomplished, while the deployment of a solitary U-2 to a remote airfield can take place overnight.”

The Navy wasn't finished with the U-2, however. In a separate program in 1973–74, two U-2R aircraft were modified to the U-2EPX configuration for evaluation by the US Navy



**A U-2R undergoes carrier qualifications on USS America in November 1969. By this time, the spyplane was 40 percent larger than earlier versions, but its wings folded up and it required little special handling on the carrier.**



**The Navy also evaluated the U-2 in an ocean surveillance role in the early 1970s. Shown here: a U-2EPX electronics patrol experimental aircraft in flight. In the end, the carrier-based U-2 flew only one known operational mission—over the South Pacific in 1964.**

for the ocean surveillance role. During the evaluation the airplanes were fitted with a derivative of the AN/ALQ-110 Big Look surveillance system, a modified AN/APS-116 forward-looking radar (useful for detecting surface ships and periscopes or snorkels of submerged submarines), and an infrared detection unit. The radar, fitted in the U-2's sensor or “Q” bay, had an antenna protruding below the fuselage in an inflatable radome.

The U-2EPX was to link its radar to surface ships under a program

known as Outlaw Hawk. Other sensors, including space- and land-based, were to be linked to a command center ashore and, subsequently, fitted in the carrier *Kitty Hawk*. During the Outlaw Hawk exercise involving *Kitty Hawk*, the carrier steamed from San Diego to Pearl Harbor, with the U-2s flying from

California. (The participation of U-2s in another Outlaw Hawk exercise in the Mediterranean was canceled.) The U-2EPX concept died because of high costs and the promised effectiveness of satellites for ocean surveillance.

Lockheed, ever hopeful of an enlarged U-2 program, also proposed the 315B design, a two-seat variant that would carry Condor anti-ship missiles under its wings. Development of the Condor missile—which was to have carried a conventional or W73 nuclear warhead—was canceled before becoming operational. Yet another “payload” envisioned for U-2s in this period was a pair of drones that would be released to serve as decoys for missiles fired against the U-2.

Still, no U-2 variant ever entered naval service. At the same time, Boeing proposed a much larger aircraft of this type (i.e., a powered glider with a 200-foot wingspan) for the ocean surveillance role. The Navy did not build it.

The carrier and naval aspects of U-2 development and operations, though interesting, occupy but a few pages in the record of the U-2 spyplane, a most unusual and important aircraft. ■

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*Norman Polmar is a Washington-based defense analyst and author. He has written several books on aviation, naval, and intelligence subjects, his latest being *Spyplane: The U-2 History*, on which he based this article. His most recent article for *Air Force Magazine*, “Longer Reach for Soviet Seapower,” appeared in the June 1990 issue.*



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He was more complicated than perceived by either his admirers or his detractors.

# The Real Billy Mitchell

By Rebecca Grant

**W**HICH Billy Mitchell was the real Billy Mitchell? Was it the firebrand who advocated strategic bombing and predicted in 1925 that, in the next war, “air forces will strike immediately at the enemy’s manufacturing and food centers, railways, bridges, canals, and harbors”? Or was it the experienced World War I air commander who authorized large numbers of ground attack and interdiction sorties and wrote, “Only by the combined work of all our arms will our full power be developed”?

The two Mitchells are indeed hard to reconcile. Mitchell’s career as an aviator lasted just 10 years, from flying lessons in 1916 until his resignation from the Army in 1926. He spent the post-resignation decade writing on aviation and other subjects, but he died in 1936, long before the great World War II test of airpower. He thus never had an opportunity to revise or expand his views. His record and writings produce many different images of the man—each one vivid.

One of the strongest negative images of Mitchell comes from the annals of naval aviation, where Mitchell is still regarded as a minor demon. This is perplexing. True, Mitchell did once refer to the aircraft carrier as “a snare and a delusion.” At the same time, some naval historians credit Mitchell with causing such a commotion about airpower that it forced Navy leaders in 1921 to establish the Bureau of Aeronautics. This was the cradle of naval aviation developments under Rear Adm. William A. Moffett.

Even Mitchell’s famous battleship bombing tests turned out to be helpful to naval aviation. Only days after Mitchell’s aviators sank the German battleship *Ostfriesland* off the Virginia Capes in 1921, Congress funded



*Mitchell was a bold advocate for airpower. In commanding air forces from several nations in 1918 and through later experiments and demonstrations, he laid the foundation for US airpower today.*

the first aircraft carrier. Naval aviators, however, never gave him any credit for this.

Conflicts between Mitchell and Moffett formed a true sore point that has lingered for decades. After the famous crash of the Navy airship *Shenandoah* on Sept. 3, 1925, Mitchell issued a 6,000-word statement that included this: “All aviation policies, schemes and systems are dictated by the nonflying officers of the Army and Navy who know practically nothing about it. The lives of airmen are being used merely as pawns in their hands.” The statement, as he predicted, brought him a court-martial.

#### “That SOB ...”

An aide found Moffett, who was in San Francisco, “pacing the floor” over Mitchell’s affront. To the aide, Moffett shouted, “Did you see what Billy Mitchell said? That son of a bitch is

riding over the Navy’s dead to further his own interests. I’m going back to Washington and put a stop to this!” Two days after the disaster, Moffett publicly denounced Mitchell, and soon the court-martial was on.

Moffett’s aide at that time was Jocko Clark, then a Navy lieutenant but destined to become a renowned World War II carrier admiral in the Pacific. Clark’s own encounters with Mitchell had an interesting twist. Four years after the *Shenandoah* incident, Mitchell and Clark traveled together to Langley, Va., for meetings of the National Advisory Committee for Aeronautics. As they came down from Washington, D.C., on a night steamer, Clark “listened to Mitchell by the hour, getting to know him quite well.” Said Clark: “His visions of aviation in the future were impressive. I had to admire him for his foresight, yet I realized that he was years ahead of his time.”

Clark's evenhanded treatment of Mitchell was—and is—unusual. It was the negative image that stuck. Intense hostility was still on display in 1963, almost 40 years after the court-martial, when naval historian Samuel Eliot Morison charged that “propaganda by Brigadier General William Mitchell” was one of the major factors that “kept the Navy weak” before World War II. Morison ridiculed Mitchell for prophesying around the clock. He dismissed the *Ostfriesland* experiments as “some practice sinkings of moored, unarmed, and defenseless naval hulks.”

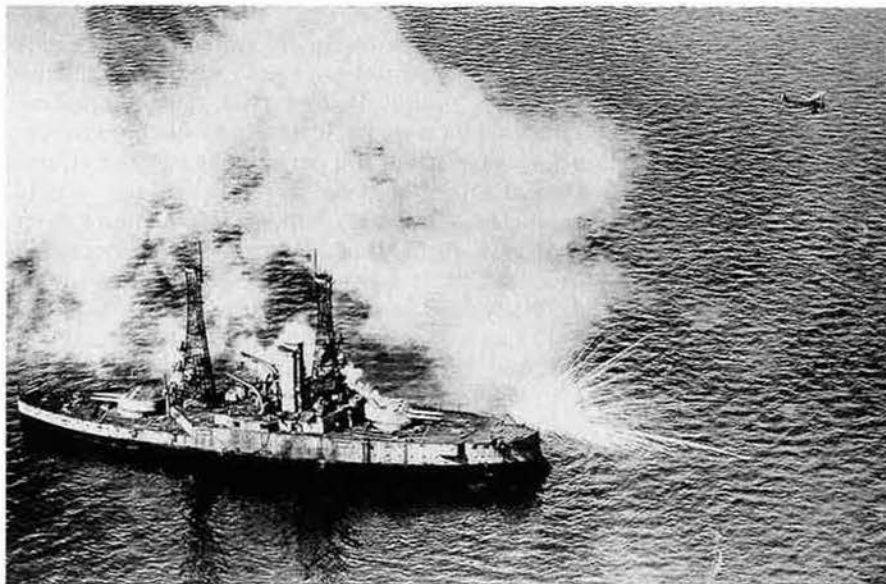
In 1991, Nathan Miller's short study, “The Naval Air War 1939–45,” carved up Mitchell on the last page for contending that “superior airpower will dominate all sea areas when they act from land bases.” Mitchell was hard to forget or forgive.

In the early Army Air Corps, Mitchell enjoyed a much more positive reputation, of course. However, he eventually lost favor among airmen, too. Many harsh reappraisals of the effectiveness of World War II strategic bombing tended to point an accusatory finger at Mitchell. He was blamed for engendering a bomber-only approach to air war, even though he had argued for the use of pursuit aircraft and bombers in combination.

### Not His Own Ideas?

Others questioned the originality of Mitchell's thought. These revisionists postulated that Mitchell had just absorbed his ideas on airpower from others such as Brig. Gen. Mason M. Patrick, the chief of American Expeditionary Force's Air Service in France in 1918, and Col. Thomas DeWitt Milling, chief of Air Service, First Army, in France.

Then came silence. In Col. John Warden's much-lauded 1988 book, *The Air Campaign*, Mitchell was not once mentioned, not even in the bibliography. Since Warden went over the concepts of air superiority and vital centers in detail, the omission suggested that Mitchell's World War I experiences in these areas had vanished from the scene as far as leading theorists within the Air Force were concerned. Several books on the Gulf War gave a nod to Mitchell for advocating strategic attack as a war-winning technique, but the vital-centers thesis captured only a



**After the *Ostfriesland*, Mitchell's bombardiers conducted a demonstration in September hitting the battleship *Alabama* with phosphorus (as shown here), tear gas, and other bombs.**

fragment of Mitchell's experience with employing airpower.

Mitchell's reputation hit rock bottom in 1994 with the publication by RAND of Carl Builder's book, *The Icarus Syndrome*. In Builder's eyes, Mitchell was so influenced by Giulio Douhet, the European airpower theorist, and British Maj. Gen. Hugh Trenchard, commander of the Royal Flying Corps, that he was more of “an advocate and promoter of airpower” than a “theorist or institution builder.” Mitchell was a “flaming evangelist” obsessed with airplanes and flying, whose legacy of seeing airmen as a breed apart reverberated “with devastating effects” for the Air Force down to the current day.

In 1997, a new collection of Mitchell's sayings emerged in print. It gave a more balanced view of his *bons mots* and remarked on the freshness and impact of what he had to say about airpower. Still, his reputation among airmen seemed to have come to rest on what he preached, not what he practiced. The net result was that Mitchell was seldom appreciated for what he did best: exercising professional and effective command of airpower.

The real Billy Mitchell—the one who made the most sense—was Mitchell the warrior. A much more detailed view of Mitchell comes through in his experiences commanding airpower in World War I, and this side illuminates all that he did later.

A good portrait of Mitchell emerges from accounts of his first visit to

Trenchard's headquarters. Trenchard had just spent two years figuring out how to employ airpower and deal with some difficult ground commanders. British fliers knew he was coming but Mitchell arrived at an inconvenient moment and Trenchard's aide, Maurice Baring, politely tried to reschedule.

At that moment, Trenchard appeared and asked Mitchell what he wanted.

“I'd like to see your equipment, your stores, and the way you arrange your system of supply,” Mitchell began. “Also, I need to know all you can tell me about operations, because we will be joining you in these before long.”

Fortunately, the hot-tempered Trenchard was disarmed by Mitchell's “good-natured impudence” and let the American shadow him for three days. Mitchell had a “deep respect” for Trenchard. Trenchard, for his part, called Mitchell “a man after my own heart” and told Baring that “if he can only break his habit of trying to convert opponents by killing them, he'll go far.”

With Trenchard, Mitchell showed his practical side and his desire to make the maximum impact with air forces. Trenchard taught Mitchell that the airplane was, above all, a weapon of attack to be concentrated in a vigorous offensive to control the air, reaching “just as far into the enemy country as possible.” First came air superiority. Afterward, artillery co-

operation, reconnaissance, and even ground attack and long-range bombing could follow. Airpower had to be under a unified command.

Mitchell was the perfect student. He was not only eager to learn but was also brilliant in applying Trenchard's guidance to the needs of Gen. John J. "Black Jack" Pershing and the AEF. It was here that he made his first, and greatest, contributions. The essentially static Western Front of 1914–17 had changed by 1918, becoming more fluid. In what Pershing called "open warfare," aviation was suddenly valuable. Commanders increasingly depended on air reconnaissance for rapid updates and comprehensive information about a developing battle. They also needed air superiority to keep the enemy's aircraft away from their troops. Air could also go after enemy soldiers trying to reinforce their lines or cover a retreat.

### Close and Deep

Mitchell picked up on these lessons on how air operations could help control the battle by operating both close and deep, or in his vernacular, producing both "tactical" and "strategical" effects.

Tactical aviation took place within the range of field artillery. Mitchell defined its primary function as ensuring "observation for the fire and control of our own artillery." "This kind of air work has been done now for three years and is well understood," said Mitchell.

Strategical aviation was "air attack of enemy material of all kinds behind his lines," including enemy aircraft, air depots, and air organization. Factories, lines of communication, and personnel were also strategical. As a rough guide, targets located 25,000 yards or more from the line—approximately the reach of most long-range artillery—were strategical targets.

As Mitchell explained, strategical aviation would "have an independent mission very much as independent cavalry used to have, as distinguished from divisional cavalry."

Neither tactical nor strategical air operations could progress too far without air superiority, and for Mitchell it was the top priority. In fact, Mitchell noted, he had French, British, and Italian forces chopped to him for the 1918 Battle of St. Mihiel to have "a preponderance in the air for at least two days before the Germans could concentrate." His grasp of the operational level of war gave airpower several roles in the overall campaign.

Mitchell also had to work with Army ground commanders and sometimes prod them to see the battle as airmen saw it. He had a lot to say about armies and navies after the war, but in France, he was an able air component commander who made real contributions to the joint effort.

Mitchell could grasp and analyze the whole of the campaign, just as a ground forces general would do. At

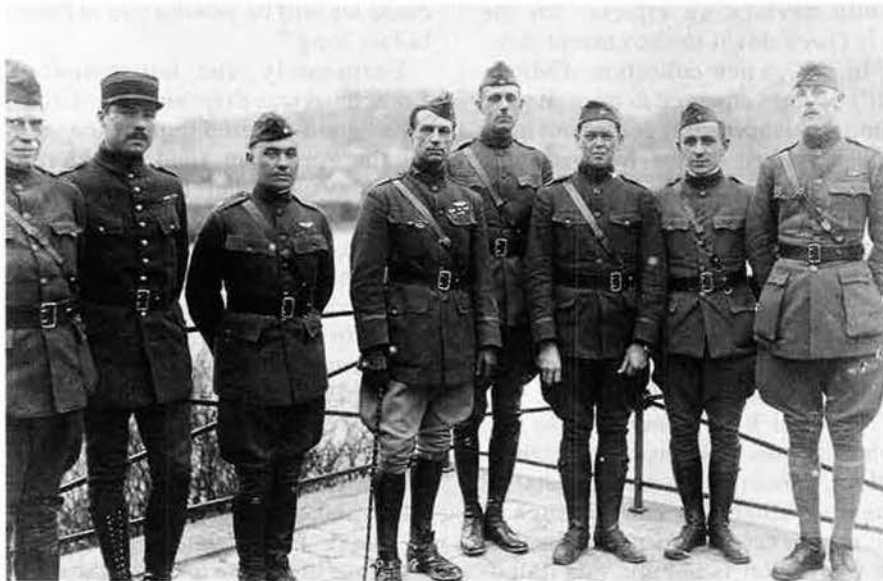
Soissons in July 1918, he flew over the lines and dashed back to the headquarters of Field Marshal Ferdinand Foch, the allied commander in France. "If we could get well to the rear of the enemy with our air forces and have tanks jump on him in front, we would come pretty near to destroying the German army," Mitchell reported.

### The Smile on Jack's Face

In his World War I memoirs, Mitchell told of attending Pershing's staff meeting just before the start of the battle at St. Mihiel. Army engineers wanted to delay the attack because of rain. Mitchell interjected that he had just been over the lines and saw enemy troops starting to evacuate the salient. According to Mitchell, "Pershing smiled and ordered the attack."

Pershing rewarded Mitchell with a big role for the Air Service. In preparation for St. Mihiel, Mitchell said, Pershing helped them "in every way" and had much for the "air people" to do. Pershing's official orders for the operation proved it: "The Army pursuit aviation will defend the Army front from hostile air attack, protect its own observation aviation, and hold itself in readiness to attack troops on the ground in the immediate vicinity of our front." This was a new and comprehensive air doctrine, tested by Trenchard, to be sure, but never combined with such a concentration of air in the way Mitchell did it for Pershing.

Historian Walter Boyne called St. Mihiel Mitchell's "signature note." As Mitchell said, it was "the first time in history in which an air force, cooperating with an army, was to act according to a broad strategical plan which contemplated not only facilitating the advance of the ground troops but spreading fear and consternation into the enemy's line of communications, his replacement system, and the cities behind them which supplied our foe with the sinews of war." Subsequent operations used the same tactics. Ten days later, at Argonne, the American Army had under its control more than 800 airplanes, which kept down the German aircraft during the initial stages of the battle and also rendered valuable service in bombing sensitive points and in securing information.



*Mitchell (at center, with walking stick) and his staff pose at Koblenz, Germany, in January 1919. His World War I experiences, he said, had "conclusively shown that aviation was a dominant element in the making of war."*

Mitchell's command of airpower forces during 1918 was so clear that his basic concepts could be seen in air employment in combined operations for the rest of the 20th century. He wrote of the German efforts to retreat from St. Mihiel: "Our air force, by attacking their transportation trains, railroads, and columns on the roads, piled them up with debris so that it was impossible for many of their troops to get away quickly, resulting in their capture by our infantry." Gen. Omar N. Bradley at the Falaise pocket in 1944 or Lt. Gen. Frederick M. Franks Jr., VII Corps commander, in the southern Iraqi desert in 1991 could have said the same thing.

### 1919 Offensives

To Mitchell, "the European War was only the kindergarten of aviation." He thought the next war could be devastating. The plans for the 1919 offensives may have loomed large in Mitchell's mind. In that year, the allies were to have mounted a major air offensive and carried it deep into Germany, using poison gas and incendiary weapons to decimate the opponent. Mitchell and others naturally took the plans as a jumping-off point for future war scenarios. In their view, airpower was a necessity, not a luxury. A strong, independent air force would be the major player from the start. If the air force withered, then when the next war came, "we would start out again by making terrible mistakes and perhaps be defeated before we began."

All of these influences produced in Mitchell a core belief: Development of airpower "must be based on the grand hypothesis that future contests will depend primarily on the amount of airpower that a nation could produce and apply." To back it up, he touched on his wartime experience, writing that the war had "conclusively shown that aviation was a dominant element in the making of war even in the comparatively small way in which it was used by the armies in Europe." His grand hypothesis committed Mitchell to do all he could to build up the efficiency of the air service. American airmen might get involved in a European war or they might be called to defend their own shores. If so, airmen needed to learn how to bomb ships.



**Maj. Gen. Mason Patrick, Chief of Air Service, is greeted at Bolling Field, D.C., in 1923 by Mitchell (right), his second in command. Mitchell criticized the Air Service's state of preparedness and equipment and was sent to the hinterlands.**

The coast defense problem showed Mitchell as a man who reveled in trying out new tactics and cared a great deal about how to build and run an air force.

His most famous set of experiments, of course, came with the ship bombing trials in the summer of 1921. Mitchell's interest in bombing ships probably dated back to his relationship with Trenchard, who had told Mitchell that, eventually, airpower would be greater than sea power and filled him in on the struggles with British naval aviators over how to defend the English Channel against German bombers.

In February 1920, Mitchell completed an attack plan for defense against an enemy fleet, using aircraft and dirigibles. He told his boss, "We must at all costs obtain the battleship to attack and the necessary bombs, planes, and so on to make the test a thorough and complete one."

Mitchell was a hands-on leader. He pulled together aircraft from bases around the US, set up rigorous practice schedules, and supervised every detail, down to the manufacturing of special 2,000-pound "monster bombs." Navy flying boats first sank a German submarine, then the Air Service sank a destroyer. Mitchell orchestrated every round, often directing operations from his command biplane *Osprey* while airborne over the scene.

Mitchell favored three-wave at-

tacks of pursuit aircraft, light bombers, and finally, heavy bombers. Soon, his forces at Langley were ready to go after the heavily armored *Ostfriesland*. A flight of aircraft with 600-pound bombs scored hits on the ship the first day before a Navy control vessel halted the test due to weather. The next day, with *Ostfriesland* listing and taking on water, bombers hit it with 1,100-pound bombs, then returning in the early afternoon with 2,000-pound bombs, sent it to the bottom.

### Pushing the Limits

The true highlights of Mitchell's air service career after 1919 were his experiments and tests. These ranged from setting world speed records and trying out long-distance air routes to simulating bombing attacks on US cities and leading expeditionary deployments to places like Bangor, Maine. Mitchell has been much criticized for not bowing to the limits of technology. His goal was to push those limits, and he did it audaciously.

The final image of Mitchell is the most contradictory one. In his book *Winged Defense*, Mitchell wrote that "airpower holds out the hope to the nations that, in the future, air battles taking place miles away from the frontiers will be so decisive and of such far-reaching effect that the nation losing them will be willing to capitulate without resorting to a further contest on land or water on account



**When a Navy dirigible crashed in a storm, Mitchell made a statement to the press, charging the War Department and Navy with incompetence and negligence. He was court-martialed (above) and in 1926 resigned from the military.**

of the degree of destruction which would be sustained by the country subjected to unrestricted air attack.”

Here was one of Mitchell’s most enduring points: Control of the air—and the threat of strategic bombing—might be sufficient all by itself to bring belligerent nations back from the brink. If that were true, he went on, then who would need armies and navies?

This image of Mitchell as the airpower prophet bears zero resemblance to that of Mitchell the air component commander at St. Mihiel. Mitchell wrote in his book, *Skyways*: “It is now realized that the hostile main army in the field is a false objective and the real objectives are the vital centers.” Taken alone, the vital-centers thesis seems to trump his wartime experience. Did Mitchell reverse himself and abandon his actual experience in wartime employment of airpower?

This is the true dilemma about Mitchell, but the first key is to consider the context. In his hope for a quick way to end war, Mitchell was an idealist. Some of it reflected the times. He was after all writing in the 1920s and 1930s, not long after the fatuous Kellogg-Briand Pact had “outlawed” war. It was a time when people believed in rational choice in statecraft. If the other fellow could see the cost, he might change his ways. Several sections of Mitchell’s books were laced with dreamy passages on how military airpower could

in peacetime perform all sorts of domestic functions from “patrolling against forest fires” to mapping, surveying, lifesaving, and “eliminating insect pests such as locusts and boll weevils.”

#### Percentages of Victory

The second key is to recall that Mitchell’s speculations all depended on a firm base: gaining control of the air first. He recommended a mix of 60 percent pursuit aircraft, 20 percent bombardment, and 20 percent observation aircraft for an air force, indicating clearly that he saw control of the air as a major task that would entail a major struggle. Mitchell was writing a decade before radar, better air defenses, and fast fighters changed the rules of the game. Still, his strategy depended most on building a strong air force. As in World War I, control of the air made everything possible: a threat to attack cities, or if it came to that, a way to dominate the battle on the ground or at sea.

Mitchell never closed the door on combined arms operations. In 1926, five days before he resigned his commission, Mitchell testified to Congress that, in the optimum national defense setup, “airpower would make

approximately 50 percent, the land forces 30 percent, and the sea forces 20 percent.”

Mitchell had many sides, positive and negative. With his use of the press and his lack of scruple about playing Congress, the President, the Army, and Navy against one another, Mitchell’s agitation and defiance surpassed anything Gen. Douglas MacArthur ever did.

There was also a quirky personal dimension to him, and it may explain a little about the real Billy Mitchell and why he walked into the court-martial. In July 1921, right in the middle of the *Ostfriesland* experiments, Mitchell’s wealthy wife, Caroline, left him. In the Washington of that day, divorce was a major event, and Mitchell’s was dramatic and public. One biographer described it as a “bitter struggle that could have erupted into a major scandal.” Apparently Mitchell’s marital “difficulties were common knowledge in Washington” and may have “made it easier for his opponents to dismiss Mitchell as irresponsible and unworthy of further advancement in the Army.”

That autumn, he got his boss fired in a showdown but failed to get the Air Service job for himself. Mason Patrick, the new Chief, sent Mitchell on a long European inspection tour. Mitchell flirted with resigning but backed down. Nonetheless, these episodes probably told him his options were limited. In 1923 he remarried, but well before then, Mitchell was man who had nothing to lose politically.

Mitchell will always be unique. He was a respected commander and a man who seized the chance to be America’s first combined force air component commander in 1918. He did it so well that he laid the foundation of American airpower. Mitchell was at his best when in command of air forces, either in France in 1918 or in the experiments he conducted in the early 1920s. He left later generations of airmen a wealth of experience on how to run air campaigns and air forces. That was what the real Billy Mitchell held most dear. ■

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**The airplanes were slow and ugly and they leaked, but they were a lifeline for the Vietnamese ground forces.**

# Mule Train

By Walter J. Boyne

**T**HE most satisfying flying jobs aren't always glamorous. Sometimes, a routine or even lowly task, offering no glory, turns out to be highly rewarding. Such was the case with Project Mule Train, a Vietnam-era operation that began on Dec. 11, 1961, and technically ended on Dec. 8, 1962.

The operative words here are "technically ended." Even though Mule Train officially came to a close after only one year, its innovative spirit influenced Vietnam War air cargo operations for the rest of the war. The name "Mule Train," now virtually forgotten, was always mentioned with respect.

USAF's Mule Train detachment was a C-123 airlift unit sent to provide tactical airlift support for South Vietnam's hard-pressed ground troops. Its primary purpose was to give the ground forces an assault capability via airdrop or insertion. Yet the unit also saw a great need for logistic support entailing daily delivery of supplies to remote sites in Vietnam.

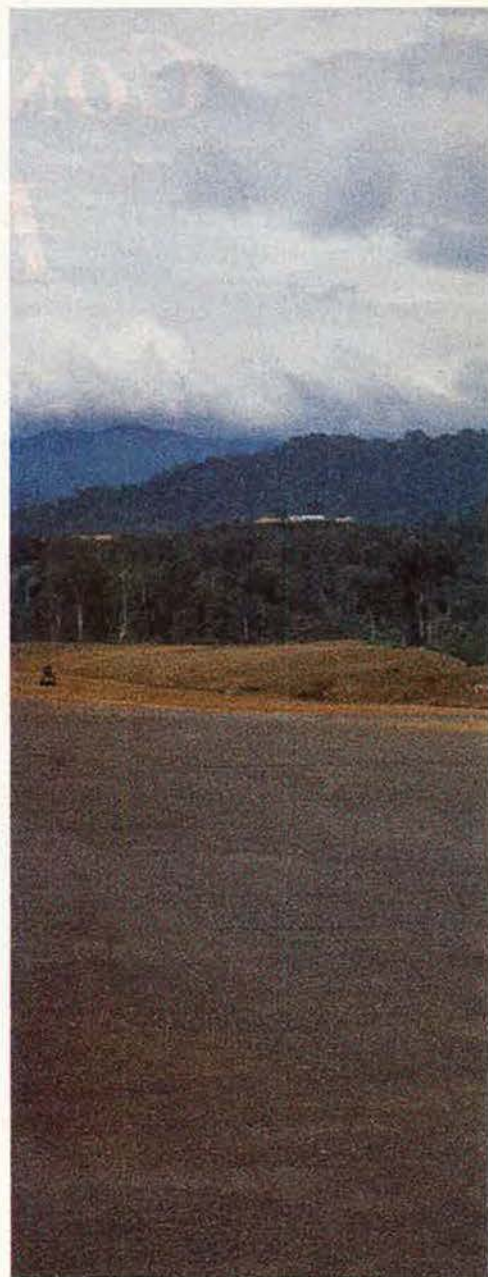
While hauling troops into battle or supplies to the troops, the Mule Train crews often had to go into

harm's way, operate independently with little air traffic control and under marginal weather conditions, flying in and out of small fields located in steep mountainous areas. And they did all this with an aircraft that was thought to be washed up. In reality, it proved to be perfect for the task.

"If ever an aircraft was in its element, it was the C-123B in SEA [Southeast Asia]," said Carl Wyrick, who as a captain flew the aircraft in Vietnam. "It was slow, ugly, leaked, and was hot when it was hot and cold when it was cold, but it was fun to fly—just like a big Super Cub."

The C-123, though never a candidate for best-looking-aircraft honors, was a solid performer, capable of carrying 60 fully armed troops, or up to 16,000 pounds of cargo. It could carry a variety of equipment, including jeeps, small artillery pieces, and ground support equipment. It had a hydraulically operated rear ramp, and the floor was both strongly built and well-fitted with strong tie-down points.

In pre-Vietnam days, Pope AFB, N.C., was home to five squadrons of C-123Bs. The aircraft had been de-







*Project Mule Train, which used C-123 aircraft, like the one above, to provide tactical airlift support for ground troops in South Vietnam, began in December 1961. At left, a C-123 lifts off from the runway at A Chau.*

clared obsolete and was slated to enter retirement in 1961.

### Kennedy's Decision

However, on Nov. 13, 1961, President Kennedy approved a recommendation by retired Army Gen. Maxwell D. Taylor, who was serving as military representative to the President and was recalled to active duty in 1962 to serve as Chairman of the Joint Chiefs of Staff, and Walt W. Rostow, a top national security advisor, to increase the mobility of South Vietnam's hard-pressed military. The White House authorized the Air Force to deploy one of Pope's C-123 squadrons and 40 Army H-21 helicopters to assist South Vietnam's forces.

On Dec. 6, the Defense Department ordered the 346th Troop Carrier Squadron (Assault) to the Far East for 120 days TDY "to participate in a classified training mission" in the official jargon of the day. The 346th was generally considered to be the best squadron in the wing and was manned by young pilots with an average 1,800 hours flying time—of which 1,500 were in the C-123. Crews were augmented with loadmasters (normally assigned to the Aerial Port Squadron) and additional ground personnel so that it could function as a unit upon arrival in Vietnam. (A second Mule Train squadron, the 777th TCS (A), arrived in South Vietnam on June 15, 1962. Eventually, both squadrons were placed under the 315th Air Commando Wing.)



Photo by Frederick P. Herky

***Mule Train's command and control was casual, with most missions flown under Visual Flight Rules. Crews slept in tents, and as one veteran described it, "Maintenance was mostly alfresco."***

On Dec. 11, Lt. Col. Floyd K. Shofner led the first eight aircraft from Pope. A second contingent took off on Jan. 2, 1962, led this time by the unit operations officer, Maj. Wayne J. Witherington. The aircraft had to be specially modified in order to traverse the vast Pacific region.

Upon arrival at Clark AB in the Philippines, the first crew spent two weeks recuperating from the long flight; later crews were often shipped out to Vietnam the same day. Two instructor pilots, Wyrick and Al Brezinsky, were pulled off to check out CIA's Air America pilots in the

C-123. Later, Air America offered jobs to both, but they declined.

Original plans called for aircrews to be assigned temporary duty for four-month tours. Soon, however, experienced crews had become so valuable that tours were lengthened to 179 days. Soon, the Air Force was giving permanent assignments for units, with individual tours extending for a year or more.

### The First Group Arrives

Most sources fix Jan. 2, 1962, as the date that the initial group of aircraft arrived at Tan Son Nhut AB in South Vietnam. The unit had been preceded on Dec. 28 by a team of officers from the 315th Air Division, led by Col. Lopez J. Mantoux. On Jan. 2, the unit became the airlift branch of the Vietnamese Air Force/2nd Advanced Echelon joint operations center, with responsibility for managing C-123 mission activity.

Ground crews immediately began working on the airplanes, knowing they were going to sleep under mosquito netting in tents and eat at a field kitchen. There was no billeting for the officers, who happily went downtown to a still generally quiet Saigon, where their \$16 per diem would pay for decent quarters at local places such as the Majestic Hotel.

Later, when some crews were transferred to equally primitive conditions at Da Nang, the officers also had to live under canvas on base and dine at the DOOM—Da Nang Offi-



Photo by Al Brezinsky

***The targets for the airdrops were sometimes small. One of them was described as being no bigger than a soccer field, allowing for only two bundles to be dropped per pass.***

cers' Open Mess—a three-barrel dip-and-wash facility.

Mule Train's C-123s commenced operations on Jan. 3. Initial plans called for six airplanes to fly four hours per day for the foreseeable future. The detachment's task was not easy. While there were three major radar sites—at Da Nang, Tan Son Nhut, and Pleiku—command and control was casual in the extreme. There were no first-rate instrument approach systems, no navigation aids, and no true communications facilities. Communications depended primarily on the shaky Vietnamese telephone system.

Perhaps a dozen of the major local airfields had low-frequency radio beacons, but these were considered too unreliable for instrument approaches. Consequently almost 100 percent of the flying was done under "Mark One Eyeball" Visual Flight Rules—often when the actual weather was below VFR minimums.

Mule Train crews soon adopted new operational techniques. Climbs and descents would be made in a spiral through a break in the overcast—the infamous "sucker hole"—and cruise would be just on top of the generally low-lying cloud layer.

All landing approaches had to be visual, but landings were sometimes made under highly marginal conditions. Whenever possible, flights were made at 2,500 feet along the coastline, away from heavy clouds and the ever-present Viet Cong marksmen.

All of the initial Mule Train missions were dedicated to carrying cargo. One-hundred-kilo sacks of rice were a major item, and at least one pilot over-grossed his aircraft by figuring them in at 100 pounds. The most typical commodities were live ducks, chickens, pigs, and cows, packed in locally made pens of wood and, when necessary, parachuted into the outlying camps. Mule Train aircraft also transported many Vietnamese natives. On more than one occasion, a Mule Train crew would smell smoke in the aircraft and find a traveler cooking food in the aircraft's cargo compartment.

There was no pretense that this was a South Vietnamese cargo operation, nor was there any training of Vietnamese for the task. Vietnamese were employed as "kickers" to move the cargo out the rear on resupply drops.



Photo by Al Brezinsky

*Camps out in the jungle didn't always have refrigeration, so sometimes supplies transported by the C-123s included "on the hoof rations"—pigs, ducks, and chickens in baskets and crates.*

The Mule Train detachment, in its first month of operations, put in 548 hours of flying. In the next month, the daily flight hour total was bumped from four to seven, and the flying hour total would grow steadily for the next year.

### Young Commanders

In Mule Train, the Air Force placed great confidence in young aircraft commanders, many of them first lieutenants. They were given authority to conduct operations with little oversight. In fact, many former Strategic Air Command crew members assigned to C-123 duty were awed at first by the freedom from having to call the command post when a decision had to be made.

Flying hours continued to grow, thanks to the dedication of the ground crews, who worked all night, in all weather, to get the aircraft ready. Flight mechanics were also invaluable, flying a mission, interpreting the problems, and then working with the ground crew to solve them.

Fortunately, the C-123 was a relatively simple and rugged aircraft. Its systems could take the heat and humidity better than more sophisticated aircraft. Tough landing gear and glider-strong fuselage could take the rough landings on short airfields, where stopping depended upon a slow approach, touching down on the edge of the airstrip, then full reverse and a steady, heavy foot on the anti-skid brakes.

Soon, the Mule Train route structure became linked to the hard-surface runways at Da Nang, Tan Son Nhut, Nha Trang, Bien Hoa, Pleiku, Ban Me Thuot, Hue, Da Lat, Soc Trang, Qui Nhon, and Vung Tau. Virtually every Mule Train sortie began or ended at one of these airfields, but intermediate stops could be anywhere.

Two C-123 aircraft were maintained at Da Nang to support northern outposts. Dropping supplies was handicapped by the lack of air-drop equipment, and for a time reliance was placed on 4-by-8 plywood sheets and leftover French parachutes. On one occasion, pilot Roger D. Haneline, then a captain, was dropping equipment when the plywood sheet twisted sideways on the interior aircraft ramp after the chute had deployed. The open chute kept dragging the C-123 down, and Haneline had to go to full takeoff power just to stay out of the treetops. He could not turn for fear of stalling, and the airplane was heading straight into "Indian Country"—Laos. At the last minute the loadmaster managed to cut the shrouds and the struggling C-123 could gain some altitude.

Frederick P. Horky recalls taking off from Da Nang to fly to Kontum, one of the main resupply points for the Special Forces camps. From there he flew air-drop sorties to a camp in the mountains near the Laotian border. The drop site was so small that Horky had to use five passes, drop-



**Capt. Frederick Horky (left) and his C-123 crew line up at Kham Duc during an off load. Horky says in the early days, aircrew carried an incredible assortment of weapons—including a Thompson machine gun the loadmaster holds here.**

ping two bundles on each pass, to deliver the cargo. The technique was to slide down the mountain, rotate to drop the bundles, claw up the hill on the other side of the camp, do a 180-degree turn, and then repeat the process, with the engines operating at maximum except takeoff power much of the time.

When he had delivered the cargo, Horky flew back to Kontum for the next load, making 10 sorties that day. During the entire period, the airlift control center had no contact with the aircraft nor had any idea of where they were or what mission they were flying. Control assumed correctly that necessary jobs were being done, satisfying the customer's needs on the spot.

### Pressure for More

The Mule Train logistic operation was paying dividends. However, Secretary of Defense Robert McNamara and Air Force Chief of Staff Gen. Curtis LeMay soon applied pressure for the Mule Train group to become more involved in the assault role. LeMay and other Air Force leaders were concerned that the Army might pre-empt the assault role if the Air Force didn't get moving.

The Mule Train crews were experienced in assault work, but they had to improvise for conditions in Vietnam. It was difficult to decide exactly where to drop paratroops over the rough terrain, and much depended upon the map-reading ability of the crew.

The die was cast on June 28, 1962, when 16 C-123s and 12 South Vietnamese C-47s dropped paratroops under adverse weather conditions about 35 miles north of Saigon. The operation went off well despite a 500-foot ceiling.

On other occasions, the C-123s would load up troops from the South Vietnamese airborne brigade in Saigon to fly to the relief of a village that had come under attack. Over the village, the C-123 pilot would reduce power, drop flaps, and spiral down to the drop altitude and give the paratroopers a green light to jump.

At times, C-123 crews were uncomfortable with the assault role. South Vietnamese Special Forces were sometimes capricious about when and where they would fight. Straight cargo operations were hazardous enough, especially during the monsoon season when South Vietnamese troops were socked in in the mountainous valleys. To execute the mission, the C-123s would line up in a proper direction, let down in the undercast, and if they did not break out by a given altitude, would climb back up. There were usually 800-foot ceilings in the valleys, and most of the time they broke out.

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Mule Train missions during 1962 became extremely diverse, with the C-123s serving in roles ranging from duck delivery to napalm bombing. In the latter role, the Provider carried nine wooden pallets, each holding three 55-gallon drums of napalm mixed with gasoline. With a good kicker, the load could go out the back ramp in less than five seconds and leave a pattern of flame 1,200 feet long.

The ground crews and the enlisted aircrews shared the dangers of the war with their officers, and it was an enlisted man, A1C Howard W. Wright, who would become the first C-123 crew member to be wounded by VC ground fire. He was hit in the right thigh while the aircraft was descending to Tan Son Nhut on July 10. The crews began using flak vests as interim armor plate.

The rapid influx of aircraft and ad hoc nature of the requests for airlift had resulted in some Army dissatisfaction with Mule Train operations. The problem lay in the lack of aerial port facilities and inadequate communications. There was little that could be done to rectify the situation.

In October 1962, there began what became known as the Southeast Asia Airlift System. Requirements were forecast out to 25 days, and these requirements were matched against available resources. The 315th Troop Carrier Group and 8th Aerial Port Squadron came into being and set the stage for tighter control of airlift operations. Secure field phones and a radio network became available, and the carrying of cargo became much more conventional, if perhaps a little less fun.

Flying became more stable and bureaucratic. The era of the Mule Train operation was over. It left behind a record of success and a collection of procedures and techniques for cargo work in Southeast Asia. Many of the men of Mule Train returned for second and third tours, some in the C-130 that replaced the C-123. For all of them, however, there was nothing that could replace the spirit and success of the original Mule Train. ■

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By Frances McKenney, Assistant Managing Editor

## On the Hill

Congress now has only 134 members who have served in the military, according to the AFA's Government Relations Department.

The 106th Congress had 137 members who had military experience. There were 140 in the 105th Congress.

None of the incoming freshman members have served in the Air Force, although 11 have other military service, either active or reserve.

As the numbers go down, the role of AFA and other Military Coalition organizations to inform Congress about military issues grows even more important. AFA's National Chairman of the Board Thomas J. McKee said, "AFA's interaction with the Congress remains a top priority. Nationwide we must continue to promote a strong national defense through aerospace power. Our airmen need our support, and we will deliver."

AFA has already begun setting up visits to new members of Congress for McKee, and the first Air Force Caucus breakfast is scheduled for this month.

## Space Partnership

The 29th annual Air Force Ball in Los Angeles highlighted the theme "Space Partnership—Achieving the Vision." Sponsored by the Air Force Association, **Gen. B.A. Schriever Los Angeles Chapter**, **General Doolittle Los Angeles Area Chapter**, and **Orange County/Gen. Curtis E. LeMay Chapter**, the black-tie gala was part of a week's activities known as the Los Angeles Space Celebration.

Other events that week included the AFA National Symposium and the Los Angeles Space Social, held in honor of top corporate and senior defense leaders. Secretary of the Air Force F. Whitten Peters received an AFA Distinguished Service Award for his "articulate support of the Expeditionary Aerospace Force concept."

Robert K. Henry, president of Harris Government Communications Systems Division, served as general chairman of the ball, with Lt. Gen. Eugene L. Tattini, Space and Missile



USAF photo by Ron Hall

*At the Air Force Ball in Los Angeles, AFA National Chairman of the Board Thomas McKee (right) congratulates Gen. Richard Myers, vice chairman of the Joint Chiefs of Staff, on receiving the Gen. Thomas D. White Space Award. The award recognized Myers's tenure as head of NORAD, US Space Command, and Air Force Space Command. Rudy de Leon, deputy secretary of defense, and G. Wesley Clark (at far left), board chairman of the Gen. B.A. Schriever Los Angeles Chapter, assisted in the presentation.*

Systems Center commander, as military host.

Air Force Balls in Los Angeles have raised \$3.9 million to benefit the Aerospace Education Foundation, the Schriever Education Foundation, and other aerospace education activities.

## Up For Bid

Twenty yards of concrete and a continuing education class at Minot State University were among the donations from local organizations that made for a successful fund-raising auction held by the **Gen. David C. Jones (N.D.) Chapter** in November.

MSgt. Robert P. Talley, chapter president, said donations from Community Partners, local businesses, and Minot AFB units also included a VCR from the base exchange, an electric grill from an energy cooperative, tickets to the local hockey and basketball teams' games, and USAF souvenir coins.

The auction netted just under \$5,000—a record amount for the eight years the chapter has held this event. The chapter uses the funds for projects that support base personnel, such as scholarships, an awards banquet, military appreciation day picnic, and "Yard of the Month" and "Best Decorated House" contests for on-base housing.

## Tech Talk

Uday K. Vaidya, an associate professor of mechanical engineering at North Dakota State University in Fargo spoke to a December meeting of the **Happy Hooligan (N.D.) Chapter**.

Vaidya has carried out research projects sponsored by the Air Force Research Laboratory, Wright-Patterson AFB, Ohio, on damage tolerance of resin constructions used in modern aircraft and survivability of composite aircraft structures.

At the chapter meeting, he spoke about the characteristics, applica-

tions, affordable processing, and modeling of composites. The audience of active duty, Guard, and AF-ROTC cadets asked questions on repair strategies for damaged aircraft, costs, and the space shuttle's use of composites.

The professor had been invited to the chapter on the initiative of Gary H. Olson, North Central Region president and the chapter's secretary, who had heard him speak to another group on consulting work he had done for the Army on composites.

"It is a pleasure to speak to veterans and Army-Air Force personnel who can relate to the research issues," Vaidya said.

#### In Arizona

The **Frank Luke (Ariz.) Chapter** celebrated its 20th anniversary in December at the Desert Star Enlisted Club on Luke AFB, with AFA National President John J. Politi on hand to offer congratulations.

The base newspaper reported that Politi told the holiday banquet-goers, "There is no doubt that Congressional staffers and Congressional members view the AFA as a creditable source of information."

Among the local dignitaries present were Tom McCanna, a local staffer in Arizona Republican Sen. John McCain's office, and Brig. Gen. (sel.) Stephen T. Sargeant, 56th Fighter Wing commander. AFA area leaders included Scotty Wetzel, Southwest Region president; Arthur W. Gigax, Arizona state president; and Harry Bailey, chapter president.

In his swing through Arizona, Politi also attended a dinner meeting of the **Phoenix Sky Harbor Chapter**. Among the guests were Gigax, Hector F. Evans Jr., chapter president, Bailey M. Crawford, the chapter's vice president, and Luke Chapter President Bailey.

#### Honoring a Supporter

The **Langley (Va.) Chapter** helped honor the late US Rep. Herbert H. Bateman when the new library at Langley AFB was dedicated in the Republican Congressman's name in November.

Stephen A. Mosier, chapter immediate past president, announced at the ceremony that Bateman had been named a Goldwater Fellow and that the chapter would make a \$5,000 donation in his name to AEF.

Bateman, who died in September, served nine terms and had been a member of the House Armed Services Committee and chairman of its military readiness subcommittee. He served in USAF from 1951 to 1953.



Photo by MSgt. David Siedling

*In a suit, AFA Special Assistant Pacific Gary McClain stands out among the BDU-clad folks at a Miss Veedol Chapter meeting at the Tohoku Enlisted Club, Misawa AB, Japan. The chapter honored Pacific Region Teacher of the Year Robin Evans (fourth from right) of Sollars Elementary School, Misawa.*

The previous library at Langley burned down in 1996 and Bateman had helped procure funds for the new one.

#### Headdress and Sword

The Connecticut Air National Guard's first induction ceremony for its chief master sergeants honored 21 chiefs and one officer. Col. Walter L. Burns, former commander of the 103rd Fighter Wing, Bradley IAP, Conn., was named an honorary chief.

CMSgt. Gary R. Broadbent, the command chief master sergeant to the ANG director, was the guest speaker at the October ceremony and banquet.

In August 1997, Burns became the first active duty Air Force officer to head an ANG unit. He was reassigned in May 2000 to the Aerospace Expeditionary Force Center at Langley AFB. He returned to Connecticut for the induction, having been selected because of his championship of chief master sergeants as top managers.

AFA officers who turned out for the induction ceremony included Joseph A. Zaranka, AFA national director; Joseph R. Falcone, state president; Wayne Ferris, president of the **Gen. Bennie L. Davis Chapter**; William Shields, president of the **Lindbergh/Sikorsky Chapter**; Frederick J. Chaison III, secretary of the **Gen. George C. Kenney Chapter**; George H. Worrall III, **Northern Connecticut Chapter** president; and Carolyn R. Fitch, president of the **Sgt. Charlton Heston Chapter**.

#### Re-enacting Miss Veedol

At a recent chapter meeting, the **Miss Veedol (Japan) Chapter** organized a *Miss Veedol* Commemoration Flight Committee. Its purpose is to promote the re-enactment of the first nonstop trans-Pacific flight.

The flight originated in Japan, near Misawa City in 1931. Former Army Air Service pilot Clyde E. "Upside Down" Pangborn and copilot Hugh Herndon Jr. took off in a Bellanca monoplane called *Miss Veedol* and landed 41 hours and 13 minutes later in Wenatchee, Wash. They had covered approximately 4,500 miles.

The Experimental Aircraft Association's Wenatchee chapter is building a *Miss Veedol* replica. The flight re-creation is scheduled for 2003.

#### 85th Anniversary

AFA National Director William G. Stratemeier Jr.; Alphonse Parise, president of the **Francis S. Gabreski (N.Y.) Chapter**; and Ney Carr from the **Nassau Mitchel (N.Y.) Chapter** were among the AFA members joining the 85th anniversary celebration of the 102nd Rescue Squadron, the oldest flying unit in the Air National Guard.

According to a unit history, the squadron was officially formed in November 1915 but traces its roots back even further. Today the 102nd is part of the 106th Rescue Wing (ANG), Francis S. Gabreski IAP, N.Y.

Wing Commander Col. Bobby L. Brittain—a Gabreski Chapter member—hosted the anniversary ceremonies. Honored guests included Maj.

## AFA/AEF National Report

Gen. John H. Fenimore V, state adjutant general, and Maj. Gen. Archie J. Berberian II, state ANG chief of staff. Both are from the **Albany-Hudson Valley Chapter**. Also participating was CMSgt. Robert C. Smolen of the **Forrest L. Vosler (N.Y.) Chapter**.

### More AFA/AEF News

■ The **Lt. Col. Philip Colman (Ga.) Chapter**, hosted the Southeast Region Workshop in November at Ft. Gordon, Ga. Chapter charter member Bob Young, mayor of Augusta, opened the workshop and also received an AFA coin, presented by Zack E. Osborne, Southeast Region president. Young served four years in the Air Force, including two years with Military Assistance Command, Vietnam. Among the 37 AFA officials at the workshop were Georgia State President Robert E. Largent, North Carolina State President Gerald V. West, South Carolina State President Roger Rucker, and National Directors Dan Callahan and Jack H. Steed.

■ The **Gen. Russell E. Dougherty (Ky.) Chapter's** November meeting featured Lt. Gen. Ronald C. Marcotte, vice commander of Air Mobility Command, Scott AFB, Ill. He had earlier



**Robert Perry, Brig. Gen. James R. McCarthy (Fla.) Chapter president, presents the Top Overall School trophy to cadets Kim Jacobs (left) and Kimberly Brenner. Their school, Nathan B. Forrest Senior High School of Jacksonville, Fla., competed in the Pine Ridge High School (Deltona, Fla.) drill competition.**

that day visited the 123rd Airlift Wing (ANG) at Louisville IAP/AGS, Ky. According to Thomas "Nat" Millican, chapter president, Marcotte told the audience that even with C-17 transports performing above expectations

and C-5s receiving life-extending modifications, the nation's airlift capability falls short of requirements.

■ The **Harry S. Truman (Mo.) Chapter** held its quarterly dinner meeting in November around the theme "Salute to Our Youth." Funds raised during the annual silent auction at the meeting will help the chapter support five local AFJROTC units. Charles H. Church Jr., who recently completed five terms as AFA National Treasurer, was also honored that evening.

■ Richard A. Ortega, Florida state vice president for aerospace education and a **Central Florida Chapter** member, received an Air Force Spirit Award at a Veterans Day ceremony in Orlando, Fla., attended by representatives of more than 30 military organizations, as well as AFROTC and AFJROTC cadets and numerous public officials. Chapter member Sally A. Kopke presented Ortega with \$100, which he donated to AEF. ■

# AFA Awards

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**E3 New Community Partner Plaque.** 7" x 9" cherry veneer with AFA logo in gold. **\$11**

**E4 Laser Engraved Walnut Plaque.** For outstanding service to AFA. 8" x 9" with AFA logo in gold and 4.5" x 1.5" engraving plate. **\$32**

**E5 Cross Pen & Pencil Desk Set.** Walnut base with gold plate for engraving. **\$120**

**E6 Community Partner Plaque.** 7.5" x 8.5" veneer and plexiglass with full-color logo. **\$11**

**E7 Analog Walnut Clock.** 4" x 6" with engraving plate. Accurate quartz movement. **\$46**

**E8 AFA Executive Desk Top Clock.** 8" x 5.25" solid walnut with AFA brass medallion and 4.25" engraving plate. Accurate quartz movement. **\$54**

**E9 AFA Cherry Wedge Wood Clock.** 5" x 4" **\$43**

**E10 (Not shown) AFA Brass Medallion.** (As seen on E8 clock) **\$15**

### Corrections

The chairman of AFA's Long-Range Planning Committee was listed incorrectly in January, p. 78. The chairman is Robert E. Patterson. Also, Roy A. Boudreaux should have been listed under the Resolutions Committee.

**Unit Reunions coverage  
will resume with the  
March issue.**



# Books

Compiled by Chequita Wood, Editorial Associate

**Air Commando Chronicles: Untold Tales From Vietnam, Latin America, and Back Again.** Col. Robert L. Gleason, USAF (Ret.). Sunflower University Press, 1531 Yuma, PO Box 1009, Manhattan, KS 66505-1009 (800-258-1232). 149 pages. \$24.95.



**FDR: The War President, 1940-1943.** Kenneth S. Davis. Random House, 40C Hahn Rd., Westminster, MD 21157 (800-733-3000), 848 pages. \$39.95.



**Reconnaissance Is Black.** Col. David W. Irvin Jr. Turner Publishing Co., PO Box 3101, Paducah, KY 42001-3101 (800-788-3350). 112 pages. \$24.95.



**The Ash Warriors.** C.R. Anderegg. GPO, Supt. of Documents, PO Box 371954, Pittsburgh, PA 15250-7954 (202-512-1800). 146 pages. \$21.00.



**Hann's Crew.** E.J. Johnson. Turner Publishing Co., PO Box 3101, Paducah, KY 42001-3101 (800-788-3350). 151 pages. \$21.95.



**Shadow Flights: America's Secret Air War Against the Soviet Union.** Curtis Peebles. Presidio Press, 505 B San Marin Dr., Ste. 160, Novato, CA 94945-1340 (415-898-1081). 322 pages. \$27.95.

**Black Sheep One: The Life of Gregory "Pappy" Boyington.** Bruce Gamble. Presidio Press, 505 B San Marin Dr., Ste. 160, Novato, CA 94945-1340 (415-898-1081). 452 pages. \$29.95.



**How Hitler Could Have Won World War II: The Fatal Errors That Led to Nazi Defeat.** Bevin Alexander. Crown Publishers, 400 Hahn Rd., Westminster, MD 21157 (800-733-3000). 337 pages. \$25.95.



**Silent Warrior: The Marine Sniper's Vietnam Story Continues.** Charles Henderson. The Berkley Publishing Group, 375 Hudson St., New York, NY 10014 (212-366-2155). 286 pages. \$21.95.



**Challenge to Apollo: The Soviet Union and the Space Race, 1945-1974.** Asif A. Siddiqi. GPO, Supt. of Documents, PO Box 371954, Pittsburgh, PA 15250-7954 (202-512-1800). 1,011 pages. \$79.00.



**The Human Tradition in the World War II Era.** Malcolm Muir Jr., ed. SR Books, 104 Greenhill Ave., Wilmington, DE 19805-1897 (800-772-8937). 285 pages. \$50.00.



**The Supercommandos: First Special Service Force, 1942-1944, An Illustrated History.** Robert Todd Ross. Schiffer Publishing, Ltd., 4880 Lower Valley Rd., Atglen, PA 19310 (610-593-1777). 319 pages. \$59.95.

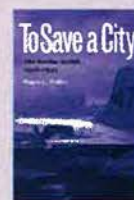
**The China Threat: How the People's Republic Targets America.** Bill Gertz. Ragnery Publishing, Inc., One Massachusetts Ave. NW, Washington, DC 20001 (202-216-0600). 280 pages. \$27.95.



**Into the Shadows Furious: The Brutal Battle for New Georgia.** Brian Altobello. Presidio Press, 505 B San Marin Dr., Ste. 160, Novato, CA 94945-1340 (415-898-1081). 408 pages. \$29.95.



**To Save a City: The Berlin Airlift, 1948-1949.** Roger G. Miller. Texas A&M University Press, 4354 TAMU, College Station, TX 77843-4354 (800-826-8911). 253 pages. \$34.95.



**Cyberwar 3.0: Human Factors in Information Operations and Future Conflict.** Alan D. Campen and Douglas H. Dearth, eds. AFCEA International Press, 4400 Fair Lakes Ct., Fairfax, VA 22033-3899 (800-336-4583). 309 pages. \$29.95.



**Keepers of the Keys.** Col. Charles V. Clark, USAF (Ret.). Doran Publishing, PO Box 2123, Escondido, CA 92033 (760-743-5020). 196 pages. \$18.95.



**United States Naval Aviation, 1910-1918.** Noel C. Shirley. Schiffer Publishing, Ltd., 4880 Lower Valley Rd., Atglen, PA 19310 (610-593-1777). 336 pages. \$59.95.

# Pieces of History

Photography by Paul Kennedy

## Doolittle Raiders



Courtesy of the US Air Force Museum, Wright-Patterson AFB, Ohio

*In this display at the US Air Force Museum, the North American B-25 Mitchell is highlighted in one of the bomber's most famous World War II roles—as the aircraft for the Doolittle Raiders. A mannequin at right portrays Lt. Col. Jimmy Doolittle talking with a Navy deck officer, while Army Air Forces and Navy crew members load bombs on a B-25. In April 1942, the carrier USS*

*Hornet transported 16 B-25s to within 800 miles of Japan to enable theAAF bombers to strike targets in Tokyo and three other Japanese cities. Doolittle piloted the first bomber off the carrier deck. The raiders reached Japan and dropped their loads. This first attack on the Japanese homeland greatly boosted US morale.*



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