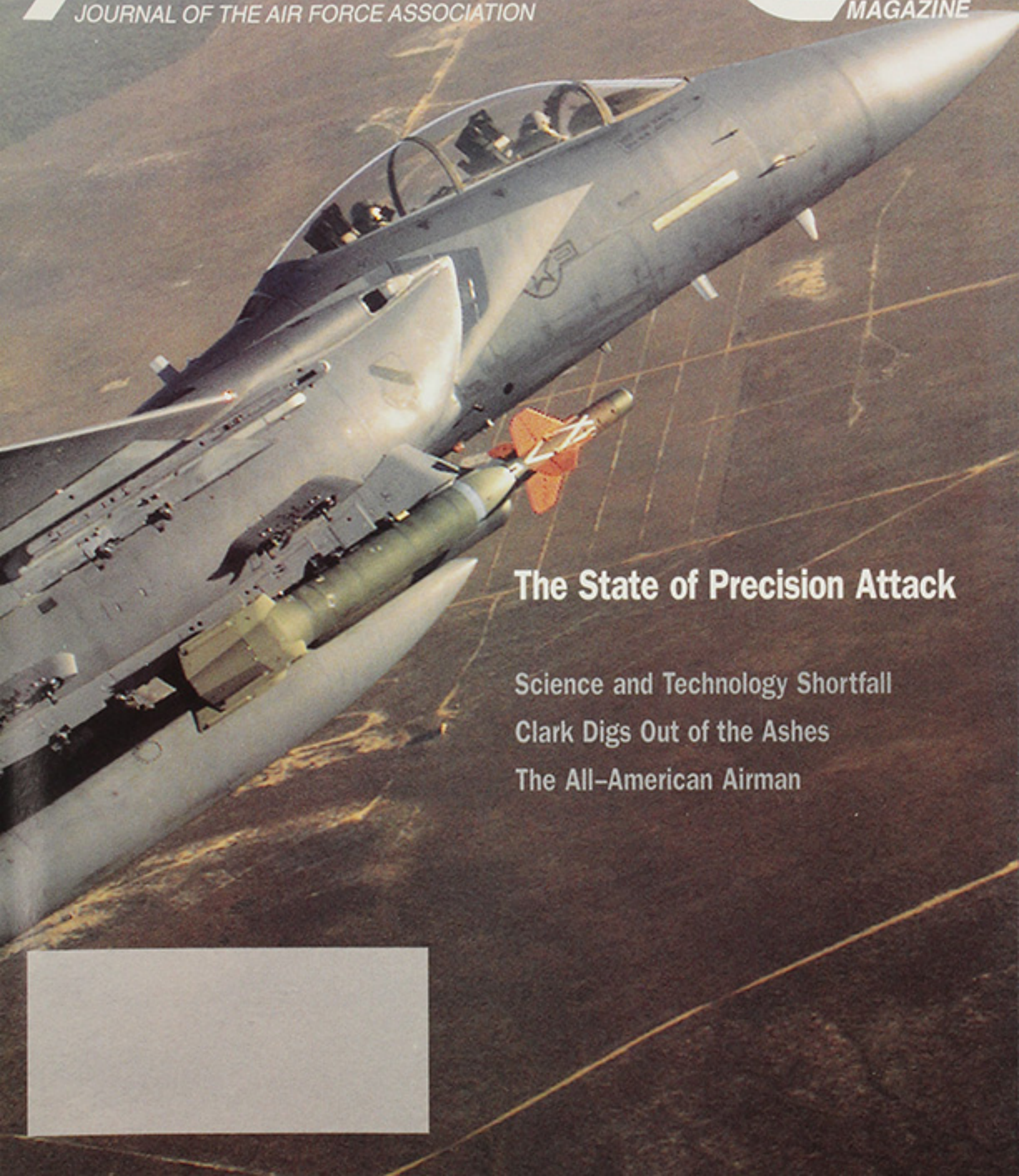


March 2000/\$3

# AIR FORCE

JOURNAL OF THE AIR FORCE ASSOCIATION

MAGAZINE

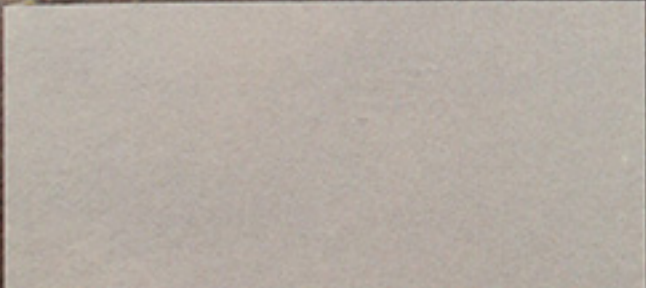


## The State of Precision Attack

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**About the cover:** Armed with a GBU-27 precision guided munition, an F-15E from the 40th Flight Test Squadron, Eglin AFB, Fla., illustrates "The State of Precision Engagement," p. 24. USAF photo by SSgt. Michael Rivera.

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By John T. Correll, Editor in Chief

## The Cult of the Topline

**T**HE Pentagon acknowledged in July 1994 that the defense program could not support enough forces to execute the national defense strategy.

The defense budget has declined every year since then. All of the services are showing the effects of underfunding, but worse problems lie ahead.

Daniel Gouré and Jeffrey M. Ranney of the Center for Strategic and International Studies warn that we are heading for a defense "train wreck," perhaps within the next 10 years.

The United States today owes its military superiority to systems and weapons developed before the budget cuts began. Much of this equipment is old. It is wearing out, and it is not being replaced.

The Congressional Budget Office says it would take "steady state procurement" of \$90 billion a year just to maintain the current age of equipment in the fleet. The Pentagon has struggled to find \$60 billion a year for procurement. Operations and support already consume almost two-thirds of the defense budget, and maintenance costs will rise as the fleet gets older.

The Department of Defense does not know how it might pay for its prescribed "transformation" to the next generation of force capabilities.

Gouré and Ranney estimate the budget shortfall at \$100 billion a year. They predict that unless it is resolved, the nation will lose much of its relative military advantage between 2005 and 2015.

The armed forces are not likely to ask for—much less get—a big increase. Budgets are supposed to be built around requirements, but in reality, the opposite is true.

In the jargon of the budgeteers, the defense budget total is the "topline." It is said to be "stable," or "fixed." That means it cannot be increased. It does not mean it cannot be cut, which it has been, regularly.

Under the prevailing culture, the topline is not to be challenged. If a reminder was needed, *The New York Times* reported in December that the

services had been "quietly told" that "in drawing up this coming year's spending plan, they must live with n the limits imposed in the current budget."

The military has always kept an eye on the funding situation when drawing up requirements, but in the 1990s, the bean counters took over.

The first real step in establishing the cult of the topline was the "Bot-

### Defense is the only major category of federal spending to decline in recent years.

tom-Up Review" in 1993. Two months after coming to office, the Clinton Administration cut the five-year defense plan by \$131.7 billion, based on nothing more than wishful thinking by the new Secretary of Defense, Les Aspin. Aspin launched the Bottom-Up Review in search of a defense program to match his budget cuts.

It didn't work, but the reductions stuck anyway. The services gradually got into the habit of framing their requirements to fit within the "fixed" (although steadily diminishing) topline.

In 1997, the Quadrennial Defense Review said, "The nation is unlikely to support significantly greater resources dedicated to national defense than it does now." It projected "stable" budget topline on into the future.

In each of the past five years, Congress has added money—more than \$44 billion in all—to the Administration's proposal for defense.

Last year, the White House announced a proposal to raise defense by \$12.6 billion in 2000. Sadly, though, the "increase" depended on such things as how and from what point it was measured. After inflation, the Administration's proposal was lower than the 1999 budget had been.

The 2001 proposal proclaims real increases coming up, but they are not enough to close the shortfall.

Defense is the only major category of federal spending to decline between 1994 and 2004. Mandatory outlays, paced by Medicare and Medicaid, are up by 32 percent. Domestic discretionary outlays are up by 7 percent. Defense is down by 9 percent.

Commenting last year on the reluctance of military leaders to state requirements that exceed the topline, Rep. Floyd Spence (R-S.C.), chairman of the House Armed Services Committee, said that "if we can't get our own military leaders and the Department of Defense to tell us that we need more, it makes our job very difficult, if not impossible."

In the Pentagon, however, the presumption of the fixed topline holds strong.

The superb performance of the B-2 in the Kosovo air campaign, for example, brought back questions of why the Air Force had not sought to obtain more than 21 of the bat-winged bombers.

As Air Force leaders explained it at the time, it was not that they did not want more B-2s or did not recognize their value. They did not push for more because they were not "affordable" within the topline. It is presumed that a similar logic helps explain why the Air Force has deferred the replacement of its current bombers until 2037.

Obviously there is a limit to what budgets can cover, and it is necessary to set priorities. The problem is that topline culture gets the order of things backward. It leads us to think first about affordability, then priorities, and then essentially back into the requirements.

The Congressional Budget Office projects a federal surplus of \$176 billion this year. Proposals abound on what to do with it.

This presents an opportunity for the nation to look again at where the underfunded defense budget is taking us—and also a chance to de-program ourselves from the ruinous cult of the topline. ■

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## The Military–Civilian Gap

We are pleased John Correll has chosen “The Military–Civilian Gap” as the subject of his editorial in the January 2000 issue. We agree with much of his thinking, especially that the “military–civil relationship is important and ... requires careful nurturing.” But we wish also to correct his misrepresentation of our views.

First, we do not think “military leaders should acquiesce quietly in matters of strategy” but believe they should state their views confidently, forthrightly, and fully in private to their civilian colleagues and superiors in the executive branch and, when required, to Congress—and uncomplainingly carry out the lawful decisions of the national command authority.

Correll implies that they should volunteer their views publicly, even before decisions are made. We believe this would destroy the confidence and trust civilian leaders have in the loyalty and obedience of military leaders and lead quickly to the kind of manipulation and estrangement characteristic of the period 1963 to 1965 that Correll cites.

Second, we do not believe “that basic issues of force composition ... are none of the force’s business,” and neither of us—not Kohn in his 1994 “Out of Control” essay (the title of which he disavowed publicly in the next issue of *The National Interest*) nor Feaver in his many publications—have ever written anything that could be so construed.

Peter Feaver  
Assoc. Professor, Political  
Science  
Duke University  
Durham, N.C.

■ *To be specific about it, what Kohn said in his disavowal statement was that the “out of control” phrase referred to “the relationship between the military and its civilian masters, not to the American military as such.” He again cited a “crisis” in civilian control that he says happened in 1993 when the Joint Chiefs of Staff did not concur passively in Presi-*

*dent Clinton’s plans for homosexuals to serve openly in the armed forces.*

*What happened was that Clinton had ignored the concerns of military leaders during the election campaign. Three days before his inauguration, he met with his aides to approve a plan to allow declared homosexuals to serve openly in the armed forces. The service chiefs learned of his plan from press reports. He did not consult them until it was under fire in Congress and elsewhere.*

*Although the strong views of the service chiefs on this issue were widely known, they expressed their objections mostly within channels. In my opinion, they were right—in fact, were compelled by duty—to stand firm on an issue they believed would do severe damage to the force. If this was a “crisis” of civilian control, the President must bear the prime responsibility for having provoked it.*

*And, yes, I do believe the public should hear regular assessments from service leaders on military requirements, strategies, risks, and options. If their voices are silenced, where does the nation then get its military advice? From the kind of people who led us into Vietnam?—*

JOHN T. CORRELL

## Nothing Changes

Nothing ever seems to change. [See “Aerospace World: Airman’s Death Brings Training Changes,” *January*, p. 14.] As a hospital commander some 15 years ago, I protested strongly when my wing king

called to order an ambulance (with a doctor and nurse aboard!) to report to the track to stand by while the [Operational Readiness Inspection] team conducted their aerobics fitness test. I argued that we were not “combat ready” if our people were so badly out of shape that we feared a medical catastrophe if they were forced to run the mile-and-a-half aerobics test. I pointed out that if I had been on the ORI team, I would have flunked the wing if I had seen an ambulance standing by for that test.

During part of my survival training for the flight surgeon rating, I was told by the instructors that I had to drink a full canteen of water every two hours: “Don’t wait until you get thirsty; that’s too late.” The instructors called it “water discipline.” I tried to explain to the senior instructor that as a physician I found this requirement made no sense. A water load causes hemodilution, provokes diuresis, and can even lead to water intoxication. The instructor told me that the people who created that requirement knew a lot more about survival than I did, so just shut up and do as I was told.

Obviously the Air Force has changed little in the years since those experiences. The practices of ridiculous water discipline and requiring people to engage in exercise for which they are not trained and conditioned obviously still exist in the blue-suit world.

I find it absurd that the response to a death which occurred during basic training is to change the time of day in which the 5.8-mile field march is conducted, so the stress factors are lowered! I assume that whoever made this command decision believes that during a combat deployment we are also going to call any adversaries and ask them to change the combat schedule so our people won’t be stressed.

If someone dies during a training event, we should look at the cause. But we need to look intelligently at the real cause—not at some politically expedient whitewash fix. The cause in this case was not time of day but dogmatic and dumb water disci-

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pline, poor progressive conditioning, and faulty on-scene resource management.

Col. C.D. Hardison,  
USAF, MC, FS (Ret.)  
Athens, Tenn.

#### More Players in JEFX

Your recent article on JEFX 99, while thorough, failed to list all lively players in the exercise. [See "Joint Experiment in Expeditionary Force," January, p. 46.] As the operations officer for the tankers based at the exercise, I would like to note that the only tankers that operated out of Nellis AFB [Nev.] were not mentioned. Three Air National Guard tankers, two from Nebraska, one from Hawaii, and a Reserve tanker from McConnell [AFB, Kan.] flew five sorties every day of the exercise, off-loading in excess of 600,000 pounds of fuel with a 100 percent mission success rate. As for lessons learned at JEFX, it seems we continue to rediscover, as we did in Kosovo, a concept that is forgotten as quickly as it's learned. Despite all the wonders of modern technology and advances in information dissemination, nobody prosecutes a war without a lot of old tankers. Fund us, please!

Capt. John D. Williams,  
Nebraska Air National Guard  
Bellevue, Neb.

#### Ike on Airpower

In "Eisenhower Master of Airpower" [January, p. 62] the author was quite correct when she says that [Gen. Dwight D.] Eisenhower "wanted airpower to isolate the Normandy battlefield and was willing to try any combination of tactics to make it happen." Eisenhower's decision to use heavy, high-altitude bombers for close air support of ground troops at Normandy may have isolated the Germans and blocked Rommel's plan for a counterattack, but it also resulted in unintended consequences. Due to poor weather conditions, minimum navigation aids, and poor communications, our aircrews were unable to deliver their weapons accurately and hundreds of our own ground troops were killed in the attacks. Consequently, similar tactics were discontinued after the battle of Normandy.

Col. James D. Petersen,  
USAF (Ret.)  
Lakewood, Wash.

I would like to add some additional information. [Eisenhower] was a licensed pilot during his tour of duty in the Philippines. I have an old photo of him sitting on the landing gear of a Stinson Reliant SR-9 (circa 1938). I

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## Letters

understand he flew it for transportation, while organizing the Philippine AAC.

Ed Starner  
Tehachapi, Calif.

## Medics

Thanks for the article on the Air Force medics [*"Air Force Medics in Peace and War,"* January, p. 68]. Many names were mentioned of those with a significant impact on the evolution of the Air Force Medical Service. There was a significant omission: [USAF's] current surgeon general, Lt. Gen. Paul K. Carlton Jr.

In the early 1980s, there was a decision to make the [air transportable hospital] more flexible and transportable, and as I recall the thrust was primarily from Carlton while [he was] at Torrejon, Spain. He was building Forward Area Surgical Teams that were light, mobile, credentialed, competent, and current in the medical skills and use of the equipment tailored for the package. It was through his efforts that we now have small FAST teams in place as well as Combat Casualty Aeromedical Transport Teams.

From the early days on, he not only developed the concept but he developed the equipment that would be miniaturized, aircraft compatible, and functional, and he ensured that his teams were skilled in the use of the equipment (used it in the hospitals on a routine basis). While the commander at Wilford Hall [Medical Center, Lackland AFB, Texas], he deployed his medics on humanitarian/nation-building missions which improved our relations with our allies and [trained] our people in the deployment of these packages, which turned out to be real readiness exercises. In 1995 he worked with us at [Air Force Special Operations Command], anticipating a need for early use of his capabilities and the teams he had assembled at Wilford Hall and Keesler Medical Center [Miss.]. This fortuitous association was critical to the medical packages we built for the Haiti operation that suddenly appeared.

We added his mini-FAST and CCATT teams to the medical support package, allowing (for the first time) a seamless transition for casualties from the special operations front. The shooting never started, thankfully, but the [US Special Operations Command commander in chief] said that for the first time in his career, "all the right pieces were in the right places" and the casualty

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Col. Dave Hammer  
Washington, D.C.

Looking through the January issue, I was at once attracted to the lead photograph [p. 68] in your article. I served with Lt. William "Willie" Albrecht [in photo] in the 313th Transport Squadron, 31st Transport Group. Lt. Ethel Guffey [in photo] was in the 806th Medical Air Evacuation Squadron, which supported the 31st in air evacuations during the months following the Normandy invasion.

According to our group history, the 31st evacuated over 26,000 from Normandy back to England in the first 90 days following D-Day. This was approximately half of the wounded that were evacuated to England during that time period. Roger Freeman, the British historian, writes that "the 31st Transport Group was the major evacuator of wounded." The 31st, supported by the 806th and later the 811th MAES, participated in air cargo and evacuation missions during five campaigns in the [European Theater of Operations]. During these busy days we carried 24 litter patients or 27 walking wounded. There were occasions

when, in addition to the 24 litters, we had four to eight walking wounded standing in the aisle. It was not an easy task for the nurse and her medical technician to move around taking care of their patients.

James B. Hill Jr.  
Huntsville, Ala.

Medevac or air evacuation was perfected in [the China-Burma-India] Theater. Gliders were used as supply aircraft and medevac aircraft for the return flight of wounded or sick commandos. Of course, other aircraft were used, too. First Lt. James H. Sone, writing immediately after the war, [said that] a major part of the burden of medical aid fell on the portable surgical hospitals, for "they could march with a column, perform the emergency surgery on casualties, and evacuate them by air. Every wounded soldier, Chinese or American, evacuated out of the forward area was transported by aircraft during part of his journey."

Bill Larson  
Fort Walton Beach, Fla.

#### On the Navy in the Balkans

I take issue with two points [Vice Adm. Daniel J. Murphy Jr.] made in

"The Navy in the Balkans" [December, p. 48]. The admiral said the [Air Tasking Order] process was "rigid" and "not able to react inside 24 hours." While there may be some rigidity to the ATO process, this is true for all processes. However, I would argue that the ATO process is able to react inside 24 hours. Within the ATO being executed, missions can be retasked to attack emerging targets.

Missions can also have secondary targets assigned in anticipation of emerging targets. This requires understanding an enemy as somebody who thinks and reacts and not just [as] an inanimate system or a group of targets. Knowing the enemy's motivations and strategy are just as important as developing our own strategy. By applying operational art, we minimize the effects of friction in war and get the enemy to react in a way we desire. We stay one or two steps ahead of the enemy, close off his options, and get him to walk or run into the traps we set. The real problem may be an incomplete understanding of our enemy rather than a rigid ATO process.

The admiral also said that Air Force "doctrine calls for neutralizing the [in-

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## Letters

tegrated air defense system] before taking on the targets that count." According to AFDD 1, the aim of counterair operations is "to attain and maintain a desired degree of air superiority" to "reduce the threat posed against friendly forces."

Likewise, NATO air doctrine uses similar words, saying "the required degree of control of the air." This can range from air supremacy over an entire theater or local air superiority over a particular area or target. It is possible to take on those targets that count while the enemy's air defenses are being neutralized and comply with USAF doctrine. Furthermore, USAF doctrine does not direct a "strict" application or that it must be "followed to the letter." Doctrine is a guide that requires judgment and consideration of a given situation. Lt. Gen. [Michael C.] Shor's counterair operations in Allied Force were fully consistent with sound air doctrine.

Lt. Col. Ed Weber,  
USAF  
Naples, Italy

### A Note on Carmen Lucci

Regarding your "Pieces of History"

item in January [*"The Little Things,"* p. 88], Carmen Lucci did not graduate from USAF Test Pilot School. She was a student in TPS Class 80B when she died in a tragic crash of the Calspan variable stability B-26 during a TPS curriculum flight in spring 1981. The B-26 suffered catastrophic structural failure in flight. A Calspan instructor pilot and Canadian flight test engineering student also perished in the crash. Carmen was an exceptional officer and engineer. She had her eye on becoming a space shuttle mission specialist.

The engineering degree shown in the photo is from Rensselaer Polytechnic Institute, class of 1975. She also earned a master's degree from the University of Tennessee Space Institute before coming on active duty. Carmen was a good friend and has been sorely missed.

Lt. Col. Keith C. Svendsen,  
USAF (Ret.)  
Dayton, Ohio

■ *Our information was incorrect. Thanks also to Craig R. Jones and retired Col. Stanley P. Siefke.—THE EDITORS*

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### AFA's Mission

*To promote aerospace power and a strong national defense.*

*To support the needs of the Air Force and Air Force people.*

*To explain these needs to the American people.*

# The Chart Page

By Tamar A. Mehuron, Associate Editor

## Military First in Public Confidence

The public has more confidence in the US military—by far—than in any other US organization or grouping, according to a recent Gallup survey. The poll surveyed attitudes toward 16 major fields in US society. Nearly seven in 10 Americans expressed strong confidence in the US armed forces, declaring they have either “a great deal” or “quite a lot” of confidence.

The military exceeded the next closest category by 10 percentage points. In the hierarchy of trust, Americans ranked the church or organized religion second (58 percent), the police third (57 percent), and the computer industry fourth (50 percent). Held in lowest public esteem was the nation’s collection of health maintenance organizations (17 percent).

Gallup based its annual poll on telephone interviews with a random national sample of 1,016 adults age 18 or older in the latter part of 1999.

### Where Americans Place Their Trust

Poll Results, by Rank Order (Based on total percent)	A Great Deal	Quite a Lot	Total Percent
<b>The military</b>	<b>34</b>	<b>34</b>	<b>68</b>
The church or organized religion	32	26	<b>58</b>
The police	24	33	<b>57</b>
The computer industry	20	30	<b>50</b>
United States Supreme Court	20	29	<b>49</b>
The Presidency	23	26	<b>49</b>
Banks	16	27	<b>43</b>
The medical system	17	23	<b>40</b>
Public schools	14	22	<b>36</b>
Television news	14	20	<b>34</b>
Newspapers	12	21	<b>33</b>
Big business	11	19	<b>30</b>
Organized labor	13	15	<b>28</b>
Congress	9	17	<b>26</b>
The criminal justice system	8	15	<b>23</b>
News on the Internet	8	13	<b>21</b>
Health maintenance organizations	8	9	<b>17</b>

Source: The Gallup Organization

# Aerospace World

By Peter Grier

## New Defense Budget Unveiled

President Clinton's eighth and final DoD budget proposes spending of \$291.1 billion. If enacted as is, the Fiscal 2001 DoD plan would bring a 1 percent real defense increase—the first ever requested by this Administration. Congress appears likely to boost the amount, however.

The 2001 plan, delivered to Congress Feb. 7, requests new budget authority for the fiscal year that begins next Oct. 1.

Under the Administration's plan, the Air Force would receive \$85.3 billion—1.1 percent more in real, inflation-adjusted terms than it will spend this year.

The Air Force budget is 34.5 percent of the total amount allotted to the three military departments. The Navy Department, which includes the Navy and Marine Corps, receives \$91.7 billion (37 percent) and the Army receives \$70.6 billion (28.5 percent).

The budget includes a planned 3.7 percent pay raise. It fully funds production of 10 F-22 fighter aircraft and 12 new C-17 strategic airlifters.

## Expeditionary Aerospace Force on Track

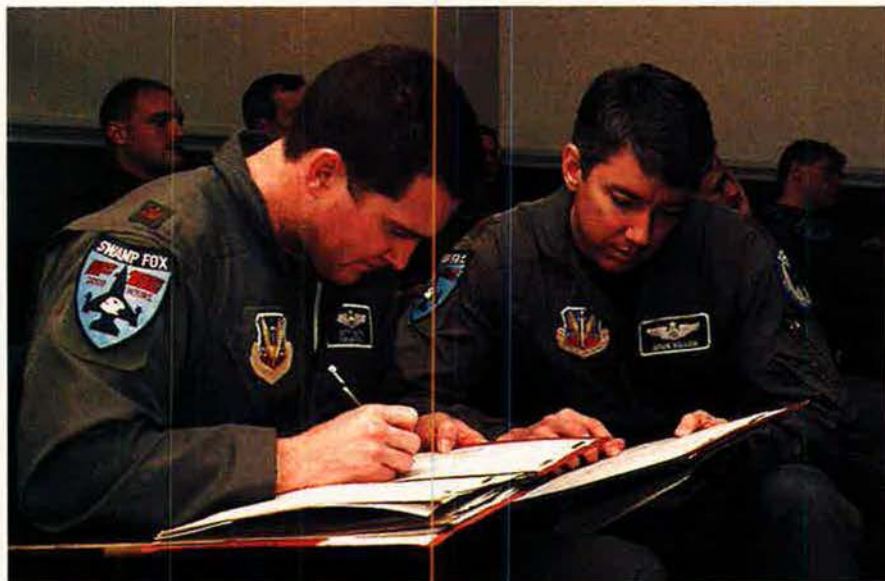
The Air Force is doing well in its transition to the Expeditionary Aerospace Force concept, according to the commander of Air Combat Command.

The first two Aerospace Expeditionary Force rotations have gone well, said ACC chief Gen. Ralph E. Eberhart on Jan. 12. AEFs No. 3 and 4 are on track, as well.

"There are no showstoppers as far as I can see," said Eberhart. "We identified the players in AEFs 3 and 4 early, which provided the advance notification of their deployment just as planned."

So far, only aircrews and maintainers have deployed as scheduled AEF teams. The next step involves sending support forces as scheduled teams, as opposed to individual taskings.

AEFs 5 and 6 in April should be aligned as such total force packages.



Majs. Jeff Smith and John Busch, both from the 169th Fighter Wing, McEntire ANGB, S.C., check over their mobility folders during processing for deployment to Incirlik AB, Turkey, as part of AEF 4.

"We train as a team, so we should fight as a team," said Eberhart. "Being scheduled for your AEF in advance allows units from different bases to coordinate with each other and to all train to the same task, optimizing the team concept once in theater."

## USAF Falls Short on Recruiting

The Air Force has traditionally not had much trouble in drawing recruits. The continued strong economy has changed that—as shown by the fact that the service missed its last quarterly recruiting goal by nearly 15 percent.

Fiscal 2000's first quarter, which ended Dec. 31, saw the Air Force taking in 6,466 new people—1,097 personnel short of its 7,563 goal.

Meanwhile, the other services made or exceeded their first-quarter 2000 goals.

In Fiscal 1999, Air Force recruiters brought in 32,068 new airmen. Though it was the highest one-year number since 1992, the result fell short of the goal by 1,732 troops. It marked only the ninth time in 44 years of record keeping that the Air Force had not met its annual recruiting target.

## Cohen Approves Gay-Related Training Plans

Secretary of Defense William S. Cohen announced Feb. 1 that he had received and approved each of the military services' training plans updated to highlight the department's policies on homosexual conduct.

The updated plans incorporate the guidelines for investigating threats against or harassment of service members based on perceived or alleged homosexuality.

"I am very pleased with the effort that went into updating the services' training materials," said Cohen. "These plans make it very clear to recruits, service members, and to law enforcement personnel, commanders, judge advocates, and investigators that are charged with implementing the policy, that there is no room for harassment or threats in the military."

## Missile Defense Test Fails

The Pentagon's effort to develop a National Missile Defense system suffered a setback Jan. 18 when a prototype interceptor warhead failed to hit a simulated incoming missile in a crucial, long-awaited test.

USAF photo by SSGT. Mar. in R. Preston

The system seemed to be working as designed until the final six seconds of the demonstration, said Pentagon officials. The 55-inch-long interceptor, fired from Kwajalein Atoll in the Marshall Islands, appeared on target until an infrared sensor failed to steer it in for the kill.

The dummy warhead—launched from Vandenberg AFB, Calif.—fell harmlessly into the ocean.

Using a postal analogy, a senior military official said that satellite sensors provided the state of the target, the early warning radar provided the ZIP code, while the X band radar got the interceptor to the street address.

"What we failed to do is ring the doorbell," said the official in a briefing for reporters.

The failure could further complicate National Missile Defense politics. Later this year President Clinton is scheduled to decide whether to go ahead and deploy an NMD system. NMD proponents are now urging a delay in this decision-making process, saying it is a decision best left to the next presidential administration.

All candidates for the Republican Presidential nomination are in favor of NMD deployment.

On the Democratic side, Vice President Al Gore has conditioned his support of such a shield on a favorable outcome of talks with Russia to amend the 1972 Anti-Ballistic Missile Treaty. Bill Bradley is the most skeptical major candidate, saying that the technology remains unproven and that NMD deployment could have adverse diplomatic consequences.

Another interceptor test is scheduled for late spring. The Pentagon will present its determination of NMD feasibility shortly thereafter.

### White House Offers Cyberspace Battle Plan

On Jan. 7 the Clinton Administration proposed a comprehensive plan to protect America's vital computer systems from hackers, viruses, and other attacks.

The plan asks Congress to increase federal spending for computer security and research by \$280 million, to \$2.3 billion, next year.

Among the plan's highlights:

- An ROTC-like program that will pay for advanced computer study for students in exchange for federal service afterward.
- Design of a Federal Intrusion Detection Network as a sort of cyberspace burglar alarm for the whole government.
- A 35 percent increase in computer security research and develop-



**U.S. AIR FORCE**

## World Ready, or Not?

USAF wants to update its image in an effort to spur recruiting and retention and more accurately reflect its new role as an Expeditionary Aerospace Force.

That may mean coming up with a new slogan and new logo to replace the old "Hap" Arnold wings and star, among other things.

The Air Force in the early 1990s had a distinctive expression of purpose—"Global Reach, Global Power." It came from a white paper of the same title published in 1990. It is sometimes stated that USAF's slogan is "Aim High," but that was actually a promotional phrase used in recruiting advertising.

Similar confusion attends the Air Force symbol.

"Many people believe the Hap Arnold emblem (see below) is the official Air Force symbol, but it isn't," said Col. Ron Rand, Air Force director of public affairs. "We don't have an official symbol and never have had one. With the transition to the EAF and a new millennium, our leadership decided the timing is right to modernize our identity and give us an official symbol which will preserve the heritage of the Arnold wings."

Visual representations of the force vary even from base to base, unit to unit, and command to command. Basic symbols such as base welcome signs have little consistency.

"Unless you have really good eyes and can read the US Air Force tape on someone's battle dress uniform, you may not know what service he or she represents," said Rand. "As for our aircraft, which are seen by millions of people, the tail markings tend to represent the wing and the command."

Air Force leaders committed about \$800,000 to survey the general public and their own personnel about attitudes toward the service and have those results interpreted by a private corporate identity firm, Siegel & Gale.

Siegel & Gale has never worked with the military, but its list of clients is long and impressive, said officials. It includes Harley-Davidson, Kodak, ESPN, Xerox, and the Girl Scouts of America.

Survey input came from 10,000 people. About three-quarters of them had some connection to the service. The others were from the general public.

Four positive themes emerged from the research: individual achievement, intelligence and technology, core values, and mission.

Siegel & Gale recommended making a core theme out of the service's vital mission, about which enlisted person and officer alike felt the most passionate. The other themes would support that focus.

"We want to ensure our core identity is part of our culture and is understood by our own people and the citizens we serve," said Gen. Michael E. Ryan, Chief of Staff.

The research found that Air Force personnel felt allegiance to their unit and their job, more so than being part of one big organization.

Based on its research, Siegel & Gale "concluded the Air Force is a world-class, mission-ready organization," according to USAF, thus the firm proposed the slogan of "World Ready."

It also proposed a logo (see above)—a more streamlined version of the Arnold emblem. Both were presented to USAF leaders in November. The verdict: More work on the theme is needed; the logo might pass.

"There are no final decisions on any of this yet," stated Rand. "When we reach a final decision on our identity, we're going to try it on for awhile as we develop a plan to roll it out with minimal disruption and cost," he added.

It would take months, if not years, before aircraft markings and entrance signs all resemble each other.

"We're trying to encapsulate the essence of what it means to be in the Air Force," said Air Force Secretary F. Whitten Peters. "The Air Force is a wonderful organization. It offers extraordinary opportunities beyond the monetary and the educational benefits that we have been using in recruiting."



ment for the Fiscal 2001 budget.

"It's really important ... that we produce, in partnership with the private sector ... new technologies that can be rapidly put into the information infrastructure to begin to provide the kinds of protections that we're here to talk about," said White House Chief

of Staff John D. Podesta in a Jan. 7 briefing.

### Faster Than a Speeding Falcon

Gen. Michael E. Ryan, Air Force Chief of Staff, tried to catch an F-22 on Jan. 11. Flying chase in an F-16 during a Raptor test mission at Ed-

F-22 Team photo by Judson Brothmer



**An F-16 with Gen. Michael Ryan, Air Force Chief of Staff, aboard gets left behind during an F-22 test mission. USAF needs the F-22, Ryan said, because he doesn't want a fair fight. "What I'm interested in is a 100-to-nothing score, not 51-49." (See "Faster Than a Speeding Falcon," p. 11.)**

wards AFB, Calif., Ryan had a good chance to see the nation's newest air superiority fighter—from behind.

The F-16 was "fat out at Mach 1.6," said Ryan, but the F-22 "walked away from us."

"I'm really impressed with the airplane," said Ryan following a two-day visit to Edwards for updates on 21st century weapons systems.

Whether the F-22 receives all the testing it needs is another question. A reduction in flight test hours caused by the cost cap for the airplane's engineering and manufacturing development phase has been criticized by the Pentagon's testing chief, Philip E. Coyle III.

"I'm not concerned about that [the level of testing]," Defense Secretary William S. Cohen told the Defense Writers Group Jan. 28. "I talked to General Ryan about this, and he is still pretty excited about the tests to date."

The F-22 surpassed the 500-hour flight test milestone in late December during the test program's 225th sortie. As of that date the F-22 had completed more than 11 percent of its flight-test requirement.

### Pentagon Raises Housing Allowances

Defense Secretary Cohen announced Jan. 6 that his new defense budget contained a \$160 million increase in housing allowances for troops living off base.

Within five years, said the Pentagon chief, the armed services will

provide cost-free off-base housing, at a charge to the Pentagon of \$3 billion more.

To do that, the Pentagon plans to press for a change to the current Congressional statute that limits monthly housing allowance payments to no more than 85 percent of the average local cost for housing. Service members pay the shortfall—about 15 percent—out of their own pocket.

The move is intended to encourage troops to re-enlist rather than flee the services for civilian jobs and to help attract new recruits.

"There's no reason in the world why you should have a mandated 15 percent out of your pocket if you happen to be living off base because you don't have adequate housing on base," said Cohen when he announced the increases in an address to troops at Camp Pendleton, Calif.

The Pentagon said that, last year, service members living off base were stuck with paying an average of 18.8 percent of their rent. With the increase in allowances, that will be reduced to 15 percent or less.

"Good housing is a top priority for the department and a crucial component of quality of life," Cohen said.

More than half of the military live off base, a senior official said.

The military is also trying to improve the housing on military installations across the country. Some 200,000 of the 300,000 housing units on those bases are substandard and in need of repair or replacement.

### Pentagon Approves More C-130Js

The Department of Defense has decided to buy 24 C-130J cargo airplanes through the year 2005, reported the *Wall Street Journal* Jan. 10.

The move comes after the Pentagon comptroller recommended killing the program and came as a bit of good news for the C-130J's manufacturer, Lockheed Martin.

Deputy Defense Secretary John J. Hamre said DoD is trying to avoid having to pay for the reopening of the C-130 production line in future years. Restarting the C-130 line would cost



**F-22 test pilots—Lt. Cols. Doc Nelson (left) and Steve Rainey (center)—brief Secretary of the Air Force F. Whitten Peters on the F-22 during a visit the Secretary made to Edwards AFB, Calif., recently.**

F-22 Team photo by Kevin Robertson

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## CSIS Study Finds Disgruntled Troops

The most sweeping examination of the military's self-image in years finds that many soldiers, sailors, airmen, and Marines feel they do not have a reasonable lifestyle.

Service personnel feel overworked, underpaid, unconfident about their leaders, and unsure they have the resources to do their job. They deploy too often, for too long. Peacekeeping operations are eroding a focus on warfighting.

"America's military is facing potentially serious rifts in the fabric of its culture, with attending damage to future operational effectiveness," concludes the Center for Strategic and International Studies report "American Military Culture in the 21st Century."

On the positive side, US military personnel are still far better off than they were during the dark days of the Vietnam War. Men and women in uniform continue to share a strong bond of commitment to duty.

The services have tried to come to grips with the mismatch between their resources and their missions for years. That is why the Air Force established the Expeditionary Aerospace Force and why the Navy tries to keep sailors at sea for no more than six months at one time.

But the survey's findings about trust in senior leaders may come as a shock to the military's top levels. Only slightly more than one-third of respondents agreed with the statement "when my service's senior leaders say something, you can believe it is true."

Survey leaders said that their work, plus anecdotal evidence, revealed striking differences in the quality of military organizational climates.

"Although one unit or ship had a strong sense of mission, teamwork, mutual trust, and open communication, another at the same location, with virtually identical missions and resources, had a far different climate.

"The quality of local leadership almost certainly explains those measurable differences," said the report.

about \$600 million, according to Pentagon estimates.

Under the new plan, the Pentagon will buy four C-130Js a year in 2001, 2002, and 2003. Twelve more will be penciled into the 2004 and 2005 budgets.

The decision will provide Lockheed an extra \$300 million infusion in 2001 and ensure the future of a production line in which the company has sunk some \$1 billion.

## Major Faces Charges Over Anthrax Shots

On Jan. 14, Maj. Sonnie G. Bates of the 436th Airlift Wing, Dover AFB, Del., was charged with disobeying a lawful order for refusing to take the Defense Department's anthrax vaccinations.

Bates, who had offered to resign last fall, waived his right to an Article 32 hearing, which is similar to a civilian grand jury, on Feb. 2. His case could be dismissed or referred to special or general court-martial. He is among the highest-ranking officers to come in conflict with the Air Force over the anthrax vaccination program.

In an appearance before a Congressional committee last October, Bates said the vaccine has "the appearance of being experimental" and feared for his health if forced to take

the shots. He became concerned, he said, after seeing that a dozen people in his squadron have "unusual or disabling illnesses that did not exist prior to the anthrax vaccine."

In addition, Bates is the father of an autistic child.

"[He] cannot, in all good conscience, risk being debilitated by a

risky vaccine and be left unable to function as a caregiver for his son and provider for his family," wrote House Government Reform Committee Chairman Rep. Dan Burton (R-Ind.) in a letter sent to Defense Secretary William Cohen in mid-January.

At least 200 military personnel have refused to take the anthrax vaccination shots, according to military officials.

Furthermore, claims are being made that the services are inconsistent in handling personnel who refuse to take the anthrax shots. Some reserve officer and enlisted personnel have quit. Some active enlisted personnel have received prison sentences, had to forfeit pay, or been given dishonorable discharges. Reportedly, at least one Navy officer was allowed to resign honorably.

The Defense Department maintains that the vaccine is safe and effective. It is licensed by the Food and Drug Administration and is used in private industry, officials note.

## Military Procurement To Hit \$60 Billion

The Clinton Administration's proposed Fiscal 2001 defense budget contains about \$60 billion for procurement, according to department spokesman Kenneth H. Bacon.

The Joint Chiefs had set the \$60 billion figure as a hoped-for goal several years ago.

"I believe, we will hit it this year or at least be within a whisper," Bacon said Jan. 11.



A-10 munitions load crew members from the 25th Fighter Squadron, Osan AB, South Korea, clear the ammunition-loading adaptor while the crew chief fuels the aircraft during a combat employment readiness exercise in January.

USAF photo by TSgt. Renee Sitter





A C-17 Globemaster III (with photographer on board) from Charleston AFB, S.C., leads a nine-ship C-17 formation in mid-January for a training mission that includes an airdrop, a short field landing, and aerial refueling.

The Fiscal 2000 procurement spending request was \$53 billion. Lawmakers subsequently tacked on items totaling a further \$1.4 billion.

However, Congress also imposed an across-the-board 0.38 percent cut in Fiscal 2000 federal spending. Pentagon personnel programs were exempt, but other programs were cut. Bacon called them "surgical cuts." And, in fact, important programs such as the F-22 generally fared well in this year's procurement budget, according to officials.

"Our top-priority programs got no or very small cuts," said Bacon. Some lower-priority programs took cuts of a higher percentage, some 5 percent or even up to 10 percent.

### UN Prosecutor: No Need for Kosovo Probe

Chief United Nations war crimes prosecutor Carla Del Ponte said Feb. 1 that she has seen no evidence to warrant an investigation of whether NATO's Kosovo bombing campaign violated international treaties on the conduct of war.

"Our work is not done but what we can say is that up until now we have no indications that we should open an inquiry," she said after meeting with British Foreign Secretary Robin Cook in London.

A tribunal investigation was prompted by Yugoslavia, some Western law professors, and Russian lawmakers who said the NATO bombing killed scores of civilians. Its preliminary report surfaced in late December when Del Ponte told a British newspaper she was prepared to seek indictments, if warranted.

The United States rejected the notion out of hand, pointing out that NATO went to great lengths to spare civilians. (See "Aerospace World:

UN Tribunal Drops Investigations of NATO for War Crimes," February, p. 12.)

### Cost of NMD System on the Rise

Cost estimates for an initial National Missile Defense system are about to go up—estimates range from 20 to 50 percent—according to Pentagon officials.

The Defense Department now figures that the first installment of NMD would cost more than its previous

estimate of \$10.5 billion, projected just last year.

Cost overruns are not the reason. Instead, DoD has quietly decided that NMD, if deployed, needs to feature 100 interceptor rockets instead of 20. This more robust system should theoretically be able to handle 20 incoming warheads by 2005 or 2006.

These interceptors would all be based in Alaska, DoD Undersecretary of Defense for Policy Walter B. Slocombe said in Congressional testi-

## Chief of Staff Annual Survey

The 1999 Air Force Chief of Staff survey revealed that the overwhelming majority of service members are satisfied with their jobs and unit performance but remain dissatisfied with pay, operations tempo, and health care.

The survey measures the Air Force's organizational climate and quality of life. Results were presented to Gen. Michael E. Ryan, the Air Force Chief of Staff, on Jan. 21.

"I'm satisfied with the process and the initial review of the data," said Ryan. "It appears we've made progress in many areas, but we still have work to do."

The poll reported high measures of general satisfaction. Ninety percent of respondents said they were satisfied with their jobs, for instance. Other key measures such as satisfaction with the service's core values and with training and development, all came in between 80 to 84 percent positive levels.

Quality-of-life issues did not always show such high ratings. Only 42 percent of enlisted families and 45 percent of officer families were happy with the health care they receive.

Housing came in for a better review than health care, gaining a 71 percent satisfaction rating from married enlisted personnel and 83 percent positive rating from married officers.

The sense of community at Air Force bases was important to 82 percent of officers and 70 percent of enlisted personnel. Sixty-three percent of enlisted and 77 percent of officers judged the quality of life at duty stations to be good.

As for career intentions, 61 percent of officers and 68 percent of enlisted personnel said they plan to make a career in the service. Between 63 percent and 76 percent of first- and second-term airmen and company grade officers said a retirement plan where everyone received 50 percent of their base pay would increase the likelihood of their serving for 20 years.

Unsurprisingly, the number of hours worked and number of days on Temporary Duty continues its slow upward climb. Officers who reported TDYs spend an average of 62 days per year at such temporary work and work a 55-hour week. In 1996, the comparable numbers were 50 days TDY and a 51-hour week. Enlisted personnel who had TDYs reported 68 TDY days, up from 46 in 1996, and a 51-hour work week, up from 46 four years ago.

## 2000 To See New Focus on Recruiting, Retention

Undersecretary of the Air Force Carol A. DiBattiste swore in the first two Air Force recruits of 2000 on Jan. 3 at the Baltimore Military Entrance Processing Station.

The trainees were the first of what service leaders hope will be a flood of new personnel this year to help the Air Force pull out of its continuing retention tailspin. (See "USAF Falls Short on Recruiting," p. 10.)

"Today was a very special day," said DiBattiste. "We not only put the first two people into the United States Air Force for the new millennium but also initiated the Air Force's new focus on recruiting and retention for the year 2000."

Ryan Watson, 22, of Stevensville, Md., chose an Air Force career in the security forces as a step toward his ultimate goal: a career in federal law enforcement.

Jason Kaun, 22, of White Hall, Md., left college after two and one-half years to pursue a career in F-15 avionics.

"I really wasn't going anywhere—dead-end jobs and partying—and wanted to do something different," he said. "My brother is in the Air Force, and after talking to him about the benefits and opportunities I made up my mind."

One of the most visible efforts to boost Air Force recruiting is a new television ad campaign that began this month.

"Up until this year, never in its history has the Air Force paid for television advertising," said Maj. Gen. Susan L. Pamerleau, director of personnel force management. "But senior leadership made the decision that we need to have a greater impact across the nation."

In addition, a new interactive road show, "The Air Force Experience," will tour 30 major cities by September. The road show, contained in two customized 18-wheel trucks, features videos, computer kiosks, a fleet of customized simulators, and an F-16 jet.

Other initiatives developed at a recent recruiting summit include more incentives for recruiters, increased recruiter training, and bigger bonuses in hard-to-fill job areas.

Undersecretary DiBattiste has long urged all Air Force members to promote their jobs and way of life.

"I challenge everyone to recruit at least one person for our Air Force this year," she said.

The Air Force remains something of a novice in the recruitment field, compared to the other services. That is because the Army and Navy have always had to fight harder to get the number of new people they need.

The Navy, for instance, has five times as many recruiters as the Air Force does. The Army's top signing bonus is \$20,000, as opposed to \$12,000 in the Air Force.

mony, and would form an initial NMD architecture "optimized" to defeat "the most immediate threat, that from North Korea."

Slocumbe noted that the Pentagon has also begun planning for a longer-term goal that would field even more interceptors to handle more "complex penetration" systems.

A potential deployment site in North Dakota is also still under review.

### Cohen Seeks New Round of Base Closings

Defense Secretary William Cohen disclosed that the Clinton Administration will try to close more military bases, even in an election year.

"Yes, I do have a proposal for two more rounds [of base closings], roughly in 2003, 2005," Cohen said Jan. 28, only days before the public unveiling of the new defense budget. "I've allocated money in the [Fiscal 2001] budget for that. ... This is an issue that [members of Congress]

will have to wrestle with in the coming year."

Cohen said he has talked with Sen. Trent Lott (R-Miss.), the Senate majority leader, about working with Congress to find a way to close more military sites. "He and I are going to try to get together and see if we can come up with some kind of a formulation that might enjoy some support," Cohen said.

Cohen and his predecessor, William J. Perry, have tried without success many times to close more bases.

"Those members on the [Congressional defense] committees that have jurisdiction over this will have choice," said Cohen. "They can say they can continue to carry the excess infrastructure and see either readiness accounts, or [operations and maintenance] accounts, or procurement accounts suffer, or be forced to raise the topline even further to carry the excess infrastructure.

"But I will continue to point out,

these are the choices. There's a big wave coming in terms of what we have to procure, and the way to help pay for that is to eliminate excess overhead."

### Missile Help for North Korea?

China is still providing North Korea with materials for its long-range missile program, according to reports in *The Washington Times*.

Missile-related goods were shipped via a Hong Kong company as recently as late December, stated the *Times*.

Such aid would be in direct contravention to assurances made by Chinese officials that they would tighten exports of missile technology covered by the 29-nation Missile Technology Control Regime.

Recent US intelligence reports claim that China has provided Pyongyang with fiber-optic gyroscopes, specialty steel, and accelerometers, among other items.

Last year, Secretary of State Madeleine K. Albright said that the Administration takes such reports "seriously" and that "we have raised our concerns with China, and we will continue to do so."

### Pentagon Plays Down Spy Satellite Problem

Y2K-related problems in some of the nation's most sensitive spy satellites did not leave the United States blind at crucial times during the New Year's Eve weekend, claim Pentagon officials.

Some news reports have said that the flow of data from as many as five imagery satellites was disrupted on Dec. 31. After a total outage of a few hours, the amount of incoming imagery was sharply curtailed until Monday, Jan. 3, according to some reports.

"It was a significant event, but fortunately it had insignificant consequences. ... It was judged to have no operational significance, even though it was not a failure we wanted to have," said Deputy Secretary of Defense John J. Hamre on Jan. 4.

Other news reports hold that non-Y2K related computer problems caused a halt in transmission of satellite imagery to two key commands—US Pacific Command in Honolulu and US Central Command in Tampa, Fla.—for 12 hours in late December.

### ANG Pilot Dies in Crash

An Idaho Air National Guard pilot, Maj. Mark Moynihan, 33, of Boise, was killed Jan. 20 when his A-10

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### For Tricare, High-Level Criticism

"Health care has been a consistent complaint that we are now trying to address in a fairly comprehensive way. Tricare has been plagued with problems in terms of the contracting. We need to streamline it to make it as universal in application as possible in the sense that as you go from one area, [then] you go into a new area, you have to start the process all over again, which is very complicated. We're trying to make it as seamless as possible so when you sign up you can pretty much expect the same kind of benefits wherever you go, as opposed to having different area arrangements in terms of a contract. So we're going to try to streamline that to make it more seamless. ...

"Then we're also looking into how we can make the Tricare Prime more equitable. Here we propose, one of the benefits, we have proposed to eliminate co-pay for those who are in the Tricare Prime program so that when they have to go off base for treatment they don't have to come up with the co-pay out of their pocket. That will also be a major improvement."

—Secretary of Defense William S. Cohen, remarks to the Defense Writers Group in Washington, Jan. 28.

"This year, we've got to address health care. The bottom line is that our service members and their families must be able to count on their health care system. Our fighting men and women on the front lines of freedom need to know that their families are being taken care of."

"While they are doing their job taking care of the nation's defense, they expect us to provide an effective, user-friendly health care system." ...

"Every time I talk to them [a beneficiary], one of their most frequent complaints is ... with the process it takes to finally get the care they need."

... "As many of you know, Tricare requires that members re-enroll every time they change regions, something that occurs frequently as our service members and their families must pick up and move every two to three years. This adds to their stress and frustration, and oftentimes, their workload." ...

"We ask our service members to be ready to serve any time, anywhere. They expect no less from their health care system. If a service member can't count on Tricare when it's needed, then when the time comes to re-enlist, the answer might just be no. In short, Tricare can't be just an insurance agency; it must be much more." ...

"For those [in the audience] who are military health care members, try not wearing your uniform one day—you've got my permission—and walk into the Tricare offices you're responsible for to see how you're treated. If you find things not to your liking, fix them. Remember, if it's hard for you, imagine what it's like for the young, inexperienced mother of two whose husband is deployed to Bosnia or Kosovo or any of the other garden spots our troops are deployed to."

—Gen. Henry H. Shelton, JCS Chairman, in Jan. 31 remarks to the annual Tricare Conference in Washington.

Thunderbolt II attack aircraft crashed northwest of Boise, Idaho, on a training mission.

His aircraft crashed in a field near Star, Idaho, and broke into pieces. No one else was injured.

Moynihan, a full-time pilot for the 190th Fighter Squadron, had been serving recently as a flight scheduler and instructor pilot for the 124th Wing, located at Boise Air Terminal, Idaho. He served on active duty as an A-10 pilot for nearly 10 years before joining the Guard in 1999.

Moynihan was an A-10 demonstration pilot for the northwest region and had more than 2,000 hours of flight time in the aircraft. He was also one of 14 Idaho ANG pilots who flew combat missions over Kosovo last year.

A search and rescue team, along with a safety team comprising members from the 124th Wing and 366th Wing at Mountain Home AFB, Idaho, scoured the accident site.

USAF opened an investigation into the cause of the crash.

#### News Notes

■ On Jan. 10, Secretary of Defense William Cohen announced that his second-in-command, Deputy Secretary of Defense John J. Hamre, will step down March 31 to become president and chief executive officer of the Center for Strategic and International Studies in Washington, D.C. Rudy de Leon, undersecretary of defense for personnel and readiness, has been nominated to be Hamre's replacement.

■ China has agreed to resume high-level military contacts with the United States. Beijing suspended such meetings last May in anger after the US accidentally bombed the Chinese Embassy in Belgrade during Operation Allied Force. Lt. Gen. Xiong Guangkai, deputy chief of staff of the People's Liberation Army, arrived in Washington in late January for two days of talks.

■ Lockheed announced Jan. 4 that it has built the 10th midfuselage for the F-22 in record time. The midfuselage was completed in 4 percent fewer manufacturing days than its immediate predecessor on the Lockheed Martin Tactical Aircraft Systems assembly line in Fort Worth, Texas.

■ Russia and China are jointly developing an air-to-air missile fast enough to catch any jet fighter in the world, claims British Aerospace, a defense contractor in competition against Raytheon to provide advanced air-to-air missiles for the Eurofighter. The *London Daily Telegraph* reported

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## The Showdown at Military Pay Gap

From "Our GIs Earn Enough," by Cindy Williams, in the Jan. 12 Washington Post. Williams, a senior research fellow at the Massachusetts Institute of Technology, was assistant director for national security in the Congressional Budget Office, 1994-97.

"This month [January], every member of the US military is getting a 4.8 percent pay raise. ... Proponents of additional hefty raises argue that, even after this month's raise, the military suffers a 13 percent 'pay gap' relative to the private sector. But in fact there is no pay gap worthy of the name. ... Wage data show that our troops typically earn more money than 75 percent of civilians with similar levels of education and experience.

"[A]fter four months in the Army, an 18-year-old private earns about \$21,000 a year in pay and allowances. In addition, he or she gets a tax advantage worth about \$800, because some of the allowances are not taxed. That's not bad for a person entering the work force with a high school diploma. By way of comparison, an automotive mechanic starting out with a diploma from a strong vocational high school might earn \$14,000 a year. ... At the higher end of enlisted service, a master sergeant with 20 years in the Marine Corps typically earns more than \$50,000 a year—better than a senior municipal firefighter or a police officer in a supervisory position and comparable to a chief engineer in a medium-sized broadcast market.

"Among the officers, a 22-year-old fresh out of college earns about \$34,000 a year as an ensign in the Navy—about the same as the average starting pay of an accountant, mathematician, or a geologist with a bachelor's degree. A colonel with 26 years makes more than \$108,000.

"In addition to these basic salaries, there are cash bonuses for officers and enlisted personnel with special skills. There are also fringe benefits: four weeks of paid vacation, comprehensive health care, discount groceries, tuition assistance during military service, and as much as \$50,000 for college afterward. Enlistment and re-enlistment bonuses can run to \$20,000 and more. ...

"Proponents of higher pay also note that military people put up with hardships such as long hours and family separations. Yet many civilian occupations make similar demands, and firefighters, police, and emergency medical personnel, like many in the military, risk their lives on the job.

Lt. Gen. Michael A. Nelson, USAF (Ret.), president of The Retired Officers Association, Jan. 21 statement.

"After years of pay caps and cuts in other benefits caused a retention crisis in the late 1970s, 'reasonable comparability' was restored with two double-digit raises in 1981 and 1982 that made up the cumulative military pay raise gap since the start of the all-volunteer force [in 1973].

"But the lesson of the 70s wasn't learned very well. Over the next 17 years, military raises matched private sector pay growth in three years, were capped below the [Employment Cost Index] in 12 [years], and fractionally exceeded the ECI in two years. With the cumulative gap having grown to 13.5 percent in 1999 and masses of service members voting with their feet, Congress approved a series of annual raises that will be one-half of a percentage point per year above the ECI through 2006. Not overly generous, but a very welcome change for the troops after years of short shrift. ...

"Her [Williams's] comparisons of pay levels also ignore other key factors. ... She fails to acknowledge how service members are asked to assume responsibility for vastly expensive resources and team leadership—sometimes with staggering life-or-death decision-making responsibilities—at an early age.

"Most important, Ms. Williams's discussion inadequately addresses the fundamental issue the military pay and benefits package must seek to offset—the extraordinary demands and sacrifices inherent in a career of uniformed service. She dismisses this by citing other civilian occupations that may entail relocation or danger. But such comparisons are superficial at best; there is no legitimate comparison with the working conditions of any private sector job.

"Service members work long hours ... without any overtime. Their business trips are to places like Bosnia and Iraq and Somalia where they live in tents and people shoot at them. They are subject to extended family separations, forced relocations every few years that disrupt spousal careers and children's education, and sacrifice personal freedoms (such as saying "no" to your boss without going to jail or being able to quit whenever you want) that other Americans take for granted. ...

"Roughly 95 percent are forced out of service in their 40s and must start second careers in midlife—often at the bottom, competing with youngsters who don't have children in college and are willing to work for less. ...

"Pay raise comparability isn't some esoteric analytical concept; it's a simple matter of fairness."

the BAe claim, which further said that the new weapon, based on the Russian AA-12 Adder, has a ramjet propulsion system that provides thrust for up to a minute, as opposed to the six seconds of thrust featured on more conventional missiles.

■ On Christmas Eve an Air Force Special Operations Command MC-130P from Andersen AFB, Guam, helped in the rescue of a 24-foot skiff that had been adrift in the waters southeast of Guam for a week. The boat, which had run out of fuel, carried 10 people.

■ The June 19 midair collision of two F-15s near Nellis AFB, Nev., was caused when one of the pilots lost track of the other's position during a training exercise, according to a newly

released accident report. The pilots—both from Nellis's 422nd Test and Evaluation Squadron—ejected and sustained minor injuries in the accident.

■ Mechanical and human factors caused the crash of a Predator Unmanned Aerial Vehicle near Tuzla AB, Bosnia, on April 18, according to an accident report. The aircraft's two ground-based pilots "became too focused on flying the Predator in icing and weather conditions they had rarely encountered," said the report. The UAV subsequently lost engine power on its descent into Tuzla.

■ The Fisher House Foundation, Inc., has won Air Force approval to build its 27th Fisher House, which will be located at Lackland AFB,

Texas. Fisher Houses have provided a home away from home for families of patients receiving care at major military and VA medical centers since 1990.

■ One of the most far-flung US military sites has been shutdown because it is outmoded. The joint Australian-US Nurrungar missile detection facility had monitored missile launches for 29 years, but its job is now done better by satellites.

■ Maj. Tod Fingal, 62nd Fighter Squadron, Luke AFB, Ariz., was recently awarded the Lt. Col. Anthony C. Shine Award for fighter pilot proficiency and professionalism. The award is in memory of Shine, who was killed while flying an A-7D Corsair II in the Vietnam War 27 years ago.

■ The July 1 fatal crash of an F-16C from the 482nd Fighter Wing (AFRC), Homestead ARB, Fla., was likely caused by a bird strike on the canopy, according to a new accident report. Evidence indicates that the bird strike crushed the canopy inward into Maj. Samuel D'Angelo III, rendering him incapable of controlling the aircraft. (See "Aerospace World: Helo, Fighter Crashes Claim Lives," August 1999, p. 15.)

■ The Navy restored its ties with the Tailhook Association on Jan. 19, according to *The New York Times*, some eight years after sexual assaults and drunken debauchery at its annual convention tarnished the reputation of naval aviation. In announcing the resumption of a relationship, Navy Secretary Richard Danzig said

the association's officers had assured him that the group had changed and would never repeat its infamous behavior.

■ Maj. Barry Mines has been named Air Force engineer of the year by the National Society of Professional Engineers. Mines is chief of the pavements evaluation section for the Air Force Civil Engineer Support Agency, Tyndall AFB, Fla.

■ The National Guard has an official song. "I Guard America," written by country singer and songwriter James Rogers, was recently endorsed by Guard leaders. Rogers, now a featured performer at the Dollywood entertainment park in Pigeon Forge, Tenn., was a Tennessee Army National Guardsman in the 1970s.

■ Four sections of the Berlin Wall went on display at the US Air Force Museum, Wright-Patterson AFB, Ohio, on Jan. 12. The museum also placed a small Trabant German car on exhibit. The Trabant was the primary—indeed, virtually the only—vehicle available to most citizens of the former East Germany.

■ On Jan. 12, Northrop Grumman announced that the vertical-takeoff-and-landing UAV it is developing for the Navy has completed its first fully autonomous flight. Program requirements call for a craft that can carry a 200-pound payload while taking off vertically, flying 110 nautical miles, loitering for three hours at up to 20,000 feet, and returning—all while withstanding a 25-knot wind from any direction. ■

## Senior Staff Changes

**RETIREMENTS:** Maj. Gen. Richard N. **Goddard**, Maj. Gen. Michael J. McCarthy.

**CHANGES:** Brig. Gen. Thomas L. **Baptiste**, from Dir., Plans, NORAD, Peterson AFB, Colo., to C/S, Ops., Allied Forces Southern Europe, NATO, Naples, Italy ... Maj. Gen. John D. **Becker**, from Cmdr., Tanker Airlift Control Ctr., AMC, Scott AFB, Ill., to Dir., Ops & Log., USTRANSCOM, Scott AFB, Ill. ... Brig. Gen. Randall K. **Bigum**, from Dep. Dir., Combat Weapon Systems, ACC, Langley AFB, Va., to Dir., Combat Weapon Systems, ACC, Langley AFB, Va. ... Maj. Gen. Carrol H. **Chandler**, from C/S, Allied Air Forces Southern Europe, NATO, Naples, Italy, to Dir., EAF Implementation, DCS, Air & Space Ops., USAF, Pentagon.

Brig. Gen. (sel.) Michael A. **Collings**, from Cmdr., 88th ABW, ASC, AFMC, Wright-Patterson AFB, Ohio, to Dir., Log., PACAF, Hickam AFB, Hawaii ... Brig. Gen. (sel.) Duane W. **Deal**, from Cmdr., 11th Wg., Bolling AFB, D.C., to Cmdr., Air Force Recruiting Service, AETC, Randolph AFB, Texas ... Brig. Gen. (sel.) Vern M. **Findley II**, from Cmdr., 319th ARW, AMC, Grand Forks AFB, N.D., to Cmdr., 437th AW, AMC, Charleston AFB, S.C. ... Maj. Gen. Dennis G. **Haines**, from Dir., Combat Weapon Systems, ACC, Langley AFB, Va., to Cmdr., Warner Robins ALC, AFMC, Robins AFB, Ga.

Brig. Gen. Donald J. **Hoffman**, from ACS, Ops., Allied Air Forces Northwest Europe, NATO, RAF High Wycombe, UK, to Cmdr., 52nd FW, USAFE, Spangdahlem AB, Germany ... Brig. Gen. William J. **Jabour**, from Dir., B-2 SPO, ASC, AFMC, Wright-Patterson AFB, Ohio, to Vice Cmdr., ASC, AFMC, Wright-Patterson AFB, Ohio ... Brig. Gen. Jeffrey B. **Kohler**, from Asst. Dep. Under SECAF (Intl. Affairs), OSAF, Pentagon, to Vice Cmdr., 7th AF, PACAF, Osan AB, South Korea ... Brig. Gen. Maurice L. **McFann Jr.**, from Cmdr., 552nd ACW, ACC, Tinker AFB, Okla., to Dir., Plans, NORAD, Peterson AFB, Colo.

Brig. Gen. Paul D. **Nielsen**, from Vice Cmdr., ASC, AFMC, Wright-Patterson AFB, Ohio, to Cmdr., AFRL, AFMC, Wright-Patterson AFB, Ohio ... Maj. Gen. William A. **Peck Jr.**, from Vice Cmdr., 7th AF, PACAF, Osan AB, South Korea, to Cmdr., AFOTEC, Kirtland AFB, N.M. ... Maj. Gen. Timothy A. **Peppe**, from Dir., Jt. Experimentation, USJFCOM, Norfolk, Va., to Chief of Safety, USAF, Pentagon ... Brig. Gen. (sel.) Jack L. **Rives**, from Chief, Executive Issues Team, OSAF, Pentagon, to Staff Judge Advocate, ACC, Langley AFB, Va.

Brig. Gen. Ben T. **Robinson**, from Vice Cmdr., 8th AF, ACC, Barksdale AFB, La., to Cmdr., 552nd ACW, ACC, Tinker AFB, Okla. ... Brig. Gen. (sel.) Stephen T. **Sargeant**, from Dep. Exec.

Secy., NSC, Washington, D.C., to Cmdr., 56th FW, AETC, Luke AFB, Ariz. ... Brig. Gen. (sel.) James M. **Shamess**, from Dir., Security Forces, AFSPC, Peterson AFB, Colo., to Dir., Security Forces, DCS, Air & Space Ops., USAF, Pentagon ... Brig. Gen. Lawrence H. **Stevenson**, from Cmdr., 12th FTW, AETC, Randolph AFB, Texas, to Dir., P&P, AETC, Randolph AFB, Texas ... Brig. Gen. Peter U. **Sutton**, from Cmdr., Air Force Recruiting Service, AETC, Randolph AFB, Texas, to Cmdr., 12th FTW, AETC, Randolph AFB, Texas.

Brig. Gen. Scott P. **Van Cleef**, from Cmdr., 52nd FW, USAFE, Spangdahlem AB, Germany, to Asst. Dep. Under SECAF (Intl. Affairs), OSAF, Pentagon ... Brig. Gen. (sel.) Mark A. **Volcheff**, from Cmdr., 374th AW, PACAF, Yokota AB, Japan, to Cmdr., 86th AW, USAFE, Ramstein AB, Germany ... Brig. Gen. Donald J. **Wetekam**, from Dir., Log., PACAF, Hickam AFB, Hawaii, to Dep. Dir., Combat Weapon Systems, ACC, Langley AFB, Va. ... Brig. Gen. Gary A. **Winterberger**, from Dir., P&P, AETC, Randolph AFB, Texas, to Cmdr., NATO Airborne Early Warning Force, Geilenkirchen, Germany ... Brig. Gen. Michael W. **Wooley**, from Cmdr., 86th AW, USAFE, Ramstein AB, Germany, to Cmdr., Tanker Airlift Control Ctr., AMC, Scott AFB, Ill. ... Brig. Gen. Bruce A. **Wright**, from Dep. Dir., Info. Ops., Jt. Staff, Pentagon, to Cmdr., AIA, Kelly AFB, Texas.

**COMMAND CHIEF MASTER SERGEANT RETIREMENTS:** CMSgt. Kenneth W. **Casey**, CMSgt. Kenneth E. **Hair**.

**CCMS CHANGES:** CMSgt. Kevin D. **Estrem**, to CCMS, AFSPC, Peterson AFB, Colo. ... CMSgt. Vickie C. **Mauldin**, to CCMS, USAFE, Ramstein AFB, Germany ... CMSgt. William **Milligan**, to CCMS, AETC, Randolph AFB, Texas.

**SENIOR EXECUTIVE SERVICE RETIREMENTS:** Philip S. **Babel**, Clinton **Lewis**, Thomas L. **Link**, Thomas R. **Pedtke**, Paul A. **Shahady**, Marion L. **Williams**.

**SES CHANGES:** Siva S. **Banda**, to Senior Scientist, Control Theory, AFRL, Wright-Patterson AFB, Ohio ... David A. **Franke**, to Dir., Centralized Support Team, AFMC, Wright-Patterson AFB, Ohio ... Warren T. **Reinhardt**, to Senior Intel. Engineer, NAIC, Wright-Patterson AFB, Ohio ... LaVerne A. **Schlie**, to Senior Scientist, Laser Tech., AFRL, Kirtland AFB, N.M. ... James E. **Short**, to Associate Dep. Asst. Secy., Financial Ops., OSAF, Pentagon ... Sharmon **Thornton**, to Dep., Equal Opportunity, OSAF, Pentagon. ■



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RF-4: Navigation Attack Radar  
F-15 Eagle: Radars  
F-16 Falcon: Mission Computers  
F/A-18 Hornet: Radars  
and Radar Warning Receiver  
F-22 Raptor: Radar and Processor  
F-111: Terrain Following Radar  
F-117 Stealth: Targeting System  
Joint Strike Fighter: Avionics  
and Weapons  
B-2 Spirit: Radar  
C-130 Hercules: Talon-1 Navigation  
Attack Radar  
AC-130 Spectre Gunship: FLIR and  
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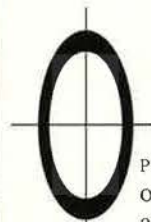
## The stunning accuracy of Air Force attacks in the Balkans pointed up the great strides made in precision guided weaponry.

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



*The Air Force has achieved a phenomenal degree of bombing accuracy over the past decade, largely by upgrading existing weapons with new guidance and propulsion systems. The AGM-130s, seen here being tested on an F-15E of the 40th Flight Test Squadron at Eglin AFB, Fla., are rocket-powered versions of the GBU-15 glide bomb. They have TV guidance but can also use Global Positioning System satellites to find their targets. The F-15E backseater controls the bomb's flight path through a data-link pod mounted on the aircraft centerline.*

# The State of Precision Engagement



OPERATION Allied Force demonstrated that true precision air attack—once a far-off goal but now taken for granted—has become an indispensable capability. It proved to be vital not just for the prosecution of the Balkan military effort but also as a means of holding together the Western coalition by minimizing civilian casualties and damage.

Air Force officials long have recognized the pivotal role played by precision guided weapons. The service now is mapping a future inventory of systems that will be even more precise and adaptive, yet lighter and less expensive, than the current generation of systems just now being deployed.

Precision Guided Munitions made Allied Force possible. The operation likely would not even have been attempted had NATO leaders not been convinced—by experience in Deliberate Force in 1995 and Desert Storm in 1991—that the destructive power of coalition airstrikes could be almost entirely confined to military targets.

The Supreme Allied Commander Europe, Army Gen. Wesley K. Clark, told the Senate Armed Services Committee last October that NATO commanders knew going into the Yugoslavian operation that “we weren’t



**Use of precision weapons has expanded greatly since the 1991 Gulf War. Nearly all munitions used in NATO's Operation Deliberate Force in 1995 were PGMs. Here, an F-15E is loaded with a Laser-Guided Bomb at Aviano AB, Italy.**

going to be allowed to use decisive force" to compel Slobodan Milosevic to comply with NATO demands. By that, he meant that a large-scale ground operation, massive bombing, or other brute-force effort was out of the question.

Instead, NATO planners would have to settle—initially, at least—for what Sen. Carl Levin (D-Mich.) dubbed "maximum achievable force" in a phased air operation. That, Clark said, meant attacking an "irreducible minimum" of targets, those posing an immediate threat to allied airplanes. As the conflict progressed, the target list expanded, but NATO leaders wanted to "have their hand on the trigger, so to speak," Clark said. They were desperate to avoid civilian casualties and limit the damage to the minimum necessary to force Milosevic to capitulate.

Air Force Lt. Gen. Michael C. Short, the joint forces air component commander, said he was urged to do his utmost to both avoid civilian casualties on the ground and NATO losses in the air. This goal prompted the creation of strict protocols with regard to target selection and identification and to the weapons chosen to attack each one.

### Twenty Out of 23,000

In practice, only 20 of the approximately 23,000 munitions expended by NATO in the 1999 Balkan air operation caused collateral damage or civilian casualties. Some oth-

ers were deliberately steered off course to avoid harming civilians who had not been seen in the target area until the last moment.

In a joint statement to Congress last fall, Clark, Adm. James O. Ellis Jr., commander in chief of NATO's Allied Forces Southern Europe, and Short said, "NATO did everything possible, everything feasible, to focus on the enemy and keep harm away from innocent civilians."

The American PGMs, they said, "proved very effective and demonstrated immense potential by allowing highly accurate strikes while minimizing collateral damage and civilian casualties."

NATO nations abhorred all civilian deaths, and their militaries went to extraordinary lengths to avoid them. Bombing accuracy, coupled with zero friendly casualties due to enemy fire, was equally unprecedented. The achievement was so stark it left many commanders worried that they had set a standard that never again would be met.

PGMs in Allied Force represented just 35 percent of the ground-attack weapons used but accounted for 74 percent of the targets destroyed. The percentage of PGMs as a fraction of weapons used was much higher in the early weeks of the war, when they were used almost exclusively. Later, as big bombers swept in with large numbers of unguided munitions, the ratio shifted.

Allied Force represented "the most

precise bombing campaign in history," Army Gen. Henry H. Shelton, Joint Chiefs Chairman, told Congress last fall. This was achieved due in large part to the strides in precision attack made by the Air Force in the 1990s and demonstrated "the wisdom of decisions taken after the 1991 Gulf War," Defense Secretary William S. Cohen and Shelton said in a joint written statement to Congress in October.

Before Desert Storm ended, the Air Force had recognized that, despite its tremendous success with PGMs, there was plenty of room for improvement. Nonstealthy aircraft, if they were to survive, had to have the means to attack targets from outside the effective range of anti-aircraft artillery and surface-to-air missiles. All strike aircraft—stealthy and nonstealthy—needed a capability to carry out precision strikes at night and in bad weather, the latter of which sidelined strike activity for days at a time during Allied Force.

Some steps in these directions were already under way even before the Gulf War began, but the Air Force intensified its campaign in the aftermath. The service undertook three principal efforts: equipping nearly all fighters with the capability to use Laser-Guided Bombs; greater dissemination of night vision gear; and introducing a new class of low-cost, satellite-guided weapons.

### Night Into Day

The LGB capability—as well as a large degree of night capability—was acquired when the Air Force equipped much of its F-16 force with the system called LANTIRN, or Low-Altitude Navigation and Targeting Infrared for Night. This podded system gives the pilot a cockpit display of blacked-out terrain almost as if it were daylight. Zoom features allow the pilot to get a close-up view of a distant object and put a weapon's crosshairs on it.

Other aircraft, notably the A-10, got special lighting and night vision goggles, which proved to be a less costly (but also less effective) means of obtaining night capability.

Laser-Guided Bombs, viewed by the public as the hallmark of Desert Storm, represented only 4.3 percent of the munitions used in that conflict (all PGMs accounted for 9 percent). The LGBs accounted for 75 percent

of the damage inflicted on Iraqi forces and infrastructure. However, they could only be used by certain specially equipped aircraft and would not work if forced to drop through heavy overcast or smoke. An effort was begun to remove weather as a hindrance to precision attack as well as a refuge for the enemy.

The Air Force, well prior to the Gulf War, secretly had converted a number of AGM-86B Air Launched Cruise Missiles to a conventional version, the AGM-86C, employing Global Positioning System cuing. The weapon would allow the Air Force to strike at highly defended targets hundreds of miles away without putting aircrews within range of enemy defenses.

As with any GPS receiver, the unit interrogates GPS satellites as to the missile's location, triangulating response times to establish a position both in space and time. Thirty-five Conventional Air Launched Cruise Missiles were used in Desert Storm's opening volley, though their existence and employment was not revealed until a year later.

The CALCM represents "the outer layer of standoff attack," an Air Staff weapons expert observed. The operational concept of precision engagement calls for using small numbers of expensive, long-standoff-range weapons first, gradually moving to larger numbers of shorter-range, less-expensive weapons as enemy air defenses are beaten down.

Only B-52s can carry the AGM-86C, which can have the GPS coordinates of their targets programmed before they are loaded or updated en route to the release point.

### The Rush to Replenish

CALCMs were employed with great effect in Allied Force—principally against infrastructure targets like power plants and command-and-control nodes—but at such a rapid pace that the Air Force had to negotiate a new contract with Boeing to convert even more of the AGM-86Bs to CALCM configuration.

Under a \$122 million contract, Boeing will convert 322 more missiles. The last 50 will be a special type, designated AGM-86D, capable of penetrating a hardened, deeply buried target.

Some CALCMs will have a means of terminal guidance to give them pinpoint accuracy, but specifics on the guidance package are classified.

Only a specific number of ALCMs can be converted to CALCMs, and no more. Thus, the Air Force is leading an effort to develop a stealthy successor, which the Navy will also use to succeed its Tomahawk Land Attack Missile. The new weapon is the AGM-158 Joint Air-to-Surface Standoff Missile.

The JASSM, equipped with up to a 2,000-pound-class warhead, will have a range of hundreds of miles and all-weather, pinpoint accuracy, obtained through a combination of

GPS cuing, Inertial Navigation System, and terminal seeker. The JASSM will also have capability for penetrating hardened targets.

"The operational concept for JASSM is very similar to that for CALCM," an Air Staff weapons expert reported.

However, there is a big difference—cost. Big current-generation cruise missiles like ALCM and TLAM cost more than \$1 million apiece. JASSM is slated to cost about \$400,000 apiece over a run of 2,400 units, thanks to streamlined contracting practices put in place over the last six years. Lockheed Martin is building the JASSM.

The next rung on the standoff arc is currently occupied by the Air Force's AGM-130 rocket-assisted glide bomb and AGM-142 Have Nap missile and the Navy's Standoff Land Attack Missile—Extended Range.

The AGM-130 is a 2,000-pound-class bomb that can be carried only by the F-15E. It has a TV or infrared seeker in the nose and a data link to a launching aircraft, allowing the F-15E backseater to "fly" the bomb to its target by means of a miniature TV screen in the cockpit and a hand-controller. To prevent the missile from being jammed or rerouted, each AGM-130 is controlled by a specifically tuned data-link pod mounted under the F-15E.

The rocket motor allows a wide variety of approaches to the target; for example, the bomb can glide low, under the overcast, while the controlling airplane remains above. More practically, the F-15E can also release the bomb and stay out of the reach of surface defenses while the missile goes the final distance.

All AGM-130s now have GPS capability. This ensures at least a near-precision attack if the data link fails or in case the guiding crew member loses his visual references.

### Constricted View

The image in the cockpit received from the missile nose "is like looking through a straw," the Air Staff weapons expert said. Having the GPS capability is an extra guarantee that the weapon will hit close to its aim point.

The SLAM-ER and Have Nap work in ways similar to the AGM-130. All are able to make a precision attack on a target from a distance of

USAF photo by TSgt. Mike Ammons



*The next major advance in precision attack will come from JASSM, here being tested from an F-16D. The JASSM is stealthy, can fly hundreds of miles, and can strike hardened targets with high accuracy.*

at least 20 miles. (Maximum potential range for the Navy missile is 93 miles and the Have Nap, about 50 miles.)

Closer in, 15 miles or so from the target—its range depends on the speed and altitude of the launch platform—strike aircraft will use the new AGM-154 Joint Standoff Weapon.

Led by the Navy, the JSOW program is providing a stealthy glide bomb that uses GPS to find its target. JSOW is now being delivered to the Air Force, which plans to buy 3,000 of the bomblet version that costs about \$180,000 apiece, and more than 3,100 of a Sensor Fuzed Weapon variant at \$330,000 apiece. The SFW is a smart weapon that fires projectiles down on individual vehicles in an armored column or convoy. The B-2 will be the first Air Force platform to receive JSOW, but the B-1, B-52, F-15E, and F-16 are all slated to use it. (The Navy has already employed its JSOW in combat. An F/A-18 on routine patrol over Iraq fired the first one in January 1999 at an Iraqi air defense site.)

The pilot employing the JSOW need only release the weapon; the GPS coordinates of its target will already have been programmed into the bomb.

Stealth was incorporated in JSOW to ensure surprise of attack, as well as to foil attempts to shoot down the glide bomb on its approach to target.

Another weapon that can be used inside 15 miles is the new GPS ver-

sion of the GBU-15 glide bomb, the EGBU-15, which is identical to the AGM-130 but lacks the rocket motor for extended range. The EGBU-15 has improved accuracy and all-weather capability.

As USAF fighters get within sight of the target, they can employ Laser-Guided Bombs. The LGB looks for the reflection of laser light being aimed at the target. An onboard laser designator is typically used, but the target can be designated by another aircraft or even a soldier on the ground using a handheld laser. The LGB looks for reflected laser light of the right frequency, then follows it until the bomb hits the target. The pilot will “steer” the laser spot—which appears as a cursor on a cockpit video display—with a joystick toward a vulnerable point on the target—typically, a supporting beam or an unhardened point of entry. The bomb receives these inputs and translates them into movements of the fins on its tail.

Early model GBU-10 and -12 Laser-Guided Bombs use full deflection of their fins when steered toward the target and typically must be used from higher altitudes and closer to the aim point because they rapidly use up their gliding energy. Later versions like the GBU-24 and -27 can make smoother adjustments to their flight path and can be used at lower altitudes. The latter weapon can score a hit within about 10 feet of the target.

The Air Force is putting GPS receivers on all its LGBs to make them capable in all weather and to salvage missions that might have to be scrubbed en route because of smoke or other obscurants over the target area.

The GBU-28 is a special 5,000-pound bomb with a GBU-27 laser seeker. It and the follow-on GBU-37, which is GPS-guided, are intended to be “bunker busters,” massive bombs able to destroy deeply buried, hardened targets such as command centers.

### The Modern Way to Spot

One Allied Force innovation, barely used before the air campaign ended, was the installation of a laser designator on the Predator Unmanned Aerial Vehicle. This capability will in the future allow low-flying UAVs to precisely pick aim points for LGBs without endangering aircrews.

Heartened by the success of the CALCM in the Gulf War, the Air Force decided to expand on the use of GPS in its next generation of ground-attack munitions.

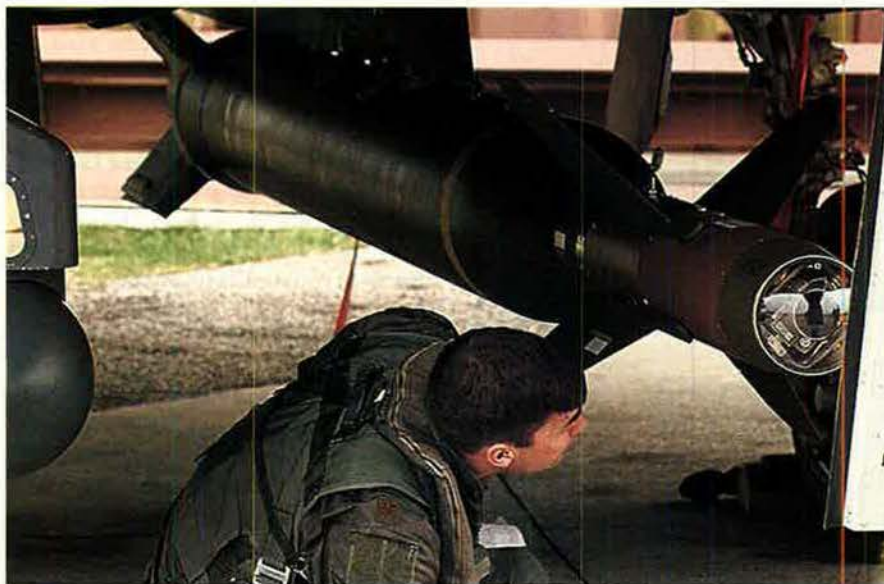
The Joint Direct Attack Munition was developed as a direct response to the weather frustrations experienced in Desert Storm. The JDAM GBU-31 variant has a 2,000-pound bomb equipped with fins to extend the range at which it can be released and a tailcone that can receive GPS data and translate them into fin movements that steer the bomb to precise coordinates. The JSOW, developed in parallel, uses a similar approach.

Both the JDAM, made by Boeing, and JSOW, built by Raytheon, were on the verge of completing operational tests when Allied Force began. Initial production batches were rushed into operational use. The JDAM, employed exclusively by the B-2, worked brilliantly.

The combination of B-2 and JDAM was “the No. 1 success story” of the allied effort, Short asserted.

The B-2 employed JDAM in a unique way that will not be used by other aircraft when they are cleared to use the weapon. The B-2 can not only program the JDAM with the GPS coordinates it wants to hit, but it can update those coordinates after comparing them with a synthetic aperture radar map the bomber makes of a target area prior to weapons release. By means the Air Force prefers not to discuss, the B-2 mission

USAF photo by S/A Jeffrey Allen



**The massive GBU-28 LGB is a bunker buster, designed to destroy deeply buried and superhardened targets. This monster bomb was used in Desert Storm as well as Allied Force.**

commander can actually choose elevation as well as coordinates for the JDAM, effectively permitting him to select aim points on the target. This capability is called the GPS-Aided Targeting System.

### Bad Weather Performer

A total of 656 JDAMs were used during Allied Force. Just as the weapon began to stand out as a stellar performer—even during bad weather (there was 50 percent cloud cover more than 70 percent of the time)—in keeping the pressure on Serb leadership, stocks of the weapon began to run low.

“We started out [in Allied Force] with about 300 JDAMs,” said Joseph G. Diamond, Air Force program executive officer for weapons, “because the weapon was still technically in its test phase. ... We went back to the contractor and started ramping up production.” By January 2000, more than 2,500 JDAMs had been delivered.

JDAM is counted as a near-precision munition, said an Air Staff weapon expert. LGBs, considered precision weapons, have a 10-meter circular error probable, meaning that half of all bombs dropped will fall within 10 meters of the target. JDAM is not quite as precise, but, in real-world experience in Yugoslavia, it proved comparable to LGBs in accuracy. The B-2s in Allied Force put 90 percent of their JDAMs within 12 meters of their targets.

“For weaponeering purposes, we treat JDAM as a precision weapon,” the Air Staff expert said.

The JDAM tail kit goes on a Mk 84 2,000-pound bomb or BLU-109 hardened-target penetrator bomb. While the JDAM was initially expected to cost more than \$40,000 apiece, the streamlined contracting methods pioneered on the program have knocked the unit cost to under \$20,000 apiece. The Air Force plans to buy 62,000 JDAMs. The service plans to certify it on the F-16 this year and on the F-15E in 2002.

The standoff range required, the threat, the weather, and the hardness of the target all play a role in how weapons are chosen for a given mission, the Air Staff weapons expert said.

“Once you define those variables, it drives you to your weapon pretty quickly,” he added.



*JDAM was the star performer of Allied Force and vindicated USAF's move to GPS-aided weapons. Seen here in a test against an A-6 carcass, JDAM is classed as a near-precision weapon but routinely hits within 40 feet of its target.*

While Desert Storm was largely credited as being the first space war—the first conflict in which space assets played a key role not only in communications and reconnaissance but in data transfer, target updates, and even weapon guidance—all these things happened to a much greater degree in Allied Force, according to Gen. Richard B. Myers, who was head of US Space Command, Air Force Space Command, and North American Aerospace Defense Command in January when he spoke to reporters in Washington.

The operational use of space assets in Allied Force was “an order of magnitude improvement over Desert Storm,” he said. The use of GPS-aided munitions was made far more routine, and great progress was made in moving targeting information directly to the cockpit.

“One of the things that we’ve been working on ... [is] how do we get real-time information to the cockpit,” Myers said.

“We had some terminals that we strapped onto the B-52 and the B-1 that would get information through a satellite relay and other broadcasts where they had the current [intelligence] picture,” Myers explained. This threat picture could be sent to the bombers through an onboard e-mail capability and used in conjunction with onboard digital maps and GPS systems to create a new attack plan en route to the target area.

“That proved to be very, very use-

ful,” Myers said. “Air Combat Command is evaluating whether or not they want to put that permanently into the B-52s, the B-1, and perhaps the B-2.” He noted, “The technology is essentially at hand” to do the same for all strike aircraft, but whether it will happen will have to be weighed against other spending priorities.

Similar episodes of the retargeting of airplanes and munitions took place throughout Allied Force, in which data from Joint STARS aircraft, reconnaissance satellites, U-2 reconnaissance aircraft, or UAVs were forwarded to the NATO Combined Air Operations Center in Vicenza, Italy, which then redirected attack airplanes already en route to targets in Kosovo.

### Miniature Munitions

The Air Force is leading an Analysis of Alternatives to look at the technologies now becoming available that could yield the next generation of PGMs, according to Lynda Rutledge, program manager for the Miniaturized Munitions Capability at the Air Armament Center, Eglin AFB, Fla.

“The AOA will determine our road map” for investing in and producing new PGMs that are anticipated to be smaller, lighter, and smarter than today’s munitions but still produce equivalent destructive power, Rutledge said. The AOA will be completed in September of this year and will select a few promising concepts to be carried

into further development from among 26 now under consideration.

"We're looking at a very broad target set: ... fixed targets, mobile targets, relocatable targets," Rutledge said. Among the alternatives being considered, she said, are some weapons "that are only effective against fixed targets," which typically require high explosives and deep penetrating capabilities, "and some that are only effective against mobile types," which tend to be "softer" and can be disabled with smaller warheads or cluster munitions.

Rutledge added, the study is an attempt to focus "where the Air Force wants to go in the future. ... It doesn't necessarily mean we will find one single answer."



Photo by Paul Kennedy



**The future of precision attack is smaller and smarter. The next generation of PGMs will have to fit in the weapon bays of stealthy aircraft like the F-22 (above right). Here, a LOCAAS warhead is tested at Eglin AFB, Fla. LOCAAS can find a target on its own, then configure itself to destroy what it finds.**

The mission needs statement for new miniaturized munitions states that the Air Force wants such a capability for the F-22 in Fiscal 2007 and a capability for the Joint Strike Fighter in Fiscal 2010, noted Rutledge. The new weapons will have to be carried internally on the new aircraft, to preserve the fighters' stealthiness.

Two of the most prominent concepts include the Low Cost Autonomous Attack System and the Small Smart Bomb. The LOCAAS would be an arm's-length 100-pound gliding or powered weapon capable of orbiting the target area and searching for its target with a laser radar.

Upon finding it, it would dive on it with a multistage warhead that would configure itself to be most effective against the target being attacked. The SSB would be similar to today's JDAM but would contain the explosive power of a 1,000- or 2,000-pound bomb in the body of a 250-pound bomb.

Preliminary laboratory work has shown that such high conventional yields can be obtained from smaller amounts of explosive materials, and the Air Force had hoped to fast track the SSB, but funding to develop and acquire the weapon was deferred until the five-year program beginning in Fiscal 2002, officials said.

The advantage of smaller, lighter weapons is that more individual munitions could be carried on each sortie, increasing the number of targets an aircraft could strike on each run. The resulting step-up in targets destroyed per sortie would offer an opportunity to accelerate an air campaign, while diminishing the cost to destroy each target.

"Increased loadout [weapons load] would provide a big increase in effectiveness," Rutledge noted. An F-22 now limited to two 1,000-pound JDAMs in its weapons bay—and thus limited to strike only one or two targets on a mission—could theoretically carry eight SSBs and destroy eight targets on one sortie. A B-2 that could attack 16 separate targets in Operation Allied Force with one 2,000-pound JDAM apiece might be able to attack more than 100 discrete targets with near-precision accuracy.

Another advantage of smaller weapons is that they can offer more options. Reduced blast means reduced collateral damage, and targets that might otherwise be off-limits because of their proximity to civilians or civilian structures could be safely hit without inflicting unwanted destruction.

It is possible the technology could be pointing to some sort of hybrid weapon for future fighters. However, said Rutledge, "We don't think it's going to happen, ... that we can accomplish the entire target set with one miniaturized munition. We will still need some large weapons for certain targets." ■



# Verbatim

By Robert S. Dudley, Executive Editor

## "Flare-up" in Taiwan Strait?

"Taiwan President Lee Teng-hui ... declared last July that his island's relations with the mainland should be conducted under the rubric of 'state-to-state' rather than 'one China.' Lee's statement has China deeply worried that Taiwan's return to Beijing rule is less likely than before. Chinese leaders act as if they believe that, at a minimum, a show of force is required if they are to preserve any hope of reunification. Because of this, we see high potential for another military flare-up across the Taiwan Strait this year."—**CIA Director George J. Tenet, in Feb. 2 threat assessment given to the Senate Intelligence Committee.**

## Into the Valley of Death ...

"There is no point in having robust military power if those who wield it are too risk-averse to use it unless swift victory is guaranteed in advance. The Weinberger-Powell Doctrine is an abstract construct for war-avoidance at almost any cost and would have done Neville Chamberlain proud at Munich in 1938."—**Jeffrey Record, in Jan. 10 Defense Week. Record, a former Senate Armed Services Committee staff member, authored the 1990 article "Into the Wild Blue Yonder: Should We Abolish the Air Force?"**

## ... And on to the Dover Test

"Needless to say, any operation that we do is not going to be without risk to our troops, and insertion of armed forces always carries with it the potential for casualties. ... We have to ask the question, 'Is the American public prepared for the sight of our most precious resources coming home in flag-draped caskets into Dover Air Force Base?' ... Sometimes providing assistance and help is exactly what this nation should do, ... but it is also always prudent, I think, to consider the unintended consequences which may accompany well-intentioned impulses to use our strength for the good

of the international community. We may find out that sorting out the good guys from the bad is not as easy as it seems. We may find that getting in is much easier than getting out."—**Gen. Henry H. Shelton, Chairman of Joint Chiefs of Staff, in Jan. 19 speech at Harvard University. Dover AFB, Del., is an entry point for bodies of US military forces killed in action overseas.**

## Spearhead of St. Louis

"They [Pentagon and Air Force officials] don't want F-15s, and we do. We will make our demands vigorously."—**Sue Harvey, aide to Rep. Dick Gephardt (D-Mo.), in Feb. 2 statement on DoD's refusal to fund more St. Louis-built F-15s.**

## No Love Lost ...

"[Americans] ... know instinctively that the UN lives and breathes on the hard-earned money of the American taxpayers, and yet they have heard comments here in New York, constantly calling the United States a 'deadbeat.'

"They have heard UN officials declaring absurdly that countries like Fiji and Bangladesh are carrying America's burden in peace-keeping. They see the majority of the UN members routinely voting against America in the General Assembly.

"They have read the reports of the raucous cheering of the UN delegates in Rome, when US efforts to amend the International Criminal Court treaty to protect American soldiers were defeated.

"They read in the newspapers that, despite all the human rights abuses taking place in dictatorships across the globe, a UN 'Special Rapporteur' decided his most pressing task was to investigate human rights violations in the US—and found our human rights record wanting.

"The American people hear all this; they resent it, and they have grown increasingly frustrated with what they feel is a lack of gratitude."—**Sen. Jesse Helms (R-N.C.), chairman,**

**Senate Foreign Relations Committee, in Jan. 20 address to the UN Security Council in New York.**

## ... Or Point Conceded

"Let me be clear: Only the President and the Executive Branch can speak for the United States. Today, on behalf of the President, let me say that the Administration—and I believe most Americans—see our role in the world, and our relationship to this organization, quite differently than does Senator Helms.

"We believe in leading *with* other nations, whenever that is possible. We strongly support the United Nations Charter and the organization's purpose; we respect its rules, which we helped write; we want to strengthen it through continued reform; and we recognize its many contributions to our own interest in a more secure, democratic, and humane world.

"The UN also provides a vital forum for the consideration of matters affecting security and peace."—**Secretary of State Madeleine K. Albright, in Jan. 24 remarks to UN Security Council session.**

## The Whole Speech Went On for 9,000 Words and 90 Minutes

"I ask you to pass a national security budget that keeps our military the best-trained and best-equipped in the world, with heightened readiness and 21st century weapons, which raises salaries for our servicemen and -women."—**The section of President Clinton's Jan. 27 State of the Union address devoted specifically to the military budget.**

## Curious, but True

"It is curious indeed when a President can review the state of our nation for nearly 90 minutes, propose dozens of new ways for the government to spend billions of dollars, yet fail to utter a single word about the need for an increase in defense spending."—**William Kristol, editor of The Weekly Standard, in Feb. 7 editorial on the State of the Union address.**

A one-of-a-kind aircraft and a critical mission keep the 93rd Air Control Wing at Robins AFB, Ga., a busy place.



Photography by Guy Aceto, Art Director, and Susan Kennedy

# The View From the



# High Ground

*Two 93rd ACW E-8C Joint Surveillance Target Attack Radar System aircraft on the Robins tarmac await the day's mission. The Air Combat Command wing, created just four years ago, is a unique unit and is one of the most heavily tasked outfits in the US military. The first real-world test for Joint STARS came during Operation Desert Storm in 1991—six years before initial operational capability—when two E-8A developmental aircraft flew more than 150 missions. Joint STARS has been used in every subsequent contingency and in many major exercises.*

Each of USAF's six E-8Cs was once a commercial Boeing 707. Northrop Grumman now refurbishes and enhances the aircraft and installs a multimode radar system and advanced communications. The 26-foot-long canoe-shaped pod added under the forward fuselage carries the Joint STARS phased array radar antenna. The radar has a range of more than 155 miles and can cover some 386,000 square miles in a single eight-hour mission. The E-8C radar provides real-time targeting and battle management data in virtually any weather condition to 17 onboard mission workstations as well as to Army mobile ground station modules. While the E-8C flies outside a battle area, the radar system looks deep into enemy territory to locate, classify, and track ground targets for theater commanders or combat aircraft.



Staff photo by Guy Aceto

Photo by Susan Kennedy



Above, a production model E-8C takes off from the Georgia base on a routine training mission. Before any sortie, the mission crew meets en masse for initial planning. They then split into smaller cells to refine the day's operations. At left, mission crew members determine the requirements for an integrated training exercise that will place them near Ft. Hood, Texas. Below, flight crew members go over the routes they'll use for the trip out and back and during the exercise.



Above, it's early morning as the crew boards the E-8C at the start of a 10-hour sortie. The E-8C's normal range is 11 hours—20 with air refueling.



Staff photos by Guy Aceto



Staff photos by Guy Aceto

*On this mission, the flight crew takes on fuel from aircraft of the 19th Air Refueling Group, also based at Robins. Above, Lt. Rob Southerland carefully maneuvers the E-8C behind the tanker. The refueling receptacle is slightly behind the cockpit. Each pilot on the flight will conduct the refueling "dance."*



*It takes much practice for both the E-8C flight crews and the KC-135R boom operators to make the process look as routine as it did to Air Force Magazine's art director, Guy Aceto, who was along for this Joint STARS mission.*



*Air refueling permits Joint STARS aircraft to perform lengthy missions. For longer missions, the aircraft can accommodate up to 34 personnel. Besides the 17 mission workstations, there's a navigator workstation, several bunks, an open seating area, and a tiny galley with a food locker.*

The E-8Cs are packed with avionics, radios, and computers. They even come with onboard stores of spare equipment for in-flight maintenance, should it be needed. Joint STARS uses both secure digital data links and voice communications to distribute and exchange information.

Keeping all this equipment in running order is partially the task of the 93rd's avionics shop. At right, SrA. Larry Williams checks out a radio from one of the E-8Cs.

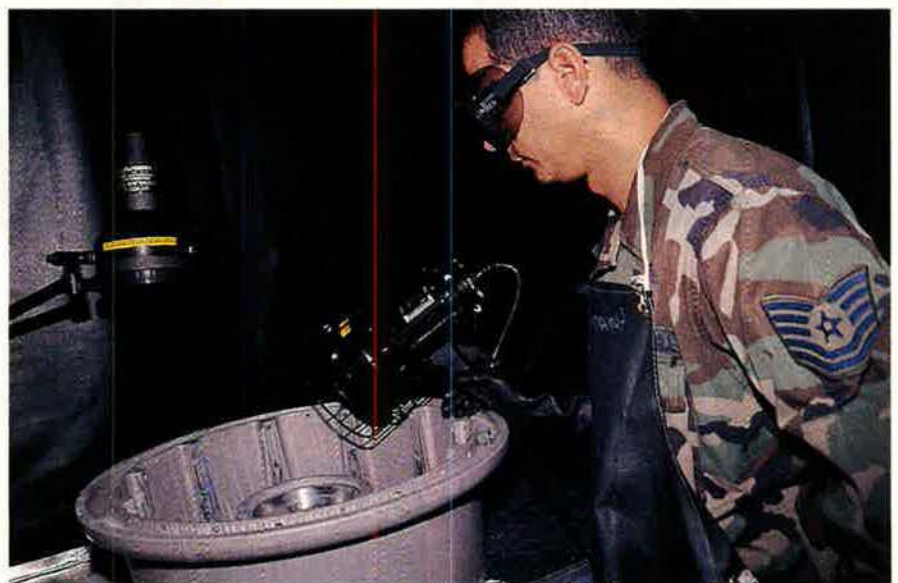


Photos by Susan Kennedy



Above and at left, A1C David Tackett works on one of the aircraft's four Pratt & Whitney JT3D-3B turbojet engines. The engines each have 18,000 pounds thrust. The maximum airspeed is Mach .84, and the ceiling is 42,000 feet.

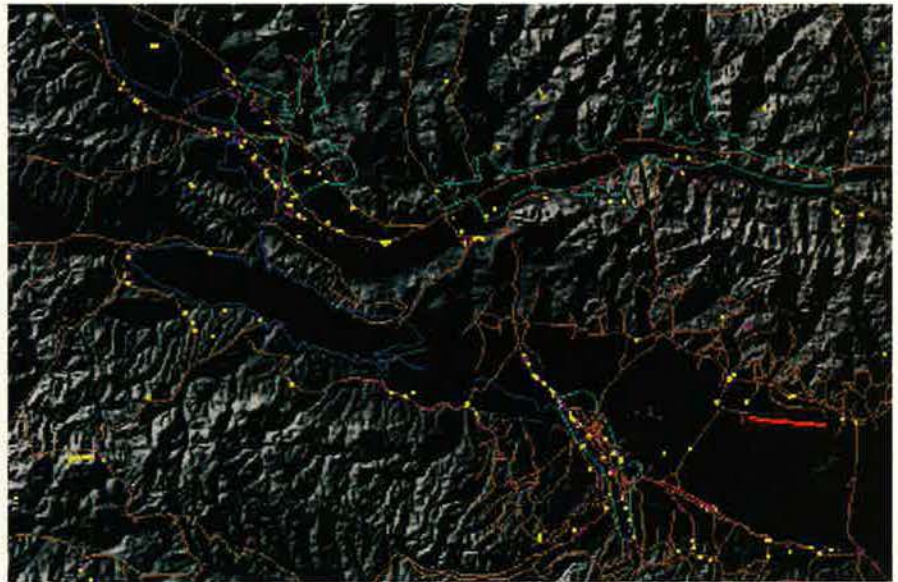
At right, TSgt. Douglas Winfrey checks an aircraft wheel hub for tiny stress fractures. A newly developed non-destructive test uses a chemical coating that becomes fluorescent under ultraviolet light. Regular maintenance is critical and helped the wing exceed expectations during wartime surge tests conducted in 1998 and 1999. During Operation Allied Force, in which Air Force maintainers far outnumbered contractor representatives, the ground crews sustained a mission capable rate above the 85 percent goal.





The E-8C literally gives US forces the electronic high ground. The aircraft fly in figure-8 patterns once in an assigned orbit area. The system's key tool is its multimode radar. The fundamental operating modes detect, locate, and identify slow-moving ground or waterborne targets, helicopters and other low-flying vehicles, and rotating antennas. Using advanced signal processing, Joint STARS can differentiate between wheeled and tracked vehicles. The other modes produce a photographic-like image or map of selected geographic regions, giving precise locations of nonmoving targets, such as bridges, harbors, airports, buildings, or stopped vehicles. Using a combination of modes and a history display, onboard or ground operators can perform battle damage assessment.

Each operator station contains an advanced digital display processor that provides rapid display of maps, radar data, and multiple activity indicators and symbols via a high-resolution color graphics monitor. A typical image, as shown at right, displays moving vehicles in real time as dots of light. By watching the dots move across the terrain, operators can determine the direction and speed of movement.



During Allied Force, the typical eight-hour sortie became a "power mission" lasting 15-20 hours. Operators such as these at left provided intelligence and targeting information to the Combined Air Operations Center, located at Vicenza, Italy. In some cases they were cleared to direct strike aircraft missions against moving targets. The operators can swiftly update information, determining direction, speed, and patterns of ground vehicles or helicopters.



The airborne Joint STARS team includes both Air Force and Army mission operators. These operators and the flight crews normally log some 125 flying hours per month. During the Kosovo campaign, the average became 165 hours as the mission duration stretched up to 20 hours.

About 200 93rd ACW members—flight and mission crews, aircraft maintainers, and support personnel—deployed to the theater with two E-8Cs for Allied Force. The aircraft flew their patrols in tandem. Throughout the operation, the 93rd managed about a 96 percent mission effectiveness rate.

At right, crew members don oxygen masks during this training flight—practicing their in-flight emergency procedures for “fumes” coming from electrical equipment. With the number of computers, radios, and other equipment on this aircraft, it’s serious business.



At left, the crew member designated to check out the suspicious fumes gets a yellow walk-around oxygen bottle. Other crew members with oxygen bottles also do walk-arounds until the aircraft is thoroughly checked and they either find the problem or ensure there’s no danger.







The 93rd received its fifth and sixth production E-8Cs late last year—welcome additions and both ahead of schedule. The original Air Force plan called for 30 aircraft. That was scaled back to 19, then 13 in 1997 because of budget considerations. The number is now up to 15 in the new Pentagon budget.



Program officials at the Electronic Systems Center, Hanscom AFB, Mass., anticipate delivery of two more during this year. They are also working on a program to replace five of the E-8C computers with two more-capable units. The new computers, if testing this year is satisfactory, would first appear on production aircraft delivered in summer 2001. Other enhancements include a planned radar upgrade.



During Allied Force, key commanders stated that the Joint STARS package was invaluable, noted a wing official. He added that changes being made by the program office and the wing would improve it, as would time and experience. ■



**Clark AB, buried and closed by the eruption of Mount Pinatubo in 1991, is now a lavish Philippine resort.**

# Clark Digs Out of the Ashes

By C.R. Anderegg

**O**NCE, Clark AB in the Philippines was a place so beautiful that many thought of it as “the jewel of the Pacific.” That was the case until June 15, 1991. On the next day, Clark was in a shambles, buried in volcanic ash spewed from Mount Pinatubo, shaken by earthquakes, and battered by sheets of rain from Typhoon Yunya.

Then, Clark seemed finished. Now, less than a decade later, most of the base is as beautiful as ever.

Five days before Pinatubo’s cataclysmic eruptions, some 15,000 Americans had evacuated the base, so only a small band of security forces remained to watch and listen to the devastation caused by the volcano’s first eruption in 500 years. More than 100 buildings collapsed in thunderous crashes. Drainage and sewer systems quickly filled with mud as flash floods of wet ash swept through the base. By mid-afternoon, total darkness engulfed Clark, while Yunya swirled airborne goo like a mixer swirling pancake batter.

Later, those who stayed would call themselves the “Ash Warriors,” but that day, the one most refer to as “Black Saturday,” the volcano and typhoon drove them off the base, too.

They returned the next morning. Air Force civil engineers quickly did a triage of facilities and utilities. Their estimates to resume operations on the base exceeded \$500 million. Even if the price had been acceptable, the situation on the ground was not. Pinatubo continued to erupt daily. On-scene US Geological Survey scientists thought the volcano might cook for years, its ash plumes constituting an ever-present threat to aviation.

## **After 93 Years**

The Defense Department and Air Force acted promptly and announced on July 17, 1991, that the United States was putting an end to 93 years of

*Plumes of ash from Mount Pinatubo form the backdrop for a helicopter at Clark. Until 1991, the volcano had not had a major eruption for about 500 years.*

continuous US military presence in the Philippines. The Air Force was abandoning the devastated base.

Though the Americans considered Clark useless as an air base, others considered it an opportunity. Some Filipinos dreamed that the revival of the abandoned facilities would inject new life into the local economy. By 1995, President Fidel V. Ramos had pushed through the Philippine government legislation that declared the Clark site to be a special economic zone. Essentially, the new laws made the zone duty-free and tax-free.

Immediately, investment capital from Asia started to flow toward the former air base, and today the effect is nothing short of remarkable.

The centerpiece of the development is a new, \$64 million resort that occupies the central part of the base north of what was the parade field. It comprises what had been the historic housing, called "barns," officers' club, Chambers Hall, junior noncommissioned officer housing around the golf course, and the course itself. Within the resort, the base is even more beautiful than when the Americans lived there.

Clark's main temporary and bachelor officers' quarters, Chambers Hall, is now a Holiday Inn—and a five-star model at that. The entrance lobby features marble floors, mahogany walls, and several spectacular chandeliers. Reminiscent of times past, the cocktail lounge displays a sign

over the entrance declaring it the "13th AF" bar. (Clark AB was the headquarters for 13th Air Force.) A steady stream of Asian, American, and Australian businessmen and -women flows between the lobby, the lounge, and spacious conference rooms. Former residents who paid \$6 for an overnight stay will be surprised to learn that the rooms now go for \$110.

The resort's owners have transformed the officers' club, once filled with mud and ash, into a first-rate casino, complete with bright carpet, red walls, and a full complement of

Las Vegas-style games. Clark's golf course has been totally restored. The developers bulldozed the ash into sweeping mounds with which they sculpted new fairways, tee boxes, and greens. A second course has been added and a third is under construction.

Perhaps the most striking central-base restorations, however, are those that have remade the small houses around the golf course. What had been two-bedroom junior NCO houses now have been converted into golf bungalows that rent for \$250 per night.



*Even on color film, the landscape was nothing but shades of gray after the volcano erupted and Typhoon Yunya's winds and rains spread the ashes. Above is typical of the damage to Clark's housing areas. Fortunately, almost all of the Americans had evacuated from the base five days before.*



*After USAF closed down Clark, it became a special economic zone that attracted Asian investors. The base's transformation included a makeover for Chambers Hall, once the bachelor officers' quarters, now a five-star Holiday Inn.*

Some of the old barns near the casino and Holiday Inn have been modified into theme restaurants. One is German. One serves French cuisine. Another provides Italian fare, and yet another features Chinese and Japanese food.

#### **Once in a Lifetime Treat**

The most unusual place to dine, though, is the new Four Seasons restaurant, where several varieties of fresh meats are on display deli style. Patrons choose their cut then are seated while the chef prepares their entrees. The food is delicious, but military old-timers might flinch at the thought of eating there. The restaurant occupies what had been the Clark mortuary; its big refrigeration systems now keep meats fresh in the tropical climate.

The new Clark is more than a bus-

ting resort for golf, gambling, and dining. Over 200 businesses dot the base, many of them large computer assembly and manufacturing companies, and most operate in new buildings. A behemoth Yokohama Tire factory sits near the location where the Ash Warriors huddled on the far reaches of the base near the Dau gate. Many smaller businesses have moved to Clark as well. The street along the north side of the former base exchange, once a nondescript avenue, is now a bustling commercial venue for more than 20 duty-free stores such as Nevada Discount Golf. For size and product selection, some of the stores rival Walmart outlets. Hungry shoppers can dine at Kentucky Fried Chicken or McDonald's and have dessert at Baskin-Robbins.

Although many visitors drive to Clark from Manila, a significant number take charter flights. The airfield, covered in ash when the Americans departed, is fully operational, with all-weather instrument landing and navigation systems. Passengers enter through the newly refurbished terminal, the former Clark aerial port, which was the focus of a \$1.2 million renovation.

The Philippine air force occupies a large chunk of the base near the flight line where an overhead sign welcomes visitors to "Air Force City" and announces that the base won "Best in PAF" honors for 1997.

During the last two years the Americans ran Clark, they constructed about 1,000 new military family homes in the lower part of the base and near the parade field. Filipino families who work on the base now occupy all these new homes, and they are well-maintained. The Mactan housing on the western hillside of Clark did not fare so well after US security forces left. Looters ransacked most of the units, stripping them of plumbing, doors, fixtures, and windows.

Outside the gates, Angeles City bustles with business and activity, and only an astute observer might realize that the city had been subjected to the world's second largest volcanic eruption of the 20th



**Clark Museum hosts busloads of visiting schoolchildren each week. The building used to be 3rd Support Group headquarters. Along with resort facilities, more than 200 businesses now operate at the former base.**

century. The areas near the base have changed noticeably. Most of the small, family-owned shops that catered to American appetites for handmade cotton goods and furniture are gone. In their place are many small businesses and stores that cater to Filipino customers. The Nepe Market, a large bazaar familiar to American shoppers, continues to thrive, its many stalls teeming with buyers.

Nearly 2,000 US military retirees live near Clark. A well-organized Retiree Activities Office welcomes American newcomers and helps them settle in. A computer system tied to key locations in the United States allows the RAO, staffed totally by volunteers, to solve most pay and personnel problems. A local hospital, newly refurbished with modern equipment after the eruptions, accepts Tricare payment.

The retirees constitute a tight-knit community and are delighted that US military forces are once again operating on a small scale out of Clark. Recently, the governments of the United States and the Philippines signed a visiting forces agreement, similar to a status-of-forces agreement, that established the jurisdictional status of DoD personnel who are in the Philippines tem-

porarily for exercises and other activities.

So, US aircraft are again flying through Clark. Some retirees have taken Space-Available hops out of Clark. The industrious RAO has set up a Space-A office in the Clark terminal.

### Flags Still Flying

Although the Ash Warriors lowered the Stars and Stripes at the parade field when they left Clark in 1991, an American flag still flies at Clark—at the veterans' cemetery, near the main gate. Four years ago, resident retirees, dismayed at the shabby condition of the cemetery after the eruptions and PAF neglect, collected enough money to restore the cemetery that holds the remains of several thousand US and Filipino veterans. The local Veterans of Foreign Wars post in Angeles City spearheaded the effort, and it raises \$8,000 annually to maintain the cemetery, keep US and Philippine flags flying over it, and put flags on each grave site every Veterans Day and Memorial Day.

Mount Pinatubo no longer erupts, and the crater, which is over a mile wide and several hundred feet deep, holds a peaceful lake. Hikers trek up O'Donnell Valley to camp near the shoreline and explore the crater walls. The devil that once ravaged Clark and the Philippine countryside is quiet now—maybe for another 500 years. ■

*C.R. Anderegg is a freelance writer and lecturer. He is the author of Ash Warriors, the story of the evacuation and closure of Clark AB, soon to be published by the Pacific Air Forces History Office. This is his first article for Air Force Magazine.*



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JUST

**Joint Pub 3-01 settles the counterair dispute in terms close to the Air Force position.**

# Airpower Gains in the Doctrine Wars

**A**SK some officials in the Air Force to name the service's most important political achievement of the past decade and they will say that it was the approval of Joint Publication 3-01 on counterair operations.

How could an obscure Joint Staff guide to performing a single type of military operation take on so much significance? In the view of some in the Air Force leadership, the publication provides the first and best opportunity to establish a primary role for airpower in joint doctrine. Should a future Joint Force Commander in some future conflict opt to make airpower a central feature of his strategy—as was the case in last year's war over Kosovo—Joint Pub 3-01 would allow him latitude to do so.

The new publication was issued in October by Army Gen. Henry H. Shelton, the Chairman of the Joint Chiefs of Staff. The document pertains solely to countering air and missile threats, hardly a green light for undertaking air operations across the board. But military leaders from each of the services believe the language contained in the document could serve as a precedent for all future joint doctrine.

"Joint Doctrine for Countering Air and Missile Threats" was seven years in the making. Interservice arguments during the endgame (roughly the last two or three years) focused on selected phrases, even single words, that were so identified with one service or another that they became unacceptable and were stricken from the record.

The threat addressed by counterair doctrine encompasses manned or unmanned enemy aircraft, ballistic missiles, and cruise missiles launched by air, land, or sea. At issue was how the US military services would team up, before and after the launch of such weapons, to defeat them with a variety of integrated weapon systems and sensors.

By Elaine M. Grossman

## One Against Three

For much of the debate, the Air Force found itself pitted against all the other services by virtue of differences in the medium in which they operate. The Army, Navy, and Marine Corps operate primarily on Earth's surface, be it on land or water, while the Air Force's principal concern is establishing freedom to operate throughout air and space. The other services fought hard to ensure airpower would not encroach on their own latitude to conduct operations on the surface.

In the end, Gen. Michael E. Ryan, the Chief of Staff of the Air Force, agreed to accept a few passages drafted by the surface services in order to achieve the greater goal of a publication that was viewed, in sum, as "airpower-friendly."

A year ago, Air Force officials erroneously believed they were close to agreement with the other services on Joint Pub 3-01 language that would have been even friendlier to a Joint Force Air Component Commander. In wartime, the JFACC would likely be an Air Force officer, as was the case with then-Lt. Gen. Charles A. Horner, the air chief of Operation Desert Storm in early 1991, and Lt. Gen. Michael C. Short, the air commander of Operation Allied Force in mid-1999.

However, Army, Navy, and Marine Corps leaders objected to some of the proposed wording, which had



been drafted by then-Vice Adm. Dennis C. Blair, who was director of the Joint Staff. In fact, they found some sections so unacceptable that they effectively stalled the process until Blair departed his post, after which they renewed their efforts to get changes in the document.

After squabbling over a number of issues—including the Marines' insistence that the term "counterair" be abandoned in favor of "theater air defense"—contention boiled down to one key passage. Blair had attempted to delineate battlespace roles by stipulating that a JFACC could perform counterair missions across an entire Joint Operations Area—with attacks against enemy Scud launchers, for example—without threatening the authority of a surface commander operating in the same area. In the vernacular of such military operations, a commander with authority in an Area of Operations is termed the "supported commander."

### Blair's Pivotal Statement

Blair's version of Joint Pub 3-01 contained this statement: "Designating land and naval force commanders as supported commanders within their AOs does not abrogate the authority of commanders [such as a JFACC] tasked by the [Joint Force Commander] to execute theater and/or JOA-wide functions."

That formulation was welcomed by the Air Force but proved unacceptable to the other services. In the view of the land and naval services, the Blair wording seemed to give a JFACC "carte blanche" over their own areas of responsibility. In the Air Force's view, however, a JFACC's range of operations must not be restricted to particular sectors. Rather, the air commander should be able to conduct operations across the theater's airspace.

Enter then-Vice Adm. Vernon E. Clark, who succeeded Blair as the director of the Joint Staff. Clark proved to be more sympathetic to the surface services' complaints and developed alternative language that ultimately broke the stalemate. The compromise formula eventually was issued by Clark's own successor, Lt. Gen. Carlton W. Fulford Jr., a Marine officer who serves as the current director of the Joint Staff.

Under Fulford, the Joint Pub 3-01 formula for "supported" and "supporting" roles in counterair operations took on a whole new tenor. The document drops Blair's passage altogether. In its place, one finds wording that emphasizes "synchronization" of efforts between land, naval, and air commanders. Fulford put his new proposal forward in an Aug. 18, 1999, memo to the service operations deputies. Air Force officials ultimately said they could accept the change.

The document in its entirety was approved by the Joint Chiefs of Staff in a Sept. 29 meeting in their secure "tank" in the Pentagon and was officially issued on Oct. 19.

### Reflects USAF Approach

Joint Publication 3-01 offers a doctrine for counterair operations that to a great extent reflects an Air Force approach. The document defines counterair operations broadly to include offensive strikes against an adversary's air threats, as well as defensive operations. The JFACC is considered the "supported commander" for all counterair operations. Under a Joint Force Commander's guidance, the air commander has latitude to control the priority, timing, and effects of counterair fires across the

theater. And counterair operations, while under the command of a single individual, can be executed in decentralized fashion.

Fulford says the new doctrine is "authoritative" and must be followed, barring "exceptional circumstances." However, like all warfighting doctrine, Joint Pub 3-01 is subject to interpretation during a conflict. As it stands, one can easily imagine the JFACC's interests colliding with those of surface commanders, who retain full authority in their geographic sectors. So even with Joint Pub 3-01 in hand, a Joint Force Commander may have to mediate between his subordinates.

All in all, though—for the Air Force—Joint Pub 3-01 may have been worth the wait. ■

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*Elaine M. Grossman is senior correspondent for Inside the Pentagon in Washington. Her most recent article for Air Force Magazine, "Duel of Doctrines," appeared in the December 1998 issue.*

### From Aug. 18, 1999, Fulford Memo on Counterair Doctrine

"Per the Chairman's direction, previously approved JP 3-09 language on command relationships is now added to JP 3-01 language to produce consistent guidance. ...

"The JFACC is normally the supported commander for counterair. As such, the JFACC plans, organizes, and executes counterair operations theater/JOA-wide. In accordance with JFC guidance and priorities, the JFACC should determine the priority, timing, and effects of counterair fires throughout the theater/JOA. Once the JFC designates a land or naval AO, the land and naval force commanders are the supported commanders within these AOs. Within their designated AOs, land and naval force commanders synchronize maneuver, fires, and interdiction. To facilitate this synchronization, such commanders have the authority to designate the target priority, effects, and timing of fires within their AOs. Within the joint force theater and/or JOA, all missions must contribute to the accomplishment of the overall objective. Synchronization of efforts within land or naval AOs with theater- and/or JOA-wide operations is of particular importance. To facilitate synchronization, the JFC establishes priorities that will be executed throughout the theater and/or JOA, including within the land and naval force commanders' AOs. In coordination with land or naval force commanders, the JFACC has the latitude to plan and execute JFC-prioritized counterair operations and attack targets within land and naval AOs. The JFACC must coordinate counterair operations to avoid adverse effects and fratricide. If counterair operations would have adverse effects within a land or naval AO, then the JFACC must either readjust the plan, resolve the issue with the appropriate component commander, or consult with the JFC for resolution."

—Lt. Gen. Carlton W. Fulford Jr., USMC,  
Director, Joint Staff

# the Shortfall in Science and Technology

**The high-technology Air Force is falling behind in research and development.**

By John T. Correll, Editor in Chief

**O**VER the past 10 years, the Air Force has gone from first to last among the armed services in the amount it spends on Science and Technology.

Since Fiscal 1989, the Air Force budget for research and advanced development has fallen by more than half.

By 2005, the portion of Air Force total obligation authority that is allocated to Science and Technology drops almost 30 percent below its level in 1993.

These are alarming trends for a service that hangs its hat on technological superiority.

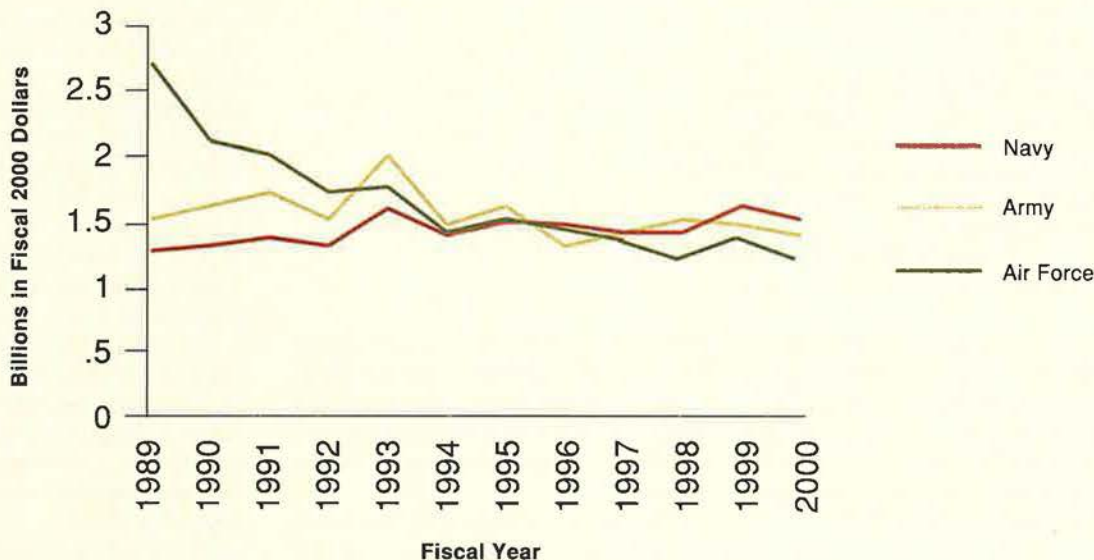
The situation was brought to public attention in January in a special report, "Shortchanging the Future: Air Force Research and Development Demands Investment," published by the Air Force Association's Science and Technology Committee.

"Given a decade of declining S&T budgets," the report said, "the most promising technologies, such as directed energy, miniaturized munitions, new electronics countermeasures techniques, unmanned combat aerial vehicles, and improved materials for space power, may not be ready to be incorporated into Air Force systems to be fielded through 2020."

The findings were presented to

## From First to Last S&T Investment by Service

The Air Force came out of the Cold War as the unquestioned leader among the armed services in Science and Technology investment. It now trails both the Navy and the Army.



Source: Office of the Secretary of Defense

the news media, Congressional staff, and the defense industry Jan. 13 by two retired Air Force four-star generals, Lawrence A. Skantze, the committee chairman, and John Michael Loh.

"Technology as we know it today is not going to be anything we can hold to our own," Skantze said. Today's advantages, such as stealth, will disperse. Staying in the forefront of military preparedness, he said, demands "a robust investment in S&T" to "push the state of the art and the barriers to create technology leverage."

Loh said that technology is the "backbone" of the Air Force. "Among all of the services, the Air Force achieves its core competencies and its mission capability from advanced technology, not from manpower and mass."

In a statement issued shortly after the Jan. 13 briefing, the Air Force said it shared AFA's concern and agreed that the decline in Science and Technology spending must be reversed.

### Short-Range Perspective

Time and again in recent years, the armed forces have pulled money out of their investment accounts to pay for the increased pace of everyday operations.

In such a budget environment, Skantze said, "your focus becomes more and more short term. Your vision becomes limited to, in some cases, weeks, as opposed to months or years, and so relevance of S&T expenditures tends to be skewed toward what would work in the near term."

Science and Technology initiatives, on the other hand, often take decades to explore, mature, and pay off.

For example, Skantze said, today's Airborne Laser program is the direct result of research in the 1960s and 1970s, when the Air Force "put money into things like algorithmic jitter to be able to compensate for atmospheric diffraction—and it took a long time to find a way to do that."

From stealth aircraft to precision guided munitions, the systems that won the Gulf War in 1991 so spectacularly were the product of investments in Science and Technology that in some cases stretched back for 30 years.

The Air Force Association has consistently rejected the argument, often heard, that the only possible way to fund Air Force S&T programs vital to the nation's interest is to shift money out of other critical programs.

"I don't view this as a trade-off," Loh said. "I think the Air Force has

every right, based on its performance, commitments, and obligations over the past few years to request additional funding for this. It should not come at the expense of other programs."

A complicating factor on priorities is that the Air Force Science and Technology program has not had a top-level advocate since the demise of Air Force Systems Command in 1992, Skantze said. "You have a major general who runs the Air Force labs, and he essentially puts together the basic S&T budget. But as it comes up through the system from there, you do not find what I would call card-carrying R&D-S&T advocates at the highest level."

In the fierce competition for resources in the Pentagon, Research and Development often loses out to other requirements that have stronger support.

In the days when he headed Air Force Systems Command, Skantze said, "the relationship between the user and developer was pull and push. We were in the business of identifying and pushing technology, and the user was in the business of pulling the technology he thought would pay off."

Speaking from the floor during the issue briefing, John J. Welch Jr.—former assistant secretary of the

## The Air Force Association Science and Technology Committee

Gen. Lawrence A. Skantze, USAF (Ret.), chairman  
Edward C. Aldridge Jr.  
Krzysztof Burhardt  
James W. Evatt  
Marty Faga  
Gen. John Michael Loh, USAF (Ret.)  
Gen. Robert T. Marsh, USAF (Ret.)  
Gen. Thomas S. Moorman Jr., USAF (Ret.)  
Lt. Gen. George K. Muellner, USAF (Ret.)  
George A. Paulikas  
James M. Sinnett  
Maj. Gen. Jasper A. Welch Jr., USAF (Ret.)  
John J. Welch Jr.

Air Force for acquisition and a member of the AFA committee that produced the report—agreed that the valuable push-pull relationship had been lost. He also noted that the Air Force Research Laboratory has not hired a researcher since 1991.

### Pattern of Decline

The report defined the Science and Technology program as the Air Force does, the total of program elements 6.1 (basic research), 6.2 (applied research), and 6.3 (advanced development) in the defense budget.

Among the main findings of the report were these.

- At the end of the Gulf War, the Air Force was the clear leader among the services in Science and Technology investment. Today, it is in last place, trailing not only the Navy and the Army but also the Defense Advanced Research Projects Agency.

- After the figures are adjusted to eliminate the effect of inflation, Air Force spending on S&T has declined from \$2.69 billion in 1989 to \$1.18 billion today, a drop of 56 percent.

- As recently as Fiscal 1993, the Air Force spent 2.3 percent of its total obligation authority on Science and Technology. It is down to 1.81 percent this year, headed toward 1.65 percent in Fiscal 2005.

"In prior fiscal years, the Air Force tried to cut R&D as much as 50 percent and only restored the funding when it was directed to do so by OSD [the Office of the Secretary of Defense]," the report said. It also said that "in FY 1997, the Air Force made a poorly coordinated attempt to eliminate graduate studies at the Air Force Institute of Technology."

The Future Years Defense Program projects that between 1999 and

2005 the Air Force will divert nearly \$3 billion out of its Science and Technology accounts for other spending purposes, such as procurement and operations and maintenance of the force.

The report said that "in the latest episode of programmatic manipulation," the Air Force took Space Based Laser and Discoverer II programs out of the engineering development category and pulled them back into S&T status. This created "the impression that research into space was increasing, but [required] at the same time that the existing S&T budget cough up the funding—\$94 million in FY 2000, \$131 million in FY 2001, and more to follow—to keep the two programs going."

The pattern raises questions about how much of a priority Research and Development is for the Air Force.

### Private Sector Doesn't Do It

"The Air Force is not alone," the report said. "The Department of Defense as a whole has also consciously reduced S&T funding in the mistaken belief that industry would fill in the gap."

Although total US investment in Research and Development continues to increase, little of it is of military use, the report said.

"A popular theme these days is that military S&T is not necessary because the private sector will invest and power the S&T engine," Loh said. Advancements in microelectronics and telecommunications are often cited to support that claim.

"In fact, other than those two areas of technology, microelectronics and telecommunications and the software associated with them, I find it

hard to discover another technical area with military significance where the private sector is willing to undertake the investment to bring technology from birth to maturity."

Loh also recalled "a lot of excitement about the private sector being able to find a cheap way to orbit. Easy access to space, going from about \$10,000 a pound to \$1,000 a pound. You had all these venture capitalists pushing money into the space assets of the world and all these great ideas where we were going to get two or three stages into orbit. I don't see many of them hanging around much anymore."

The report cited a number of critical technologies that "are perceived as not being supported by industry." Among them are electronic hardening, ballistic missile protection, and defenses against chemical and biological warfare.

The level of overall federal funding for aerospace Research and Development today is about half what it was in 1987. Non-federal aerospace research over that same period has neither increased nor diminished significantly in the past 20 years.

### Invest for the Long Term

The report said, "The Air Force needs to strengthen institutionally the role of technology advocacy within the service."

It called on senior Air Force leaders to "tolerate and even embrace failure as an integral part of the technology development process," noting that numerous R&D projects from the 1960s failed, but the ones that succeeded gave the Air Force the capabilities it has today.

The report cites hypersonic flight and supersonic combustion ramjet (scramjet) engines as technologies that have been "pushed aside" in the squeeze between short-term relevance and long-term value.

It concluded that "senior Air Force leaders need to reverse the S&T funding decline and invest in a stable, robust, balanced R&D base that is not necessarily tied to emerging weapon system programs but that does include long-term S&T investment." ■

*Note: The complete text of the report and a transcript of the issue briefing are available on the Air Force Association Web site, [www.afa.org](http://www.afa.org).*

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Compiled by Chanel Sartor, Editorial Associate

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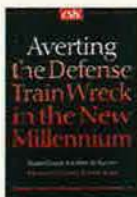
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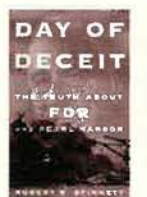
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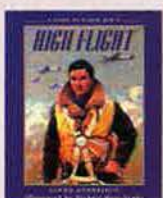


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John Alison shot down two—or perhaps three—enemy aircraft in his first aerial combat, and went on from there.

# The All-American Airman

By Walter J. Boyne

**I**n late 1940, a delegation from Generalissimo Chiang Kai-shek was in the United States to buy airplanes for what would become the fabled American Volunteer Group, the Flying Tigers.

A demonstration of the Curtiss P-40 Warhawk was laid on at Bolling Field in Washington for the Chinese visitors and their American advisor, Claire L. Chennault. The pilot for the demonstration was 2nd Lt. John R. Alison.

As Chennault would later recall in his book, *Way of a Fighter*, Alison “got more out of that P-40 in his five-minute demonstration than anybody I ever saw before or after. ...

“When he landed, they pointed at the P-40 and smiled, ‘We need 100 of these.’ ‘No,’ I said, pointing to Alison, ‘you need 100 of these.’”

As always, Chennault was an excellent judge of people.

Within a few years, Alison would be flying P-40s for Chennault in China—where he would shoot down two Japanese aircraft (a third was unconfirmed) in his first aerial combat. Later, along with his friend, Phil



*Standing (l-r) beside a Curtiss P-40 are Maj. John Alison, Maj. "Tex" Hill, Capt. "Ajax" Baumler, and Lt. Mack Mitchell. They were serving with the 23rd Fighter Group in China at the time, in an environment described as "the end of the line."*





**An unusually skillful pilot, Alison said if you could fly one airplane, you could fly them all. Among the lesser known aircraft he flew: a P-37 like this one, a variant of the radial engined P-36, designed around an Allison V-1710-11 engine.**

Cochran, he would organize the first air commando unit in history and personally lead it into combat.

And those are just a few of the things that John Alison went on to accomplish.

After the war, he became the youngest-ever assistant secretary of commerce for aeronautics. He returned to the service during the Korean War and eventually retired as a two-star general in the Air Force Reserve. He was national president, then chairman of the board, of the Air Force Association. He retired from Northrop Corp. as a senior vice president.

Alison's wartime achievements can be measured by many things, including his seven victories (six in the air, one on the ground) and his many decorations. A telling indication of his stature, however, is that he is perhaps the only person ever to land after a combat mission and have two messages waiting, each reading "Report to me without delay," and signed respectively by Gen. Henry H. "Hap" Arnold and Gen. Dwight D. Eisenhower. Of this more later.

### **P-40s to Britain**

Alison was born in Florida in 1912. He graduated in 1936 from the University of Florida with a degree in industrial engineering and an ROTC Army commission (received in 1935). After flight training at Randolph Field, Texas, in 1937, he went to Langley Field, Va., where he flew a

World War II fighters, it was in fact a fine airplane when flown so that its strengths could be maximized and its weaknesses minimized. It achieved an early wartime importance far beyond its comparative merit simply because it was the only American fighter available in quantity.

When P-40s were sent to Great Britain as one of the initial Lend-Lease efforts, the Army Air Corps tapped Alison and his friend, Lt. Hubert A. "Hub" Zemke, to go along to assist the Royal Air Force in their use. Although officially designated as observers and operating under the title of assistant air attachés, they soon became involved in operational tasks.

They obtained insight into how a wartime air force had to operate.



**In China, a captured Japanese Zero sits near a Flying Tigers P-40. Alison recalls one air battle in which a Zero's bullets rang "like a bell" against his P-40's armor plate.**

dazzling succession of fighter aircraft.

Besides the Boeing P-12, which he had flown in flying school, Alison became proficient in some less well-known aircraft, such as the high-performance (but low utility) Consolidated PB-2, the Martin B-10 bomber, the exotic twin pusher-engine Bell YFM-1 Airacuda, and the long-nosed Curtiss P-37. He also flew more conventional types, including the Curtiss P-36 and its successor, the P-40.

While the P-40 has not received the accolades of other first-line

They quickly saw that the RAF had much to teach them, and they soaked up everything they could on combat operations. In return, they went far beyond the observer's role in helping the RAF assemble, fly, and maintain the P-40. This training gave Alison a basic conviction that he demonstrated often and maintains today: Airplanes are all alike, and if you can fly one you can fly them all. That belief—and the skill that backed it up—enabled him to forge an unbelievably broad-based flying career during World War II.

By the time he and Zemke were in



place, the production of Spitfires and Hurricanes had begun to meet British needs. The inferior high-altitude performance of the P-40 took it out of combat operations against the Luftwaffe in Europe. Nevertheless, the airplane was still required for duty elsewhere, especially in North Africa, and Alison not only demonstrated it, he got to fly mock combat against RAF aces in Spitfires and Hurricanes. In those low-altitude battles, the P-40 could more than hold its own.

### Mission to Moscow

In July 1941, he and Zemke were mysteriously summoned to the American Embassy in London. Still lieutenants, they were dumbfounded when they were ushered in to see Ambassador John G. Winant and W. Averell Harriman, who was in England on a mission for President Roosevelt and would be the future ambassador to the Soviet Union. Also present was Brig. Gen. Joseph T. McNarney, chief of staff of a special Army observer group in London.

It was heady company, and the two lieutenants learned that their top-secret mission was to go to the Soviet Union where they would instruct their Soviet counterparts in the assembly, maintenance, and operation of Lend-Lease P-40s. One hundred and forty were to be shipped by sea in a convoy from the United Kingdom; Zemke would accompany them. Another 60 would be shipped via the



*A drive to push the Japanese out of Burma led to organizing the first air commandos. Lt. Col. Phil Cochran (left) and Alison (center) led the project. At right is Lt. Col. Arvid Olson.*

Persian Gulf. Alison flew to Moscow in an RAF Catalina, with Harry L. Hopkins, confidant, advisor, and right-hand man to President Roosevelt, and McNarney.

An incredibly primitive assembly site had been set up in Arkhangelsk, with a wooden runway laid on pilings driven into the tundra. Alison and Zemke found crude working and living conditions. There were few tools but an ample supply of manpower, including many prisoners. The food was simple but far more plentiful than in England. They lived in railcars that were warm—

but also the home to many, many bedbugs.

They found the Soviet troops to be deadly serious, intent on getting the P-40s into combat immediately. Test-flying the P-40s was inherently dangerous, in part due to the mix of changes made while they were in service with the RAF and the low level of Soviet expertise in assembling the aircraft.

Both men wanted to see the Soviet air force in action, but their suspicious hosts kept them away from any operational areas and flatly refused to allow them to fly a Soviet aircraft.

In December after the P-40s had been assembled and test-flown, Alison and Zemke were ordered to Moscow. They had watched the Luftwaffe bomb London, and now they climbed to the roof of the ambassador's residence to see bombers dumping their lethal loads. Soon, however, the German army had pushed to the city's outskirts, and the two men assisted the American Embassy in its move to Kuybyshev on the Volga River, 550 miles southeast of Moscow.

There on Dec. 7 they learned of the Japanese attack on Pearl Harbor. Both men immediately asked to be released to return home to combat duty.

### Persian Gulf War, 1942 Style

Zemke received orders to return to the United States, where he was soon given command of a unit he would make famous, the 56th Fighter Group. Alison also wanted a combat



*The Burma air invasion involved transporting British Brig. Gen. Wingate's assault force and equipment, including mules. Here a mule is being coaxed aboard an aircraft by British Chindits.*



*The air commandos included (l-r) Maj. Walter Radovich, Olson, Alison, Col. Ralph Smith, and Cochran. Olson and Smith were AVG veterans. Alison had been a fighter squadron commander under Chennault.*

assignment, but fate dictated otherwise.

Acting on the verbal orders of the American ambassador, Alison got on an airplane that ultimately deposited him in Tehran, Iran. A captain now, he landed without a kit, orders, or money.

By train and riverboat, Alison made his way to Basra, Iraq, where he went to the American military engineering detachment there and was promptly outfitted with a new uniform and given a brand new job: seeing to the official transfer of Lend-Lease aircraft to the Soviet Union via Basra.

He still was not receiving any pay, but the \$6 per diem he drew was ample, the food was good, and there was a constant stream of airplanes for him to fly—North American B-25s, Douglas A-20s, a Fairchild 24, and a Lockheed Electra. His checkout in the B-25 consisted of three landings with the Pan Am ferry pilot, and he had no checkout whatsoever in the Electra.

His principal task was to “sell” the airplanes to the representatives of the Soviet Union, then check them out.

The Russian pilots were tough customers who insisted on absolute perfection before accepting the aircraft. Nothing could be wrong, not a single burned-out bulb on the instrument panel, not the slightest crack in the tires; if they accepted any imperfection they were subject to instant

discipline on their return to the Soviet Union.

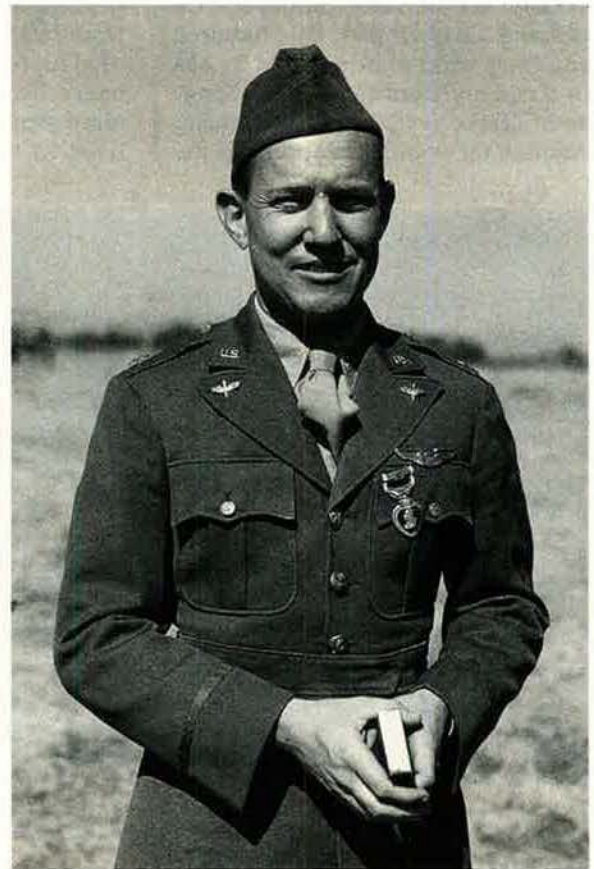
Completely outside any AAF hierarchy, Alison reported on his activities by sending penciled messages to Hap Arnold himself, each one with a plaintive postscript requesting a combat assignment. Eventually, it worked.

## Combat at Last

Alison’s orders to report to China for combat duty came directly from Arnold. Chennault’s Flying Tigers had been merged into the Army Air Forces as the China Air Task Force. In mid-July 1942, Alison landed at Hengyang, where he was assigned to the 75th Fighter Squadron. It was one of three squadrons in which Chennault concentrated his best pilots, and it was commanded by Maj. David Lee “Tex” Hill, an ace and a member of the original Flying Tigers. Alison was soon chosen to be deputy commander.

On the night of July 28, he and his colleagues were awakened by Chinese houseboys coming through the barracks, beating their chopsticks on coffee tins to announce an air raid. They went outside and watched a flight of Japanese bombers attack the field with impunity, crossing directly over it to get their bearings, then doing a 180-degree turn to come back and drop their bombs. They did not do much damage, but Alison vowed that if they came back the next night, he would be in the air, ready for them.

The next night, Alison and his colleagues had their P-40s positioned



*Alison received a Purple Heart in a February 1943 ceremony at Kunming, China. In his military career, he earned a Distinguished Service Cross, Distinguished Service Medal, and Silver Star, among many awards.*

at the edge of the field ready for takeoff. The P-40 was not equipped as a night fighter, for it had no flame dampeners on its exhaust stacks and only minimal cockpit lighting. Nonetheless, when the alarm was given, they took off, Albert J. "Ajax" Baumler to orbit at 9,000 feet while Alison climbed to 12,000 feet.

A radio call from the field advised him that three bombers had just passed overhead. Alison realized that the bombers were above him and turned to climb and cut them off when they made their turn for the run-in.

He misjudged the distance as he dove to attack. "The radio was out—it had been holed by a bullet—and I couldn't talk anymore, and one bullet grazed my left arm. There was also a bullet hole through my parachute. But by this time I am now slowed down right in the middle of their formation. I chose the bomber on the left, and from point-blank range I aimed right at the fuselage and he pulled straight up; I'm sure I killed everyone on board, so I claimed that one as a probable. Then I turned to the airplane that was hitting me and blew him up. Then I turned on the leader and blew him up."

Now Alison was at 15,000 feet, with the P-40 still running but badly damaged. "I came down as fast as I could, but when I got down to 3,000 feet, right above the airport, the airplane began to catch fire. It was an oil fire not a gasoline fire, but a fire in an airplane is a worrisome thing. My airplane is on fire and I've got to make a decision whether to jump out or stay with it. I decided I could slide it on the belly, but I was a little too high and now I'm so fast there is no way I can put it on the runway. So I pull the nose up and open the throttle, and fortunately it is still running and I know there is a river out about two miles ahead."

The P-40 sputtered over some hills and a railroad trestle, and Alison headed for the water. His P-40 had no lap belts, and he refused to wear the shoulder harness because it restrained him too much, so he cut the throttle, kept his right hand on the stick, and put his left on the cockpit coaming so he would not smash his teeth into the gun sight. When the airplane hit the river, his head was rammed against the gun sight, lacerating his forehead but saving his teeth.



*Pilots dash to their P-40s in China, where Alison became an ace while flying with Chennault's 75th Fighter Squadron. Chennault recalled, "He ran up a brilliant combat record."*

A young Chinese man ran out across a log raft and pulled him up out of the river to safety. When Alison got back to Hengyang, a doctor from a missionary hospital sewed up his cuts, and by that afternoon he was back at the squadron, ready to fly.

#### **Figuring the Odds**

During Alison's tour the odds still favored the Japanese numerically by a ratio of as much as 10-to-1, but the Americans now had the initiative. Alison recalls an occasion when he led 16 P-40s against "only" 47 enemy fighters and felt the odds were with him, given the quality of American pilots and the brilliance of Chennault's prescribed tactics.

As the war progressed, Chennault's forces grew and became more and more aggressive. On May 31, 1943, Alison led a flight of nine P-40s as escort to nine Consolidated B-24s in a raid on Ichang. Alison had one American pilot and seven Chinese pilots in his flight. The mission was complicated by the fact that neither American spoke Chinese, nor did any of the Chinese pilots speak English fluently.

A swarm of 20 Zeros attacked the bombers, "popping up like a handful of black pepper through the clouds," and Alison immediately turned into them, shooting down one fighter that he later claimed as a probable. He turned back in toward the bombers and fired on another Zero, which exploded. At that moment he came

under fire from a Zero, whose first bursts blew most of the rudder off Alison's P-40.

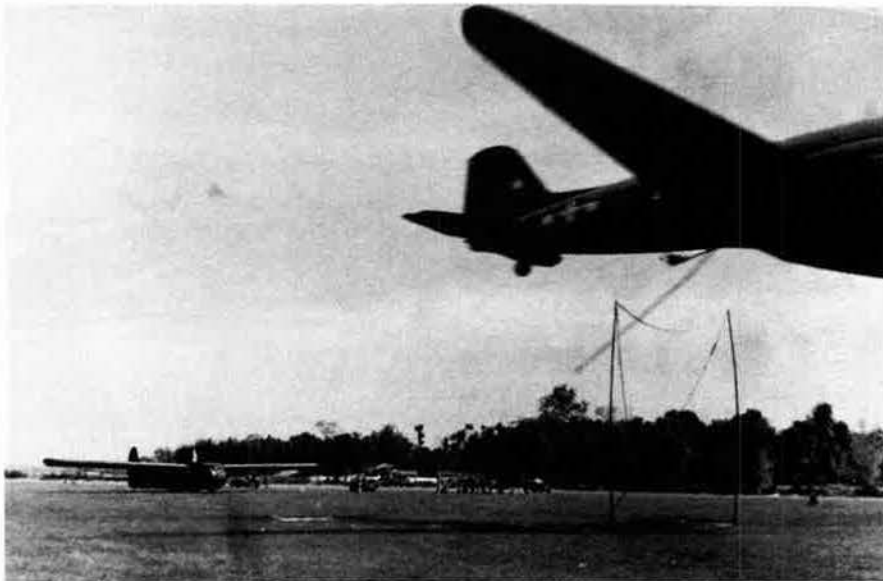
Alison today hunches his shoulders as he recounts how he could feel the Zero's bullets "ringing like a bell" as they hammered into the armor plate that protected him. He called for help, and a Chinese pilot came roaring in, shooting down the Zero, but spraying Alison's P-40 with hits as well.

Alison nursed the airplane back to his Chinese base and managed to get the wheels down—but his riddled tires came off when he landed, causing him to nose up. When he climbed down out of his airplane he was amazed that the first man he ran into was none other than Capt. Eddie Rickenbacker, who had just arrived aboard a Douglas C-47.

Alison returned to the United States in May 1943 but was soon on his way to Asia again.

#### **The Air Commandos**

The war in the China-Burma-India Theater had a bitter quality to it, for both the Japanese enemy and the jungle environment in which the war was fought were totally without mercy. They were in fact almost as merciless as the inter-Allied command squabbles, which had in large part contributed to a massive defeat in Burma. When the renowned Brig. Gen. Orde C. Wingate of Great Britain attempted to redress the situation with unconventional warfare



**For the Burma invasion, C-47s towed two gliders at a time. Several problems resulted—tangled or broken tow lines and fittings yanked out of the aircraft—compounded by overloaded aircraft and turbulence.**

tactics, his Chindit long-range penetration forces showed great promise but suffered severely from the lack of air support. Wingate wanted a second chance to defeat the Japanese. This time, however, he not only wanted adequate airpower and re-supply, he also demanded that provisions be made for the removal of his sick and wounded, who had to be left behind to almost certain death in the previous campaign.

Wingate surmounted the command struggles in 1943 by going directly to Prime Minister Winston Churchill to ask for extensive American support. Churchill had Wingate brief President Roosevelt personally, and Roosevelt called upon Hap Arnold to assist Wingate.

With his typical enthusiasm Arnold embraced the idea and selected two outstanding officers to head what became known as "Project Nine." One was the legendary Lt. Col. Philip G. Cochran, who was immortalized by Milton Caniff as "Flip Corkin" in the comic strip "Terry and the Pirates." The other was Lt. Col. John Alison. Arnold briefed the two men on their duties, then gave them the most welcome farewell line they had ever heard: "To hell with the paperwork, go out and fight."

The two combat veterans were good friends and possessed complementary personalities. Each tried to persuade Arnold to appoint the other as commander; in an unusual, and decidedly unmilitary manner, Arnold

appointed them as co-commanders. Alison today remembers that it worked well for them personally but was difficult for outsiders to plumb, so they agreed that Cochran, senior by a few weeks, would be commander and Alison his deputy. It was a perfect arrangement.

They had the highest priority and Arnold's full backing for the creation of a unit that would permit Wingate to carry out his plans to wrest Burma from the Japanese with long-range penetration forces. Among the innovations that Cochran and Alison brought to the 1st Air Commando

Group were the first combat use of helicopters for rescue and the use of C-47s to snatch gliders off the ground from difficult locations behind enemy lines. Alison also flew as Wingate's personal pilot on many occasions.

### **Air Invasion of Burma**

The mission was unprecedented: Cochran and Alison were to help Wingate conduct an air invasion of Burma by ground troops.

"We had a small air force of our own," Alison says. "We put 12,000 infantry troops behind enemy lines in Burma, and we sustained them with airpower. Wingate had no armor, no heavy artillery. So we provided him his heavy artillery, from the air."

They launched the invasion the evening of March 5, 1944, carrying most of Wingate's assault force, its equipment, and mules on Waco CG-4A gliders, towed two at a time behind C-47 transports. It took 45 minutes to climb to the altitude of about 8,500 feet, necessary to clear the mountains between India and Burma.

Alison had never flown the CG-4A, nor had he ever made a night double-tow takeoff. Nevertheless, he piloted a glider in the first wave, carrying 15 men of the assault team to the landing area designated "Broadway."

Airspeed proved difficult to control. When Alison cast off from the C-47 over Burma, he was gliding at



**Alison (left) and Cochran (right) flank a painting showing Broadway, the gliders' main landing site in Burma. Alison piloted a CG-4A glider, for the first time, during the invasion.**

80 mph, and he touched down at a brisk 70. He bumped, unharmed, to a halt, grabbed his carbine and a sack of grenades and leapt out, ready to do battle with the Japanese infantry.

### Two Messages

After three weeks in the jungle in Burma, Alison was recalled by a radio message from Cochran. To get back, he flew out solo in a damaged British C-47 Dakota, although he had never flown a C-47 before. When he got to back to his home base at Hailakandi, India, he had to call the tower to ask for instructions on lowering the gear.

Two telegrams were awaiting him. The first said, "Report to me without delay" and was signed Arnold; the second said the same thing and was signed by Eisenhower.



*Overcoming many challenges, the air invasion was a success. Alison (at left), armed with a carbine, poses with Wingate (center) and others at Broadway.*



*P-51s fly over a B-25 taxiing at an airfield in India, where the air commandos had their main operating base. After the success in Burma, Eisenhower asked Alison for advice on gliders for the upcoming Normandy invasion.*

Alison wired Arnold, who authorized him a delay en route of two days to confer with Eisenhower, who was only a few months away from launching the D-Day invasion of Europe across the English Channel. He planned to use gliders to fly some of his invasion force into Normandy. He and his staff pumped Alison for all he could tell them about his expe-

rience in taking Wingate's force into Burma with gliders.

In Washington, Alison learned that Arnold had also been following the 1st Air Commando operation with keen interest and was now prepared to field four more air commando groups. He wanted Alison to be in the middle of the expansion.

As fast-moving events of the war

developed, though, only two more air commando units could be used profitably. Arnold sent Alison with one of these, the 3rd Air Commando Group, to the South Pacific, where—as usual—his duties soon expanded.

During the last year of the war, Alison served as operations officer for Fifth Air Force, participating in the landings in the Philippines and in the air operations against Japan from Okinawa.

Today, at age 87, Alison has the movements and the vitality of a vigorous man in his middle years. He stands just under 5 feet 6 inches tall and weighs only a little more than he did in flying school, about 140 pounds. Until recently, he worked out in the gym, including a run on the treadmill, three times a week. He is busily engaged, with a group of colleagues, in the production of a new high-technology internal combustion engine.

For all that he has done, Alison is remarkably soft-spoken and genuinely modest. It is only with prompting that he recounts his experiences, and even then talks more about others than about himself.

In 1996, the Air Force Association considered various historical figures as keynote speakers for its 50th anniversary convention but concluded that the only real choice—best symbolizing the achievements and ideals of the nation's air arm as it grew to maturity—was John Alison, the all-American airman. ■

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*Walter J. Boyne, former director of the National Air and Space Museum in Washington, is a retired Air Force colonel and author. He has written more than 400 articles about aviation topics and 29 books, the most recent of which is Beyond the Horizons: The Lockheed Story. His most recent article for Air Force Magazine, "The St. Mihiel Salient," appeared in the February 2000 issue.*

# DOD

## Senior Leadership

Compiled by Chanel Sartor, Editorial Associate

### KEY:

**USD** Undersecretary of Defense  
**PDUSD** Principal Deputy Undersecretary of Defense  
**DUSD** Deputy Undersecretary of Defense  
**ASD** Assistant Secretary of Defense  
**PDASD** Principal Deputy Assistant Secretary of Defense  
**DASD** Deputy Assistant Secretary of Defense



Secretary of Defense  
**William S. Cohen**



Deputy Secretary of Defense  
**Rudy de Leon** (nominated)



ASD for Public Affairs  
**Kenneth H. Bacon**



Inspector General  
**Donald Mancuso** (acting)



Director, Operational  
 Test & Evaluation  
**Philip E. Coyle III**



General Counsel  
**Douglas A. Dworkin** (acting)



ASD for Legislative Affairs  
**John K. Veroneau**

PDASD for Public Affairs  
**P.J. Crowley**

DASD for Public Affairs  
 (Information)  
**Rear Adm. Craig R.  
 Quigley**

DASD for Public Affairs  
 (Communications)  
**James Desler**

Deputy Inspector General  
**Donald Mancuso**

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Principal Deputy  
 General Counsel  
**Douglas A. Dworkin**

PDASD for Legislative  
 Affairs  
**Kelly Sharbel**

DASD for Senate Affairs  
**Jay Farrar**

Exec. Dir. for House Affairs  
**Vacant**



ASD for C<sup>3</sup>I & Chief Information Officer  
**Arthur L. Money**

PDASD for C<sup>3</sup>I  
**Linton Wells II**

DASC for C<sup>3</sup>ISR & Space  
**Rear Adm. Robert M. Nutwell, USN**

DASC for Intelligence  
**Christopher Mellon** (acting)

DASC for Security & Information Operations  
**J. William Leonard** (acting)

DASD, Deputy CIO/Year 2000  
**Marvin Langston**

DASD, Programs & Evaluation  
**Cheryl J. Roby**

National Security Space Architect  
**Brig. Gen. Howard J. Mitchell, USAF**

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USD Comptroller & Chief  
 Financial Officer  
**William J. Lynn III**



PDUSD (Comptroller)  
**Alice C. Maroni**

Deputy Chief Financial Officer  
**Nelson E. Toye**

Deputy Comptroller  
 (Program/Budget)  
**Bruce A. Dauer**



Director, Program  
 Analysis & Evaluation  
**Robert R. Soule**

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USD for Personnel & Readiness  
**Bernard D. Rostker** (nominated)

DUSD for Readiness  
**Thomas K. Longstreth**

DUSD for Program Integration  
**Jeanne B. Fites**

DUSD for Planning  
**Francis M. Rush Jr.**



ASD for Force Management Policy  
**Alphonso Maldon Jr.**

DASD for Military Personnel Policy  
**Vice Adm. Patricia A. Tracey, USN**

DASD for Personnel Support, Families, & Education  
**Victor Vasquez Jr.**

DASD for Civilian Personnel Policy  
**Diane M. Disney**

DASD for Equal Opportunity  
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ASD for Health Affairs  
**Sue Bailey**

DASD (Clinical & Program Policy)  
**John F. Mazzuchi**

DASD (Health Budgets & Financial Policy)  
**Gwendolyn A. Brown**

DASD (Health Operations Policy)  
**Vacant**

DASD (Health Programs Integration & External Affairs)  
**Mary B. Gerwin**

Exec. Dir., Tricare Management Activity  
**H. James T. Sears**

Dep. Exec. Dir., TMA  
**Diana G. Tabler**



ASD for Reserve Affairs  
**Charles L. Cragin** (acting)

PDASD for Reserve Affairs  
**Charles L. Cragin**

DASD for Manpower & Personnel  
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DASD for Materiel & Facilities  
**Patricia J. Walker**

DASD for Readiness, Training, & Mobilization  
**Maj. Gen. James E. Andrews, USAF**

DASD for Resources  
**Jennifer C. Buck**

## Acquisition, Technology, & Logistics



USD for Acquisition, Technology, & Logistics  
**Jacques S. Gansler**



PDUSD for Acquisition, Technology, & Logistics  
**David R. Oliver Jr.**



Director of Defense Research & Engineering  
**Hans Mark**

DUSD for Acquisition Reform  
**Vacant**

DUSD for Environmental Security  
**Sherri W. Goodman**

DUSD for Industrial Affairs & Installations  
**Jeffrey P. Bialos**

DUSD for Logistics  
**Roger W. Kallock**

DUSD for Advanced Systems & Concepts  
**Joseph J. Eash III**

Director, International Cooperation  
**Alfred G. Volkman**

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Undersecretary of the Air Force  
**Carol A. DiBattiste**



Secretary of the Army  
**Louis A. Caldera**

Undersecretary of the Army  
**Bernard D. Rostker**  
(nominated for USD for Personnel & Readiness)



Secretary of the Navy  
**Richard Danzig**

Undersecretary of the Navy  
**Jerry M. Hultin**

# Policy



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Asst. to the USD for Policy  
**Capt. John C. Harvey Jr., USN**



PDUSD for Policy  
**James M. Bodner**



ASD for Strategy & Threat  
Reduction  
**Edward L. Warner III**

PDASD for Strategy & Threat  
Reduction  
**Franklin C. Miller**

DASD for Requirements &  
Plans  
**Jim Miller**



ASD for International Security  
Affairs  
**Franklin D. Kramer**

PDASD for International  
Security Affairs  
**Bernd McConnell**

DASD for European & NATO  
Affairs  
**Lisa Bronson**

DASD for Asian & Pacific  
Affairs  
**Kurt M. Campbell**

DASD for Near Eastern & South  
Asian Affairs  
**Alina Romanowski**

DASD for African Affairs  
**Bernd McConnell**

DASD for POW/MIA Affairs  
**Robert L. Jones**



ASD for Special Operations  
& Low-Intensity Conflict  
**Brian E. Sheridan**

PDASD for Special  
Operations & Low-Intensity  
Conflict  
**Sean J. Darradh**

DASD for Drug Enforcement  
Policy & Support  
**Anna Maria Salazar**

DASD for Special Operations  
Policy & Support  
**Robert C. Doheny** (acting)

DASD for Peacekeeping &  
Humanitarian Assistance  
**James Schear**

DASD for Inter-American  
Affairs  
**Pedro P. Permuy**

DASD for Combating  
Terrorism Policy & Support  
**Robert Newberry**

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**Lt. Gen. Ronald T. Kadish, USAF**

Defense Advanced Research Projects  
Agency  
**Fernando L. Fernandez**

Defense Commissary Agency  
**Maj. Gen. Robert J. Courter Jr., USAF**

Defense Contract Audit Agency  
**William H. Reed**

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**AIR FORCE Magazine / March 2000**

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**NSC-68 recognized the massive changes in the postwar world and set the stage for a new kind of peacetime force.**

# The **Blueprint** for Cold War Defense

By Herman S. Wolk

**T**HE years between the end of World War II in 1945 and the outbreak of the Korean War in 1950 produced a series of startling international events that forced great responsibility upon the Air Force and resulted, 50 years ago, in a full-scale reassessment of US national security policy. The result of this review was a classified National Security Council document known as NSC-68. It had not been implemented when war broke out in Korea. Indeed, it had not yet even been formally approved. However, NSC-68 marked a milestone in military planning and set the stage for what was to become an enormous US military buildup to counter Communist aggression worldwide.

The creation of Soviet satellite states in Eastern Europe and the blockade of Berlin by the Soviet Union in 1948 led to a decision (NSC-20) by President Harry S. Truman to emphasize atomic strategic deterrence. The same events also led to the April 1949 formation of the North Atlantic Treaty Organization. The Air Force, meanwhile, also reacted to European events. In October 1948, the Secretary of the Air Force, Stuart Symington, and the USAF Chief of Staff, Gen. Hoyt S. Vandenberg, dispatched Lt. Gen. Curtis E. LeMay to Offutt AFB, Neb. LeMay's mission: Revitalize Strategic Air Command and establish it as the major instrument of deterrence and a pillar of US foreign policy.

In 1949, two more stunning international developments convinced officials that the US had an urgent need to review its national security policy.

## **"Secretary of Economy"**

In September 1949, the US discovered that the Soviet Union had in August exploded an atomic device; American scientific and military experts had predicted that the Soviets would not have this capability before 1952 and probably later. Secretary of Defense Louis A. Johnson for a while preferred to believe—despite confirming air samples—that the Soviets had not really tested an atomic device at all. He argued that perhaps an accidental laboratory explosion had occurred. (Johnson, known to many as "Secretary of Economy," had deeply slashed defense budgets.) Truman, however, accepted as fact that the Soviet Union now possessed an atomic capacity. The American monopoly was history. Publicly, the Administration's response was low key, but

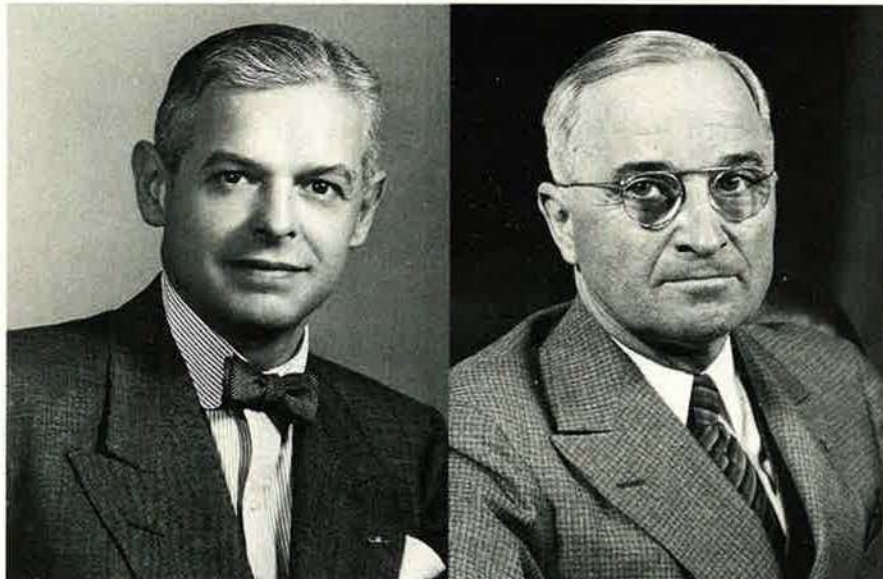
it realized that international politics would never be the same.

Secondly, in October 1949, Mao Zedong's Chinese Communists conquered the Nationalists of Chiang Kai-shek and established the People's Republic of China on the Asian mainland. Suddenly, Communist forces were in control of the most populous nation on Earth, one that had until recently been an American ally.

These two events set off alarms throughout the American national security establishment, triggering a reassessment of security policy and military force structure. Symington, for his part, had become deeply concerned—not panicky but convinced that “business as usual” was not an option. He strongly pushed for a review of the nation's security posture, and he knew what policies should be changed.

The Administration's tight-fisted approach to defense funding had kept the Air Force's force structure at no more than 48 groups, well below the 70 groups Symington thought necessary. Moreover, the Soviet atomic explosion had convinced him of the necessity of increased defense spending. The Soviet possession of an atomic bomb, said Symington, resulted in “an entirely new and revolutionary factor in strategic planning, which has never before faced US military planners.” That factor, according to the Air Force leader: “The US is no longer secure.”

Symington argued that, in light of



*The Soviet Union's explosion of an atomic device and the establishment of Communist China pushed President Truman (right) into asking for a national security review. Paul Nitze (left) led the effort, which resulted in NSC-68.*

events, it had now become “fundamental” that the United States maintain superiority in strategic atomic forces. Should the balance shift in favor of the Soviet Union, “disaster could be imminent,” he warned.

In late 1949, Symington told Johnson, “It was the judgment of everyone in the government that a reconsideration of military plans and programs should be the result of sober reflection” but that there was “an equal danger” that Washington “may assume a business-as-usual course of inaction.” Symington made it clear that, in his view, the US

buildup “will have to be accelerated,” because the Soviets had demonstrated that their technical capacity “is much greater than our most pessimistic experts had previously believed.”

The Air Force Secretary noted that, should Russia develop the “relatively simple and completely proven process of air refueling,” Moscow would have the capacity “to launch atomic attacks against the United States.” Thus, the current “increase in groups and modernization of equipment is inadequate in the light of Soviet capabilities,” said Symington. The United States required a retaliatory force in a state of instant readiness that could survive an initial atomic attack. “These times,” noted Symington, “demand the same resolute determination ... that this country displayed in war.”

### “Minimum ... Air Force Necessary”

Symington emphasized that, after World War II, Gens. Henry H. “Hap” Arnold, Carl A. “Tooe” Spaatz, and Dwight D. Eisenhower, as well as the President's Air Policy Commission, had gone on record as saying that 70 air groups was “the minimum peacetime Air Force necessary for American security,” and, on the basis of the present program, “we will have only 48 groups in 1955, and only 29 of these will be equipped with modern planes.” Consequently, Symington argued that the new situ-



*Air Force Secretary Stuart Symington (left) and USAF Chief of Staff Gen. Hoyt Vandenberg (right) had already begun revitalizing Strategic Air Command, and now Symington continued to urge an accelerated US military buildup.*



**Secretary of Defense Louis Johnson (assistant Secretary of War at the time of this photo) tried to hold the line on a \$13 billion defense budget figure that he had promised Truman.**

ation required a broad, comprehensive review by US planners of the implications of the Soviet possession of the atomic bomb.

Truman still wanted to hold down defense spending, reduce wartime debt, and strengthen the postwar economy. Nonetheless, these alarming events of late 1949, along with increasing Soviet intransigence in Europe, convinced Administration officials that US military power might now be able to protect American interests in Europe and elsewhere. Congress took action and passed the Mutual Defense Assistance Act basically in the form that Truman had requested. Moreover, the President asked for a review of national security policy.

Adm. Sidney W. Souers, executive secretary of the National Security Council, proposed that the NSC prepare a report to chart American security objectives in peacetime and in the event of war. On Jan. 5, 1950, the NSC directed preparation of a report "assessing and appraising the objectives, commitments, and risks of the United States ... in relation to our actual and potential military power."

Shortly before, Truman had established a so-called "special committee" of the NSC comprising Johnson, Secretary of State Dean Acheson, and Atomic Energy Commission Chairman David E. Lilienthal. The panel was to examine whether or not the US should de-

velop a hydrogen bomb. Although Johnson opposed a study centered solely on the H-bomb, he agreed to it on the insistence of Acheson and Lilienthal. The special committee recommended that the AEC should determine the technical feasibility of the thermonuclear weapon. On Jan. 31, 1950, Truman ordered development of the H-bomb and a study of its foreign policy and strategic implications.

Truman's decision, in effect, nullified the Jan. 5 NSC directive and gave the task of formulating a major strategic report to a 10-member ad-

hoc State-Defense Policy Review Group. Paul H. Nitze, successor to George F. Kennan as director of the State Department's Policy Planning Staff, played the leading part in developing the report, which was to become NSC-68.

Nitze had been a member of the US Strategic Bombing Survey at the end of World War II and was deeply concerned with the need to build up the American strategic deterrent force. Department of Defense representatives on the review group were retired Army Maj. Gen. James H. Burns, Johnson's military assistant, and Air Force Maj. Gen. Truman H. Landon of the Joint Strategic Survey Committee, representing the Joint Chiefs of Staff.

### **Tricky Dealings With DoD**

Acheson and Johnson had joint responsibility to carry out Truman's directive. The State-DoD review group experienced tough sledding in early 1950, primarily because Johnson thought that Acheson and the armed services were determined to bust his \$13 billion defense budget. "Dealing with DoD in those days was tricky," Nitze explained. "Johnson had promised Truman that he would hold the defense budget to \$13 billion, a figure that was becoming more unrealistic with each passing day."

Johnson went so far as to issue a directive that all contacts between the State Department and the mili-



**Also in 1949, an NSC committee of Johnson, the Atomic Energy Commission's David Lilienthal, and Secretary of State Dean Acheson—shown here (left) with British Ambassador Oliver Franks—considered development of a hydrogen bomb.**

tary services had to go through his office, a practice that everyone knew to be totally unworkable. Roswell L. Gilpatric, undersecretary of the Air Force, 1951–53, noted in retrospect: “The manner in which Louis Johnson operated was not conducive to getting cooperation and support from the services. You don’t accomplish much if you beat the services over the head and make a public spectacle of overruling them.”

The report prepared by the State–Defense review group described the world as a place divided into free and totalitarian nations. It painted a grim picture, noting that, should a major war break out, the Soviet Union’s forces could roll over most of Western Europe, charge toward the oil-producing lands of the Middle East, launch attacks against Britain, and unleash atomic strikes against targets in North America. The report noted that, according to the CIA, the Soviet Union by mid-1954 would have 200 atomic bombs available for combat. It recommended that the United States take steps “as rapidly as possible” to increase its conventional strength and also accelerate production of atomic weapons.

Overall, the NSC-68 document called for “a substantial and rapid” buildup “to support a firm policy intended to check and roll back the Kremlin’s drive for world domination.” However, from a “military point of view, the actual and potential capabilities of the United States, given a continuation of current and projected programs, will become less and less effective as a war deterrent,” said NSC-68.

The NSC report deliberately avoided addressing the issue of cost, although the review group’s best estimate indicated annual funding of about \$40 billion (in 1950 dollars) was a proper goal. To have grappled with the funding issue, however, potentially would have damaged acceptance of the report. Acheson emphasized that the omission of the cost factor “was not an oversight” and that the objective of the paper was to “bludgeon the mass mind of top government.”

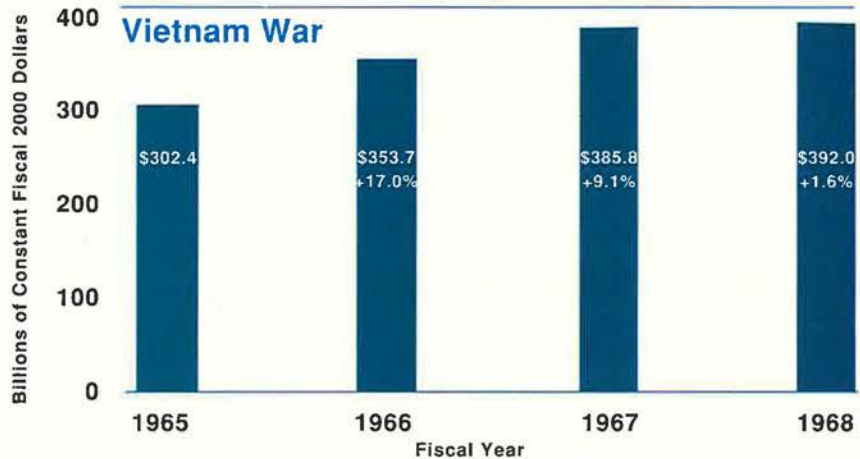
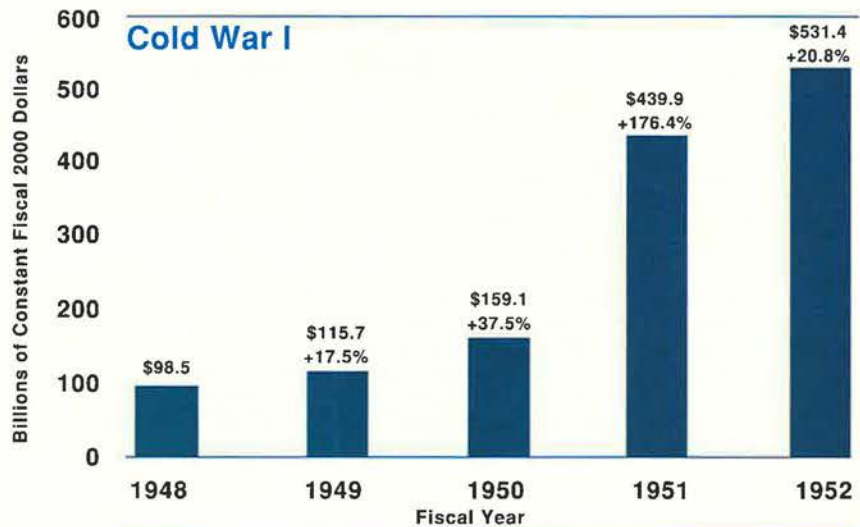
### The Five Major Tasks

The authors of NSC-68 pointed to five major tasks for the military: defend the Western Hemisphere, protect the mobilization base, conduct offensive operations to destroy “vi-

## First Big Buildup

**Early Cold War events—Soviet-inspired coups in Eastern Europe, the Berlin blockade, Soviet atomic tests, the Communist takeover of China, and North Korea’s invasion of the South—triggered a massive US military buildup shaped and guided by NSC-68. Defense budgets surged from \$98.5 billion to \$531.4 billion—a 540 percent increase—in four years and then started back down. (All figures in Fiscal 2000 dollars.)**

**Presented for comparison are figures for the nation’s two other great postwar military expansions, the Vietnam buildup of the 1960s and the Reagan buildup of the 1980s. Neither can match the first in peak spending or percentage increases.**



Source: Office of Management and Budget

## The NSC-68 War Forecast, 1950

"Should a major war occur in 1950, the Soviet Union and its satellites are considered by the Joint Chiefs of Staff to be in a sufficiently advanced state of preparation immediately to undertake and carry out the following campaigns:

- a. To overrun Western Europe, with the possible exception of the Iberian and Scandinavian peninsulas; to drive toward the oil-bearing areas of the Near and Middle East; and to consolidate Communist gains in the Far East;
- b. To launch air attacks against the British Isles and air and sea attacks against the lines of communications of the Western powers in the Atlantic and Pacific;
- c. To attack selected targets with atomic weapons, now including the likelihood of such attacks against targets in Alaska, Canada, and the United States. ...

"After the Soviet Union completed its initial campaigns and consolidated its positions in Western European area, it could simultaneously conduct:

- a. Full-scale air and limited sea operations against the British Isles;
- b. Invasions of the Iberian and Scandinavian peninsulas;
- c. Further operations in the Near and Middle East, continued air operations against the North American continent, and air and sea operations against Atlantic and Pacific lines of communication; and
- d. Diversionary attacks in other areas ...

"If war should begin in 1950, the United States and its allies will have the military capability of conducting defensive operations to provide a reasonable measure of protection to the Western Hemisphere, bases in the Western Pacific, and essential military lines of communication; and an inadequate measure of protection to vital military bases in the United Kingdom and in the Near and Middle East. We will have the capability of conducting powerful offensive air operations against vital elements of the Soviet war-making capacity."

### Estimating the Soviet Stockpile

The authors of NSC-68 were greatly concerned at the prospect that the Kremlin would amass significant numbers of atomic weapons in an unexpectedly short period of time. The key portion of NSC-68 reads as follows:

"Central Intelligence Agency intelligence estimates, concurred in by State, Army, Navy, Air Force, and Atomic Energy Commission, assign to the Soviet Union a production capability giving it a fission bomb stockpile within the following ranges:

By mid-1950, **10-20**

By mid-1951, **25-45**

By mid-1952, **45-90**

By mid-1953, **70-135**

By mid-1954, **200"**

tal elements of the Soviet war-making capacity" and to blunt the enemy's offensives, protect bases and lines of communication, and provide aid to allied powers. The report concluded that a major buildup provided "the only means short of war which eventually may force the Kremlin ... to negotiate acceptable agreements on issues of major importance."

The Joint Chiefs endorsed the report, and, on April 7, 1950, the Secretaries of Defense and State forwarded it to Truman, who on April 12 sent it to the National Security Council for additional study. Truman wanted more specifics: "I am especially anxious that the council give me a clearer indication of programs that are envisioned in the report, including estimates of the probable cost." This last comment by the President may well have reflected Bureau of the Budget opinion that NSC-68 exaggerated the Soviet threat and oversimplified military solutions to the problem. In addition, Truman directed that the Council of Economic Advisers review the report. "I will not," he emphasized, "buy a pig in a poke."

Symington welcomed NSC-68. "The report is strong," he observed to Johnson, "and we believe that,

under current world conditions, this country has gone too far in disarmament." The Air Force Secretary was aware that the report had "serious and far-reaching consequences," but Symington recommended that it be supported and, moreover, acted upon. He had been disappointed that increased funding had not materialized for more air groups following detection of the Soviet atomic explosion. His frustration had increased in early 1950, and he decided to leave his Secretary's post, informing Truman that he could no longer remain responsible for an underfunded and underequipped Air Force. In April 1950, prior to the outbreak of war in Korea, Symington left and accepted the chairmanship of the National Security Resources Board.

Truman meanwhile, was concerned about the report's conclusions. In April, Pentagon chief Johnson asked Congress for an additional \$300 million in authorizations for aircraft procurement. In early May 1950, the House increased the Pentagon budget authority for Fiscal 1951 (which was to start on July 1, 1950) by more than \$383 million. Subsequently, a Senate appropriations subcommittee proposed additional increases to raise the \$13 billion defense budget to \$15.6 billion. (All of the figures are in then-year dollars.) The Administration's stringent economy drive was showing signs of cracking.

Still, Truman stalled on NSC-68. His delay reflected a desire to give the Bureau of the Budget more time to assess cost estimates.

### The Final Push

It took massive Communist military aggression to force a rapid, large-scale military buildup of the type envisioned by the NSC report. On June 25, North Korean Communist forces poured across the 38th parallel in a naked attempt to conquer its free neighbor to the south. The Truman Administration determined that the Communists had to be confronted and stopped in Korea, that a failure to do so would lead to more aggression, perhaps in Europe. As Truman put it: "Each time that the democracies failed to act, it encouraged the aggressors to keep going ahead."

Soon came an end to the tight post-war defense budgets. In a sense, Truman's actions vindicated the call by NSC-68 for a sustained buildup

of both conventional and nuclear forces. This leaves unanswered the speculative question of whether or not a major increase in defense spending would have occurred without the Korean conflict. What seems probable is that Truman would have supported an increase based upon NSC-68 but not the huge buildup that eventually came about as a result of the war. Overall, however, the evolution of NSC-68 marked a milestone in postwar defense planning because it set a kind of benchmark between economy and military force structure and between short- and long-term national interests.

In September 1950—three months after the North Korean attack—Truman finally approved NSC-68. The Administration was forced to reorder its priorities. The Korean War shattered the historic American policy of relying upon a small peacetime military establishment and led to adoption of a defense budget of more than \$50 billion, as well as a 95-wing Air Force by mid-1952. Overall, defense appropriations increased from \$14.2 billion for Fiscal 1950 to \$47.3 billion for Fiscal 1951 and to \$59.9 billion for Fiscal 1952. (See p. 67 for constant-dollar comparison.)

NSC-68 formed a bridge between Truman's post-World War II retrenchment policy and the buildup necessitated by the Korean War. It in effect corroborated the charge that the Truman-Johnson defense budget bore little or no relationship to requirements, and a major result of this fact was the forced resignation of Johnson in September 1950. The conflict in Korea was exactly the kind of war ("piecemeal aggression") anticipated by NSC-68.

The immense increase in the defense budget over the several fiscal years after the outbreak of war followed the path charted by NSC-68. And the world sketched by this report—presented in the grimmest colors—provided a conceptual and practical framework for the decades-long post-Korea Cold War. The US-Soviet confrontation heated up. The era of nuclear deterrence dawned. Eventually, with the arrival of the Eisenhower Administration in 1953 and its "new look" military policy, Strategic Air Command under LeMay would become the linchpin of the nation's Cold War, anti-Soviet foreign policy. ■

## From NSC-68: A New and Darker View of the World

"The Soviet Union ... is animated by a new fanatic faith, antithetical to our own, and seeks to impose its absolute authority over the rest of the world."

"The United States, as the principal center of power in the non-Soviet world and the bulwark of opposition to Soviet expansion, is the principal enemy whose integrity and vitality must be subverted or destroyed by one means or another."

"The United States now possesses the greatest military potential of any single nation in the world. The military weaknesses of the United States vis-à-vis the Soviet Union, however, include its numerical inferiority in forces in being and in total manpower. Coupled with the inferiority of forces in being, the United States also lacks tenable positions from which to employ its forces in event of war and munitions power in being and readily available."

"The possession of atomic weapons at each of the opposite poles of power, and the inability (for different reasons) of either side to place any trust in the other, puts a premium on a surprise attack against us."

"The United States now has an atomic capability ... estimated to be adequate ... to deliver a serious blow against the war-making capacity of the USSR. It is doubted whether such a blow ... would cause the USSR to sue for terms or prevent Soviet forces from occupying Western Europe."

"In time the atomic capability of the USSR can be expected to grow to a point where, given surprise and no more effective opposition than we now have programmed, the possibility of a decisive initial attack cannot be excluded."

"When it calculates that it has a sufficient atomic capability to make a surprise attack on us, ... the Kremlin might be tempted to strike swiftly and with stealth. The existence of two large atomic capabilities in such a relationship might well act, therefore, not as a deterrent, but as an incitement to war."

"The United States now faces the contingency that, within the next four or five years, the Soviet Union will possess the military capability of delivering a surprise atomic attack of such weight that the United States must have substantially increased general air, ground, and sea strength, atomic capabilities, and air and civilian defenses to deter war and to provide reasonable assurance, in the event of war, that it could survive the initial blow and go on to the eventual attainment of its objectives."

"We must organize and enlist the energies and resources of the Free World. ... Without such a cooperative effort, led by the United States, we will have to make gradual withdrawals under pressure until we discover one day that we have sacrificed positions of vital interest."

"The shadow of Soviet force falls darkly on Western Europe and Asia and supports a policy of encroachment. The Free World lacks adequate means—in the form of forces in being—to thwart such expansion locally. The United States will therefore be confronted more frequently with the dilemma of reacting totally to a limited extension of Soviet control or of not reacting at all. ..."

"The military advantages of landing the first blow become increasingly important with modern weapons, and this is a fact which requires us to be on the alert in order to strike with our full weight as soon as we are attacked and, if possible, before the Soviet blow is actually delivered."

"The United States is currently devoting about [6] percent of its gross national product (\$255 billion in 1949) to military expenditures. ... In an emergency the United States could devote upward of 50 percent of its gross national product to these purposes. ..."

"A further increase in the number and power of our atomic weapons is necessary in order to assure the effectiveness of any US retaliatory blow. ... Greatly increased general air, ground, and sea strength and increased air defense and civilian defense programs would also be necessary to provide reasonable assurance that the Free World could survive an initial surprise atomic attack of the weight which it is estimated the USSR will be capable of delivering by 1954."

*Herman S. Wolk is senior historian in the Air Force History Support Office. He is the author of The Struggle for Air Force Independence, 1943-1947 (1997) and a contributing author to Winged Shield, Winged Sword: A History of the United States Air Force (1997). His most recent article for Air Force Magazine, "The Quiet Coup of 1949," appeared in the July 1999 issue.*

These Air Force units provide a special experience for chronically ill

USAF photo by Joel Martinez



Alex Langlee and Capt. Phillip Johnson.

*"Pilot For A Day"*  
*Alex Langlee*

**DANGER**  
THIS AIRPLANE CONTAINS  
EJECTION SEATS  
CANOPY REMOVAL  
AND EXPLOSIVE  
CHARGES. SEE  
T.O.-2 FOR  
INSTRUCTIONS



children.



By Bruce D. Callander

# Pilots for a Day

A FEW months after he received his wings at Randolph AFB, Texas, Alex Langlee's luck ran out. He was not the victim of a training accident or a casualty in some contingency operation. For Alex, a malignant hepatoma—in other words, liver cancer—was the enemy. He was six years old.

Alex was one of many youngsters who have "joined" the Air Force under Randolph's "Pilot for a Day" program, which brings chronically ill children to the base one at a time for a brief taste of Air Force life.

What began as a grassroots project by one pilot at Randolph has spread to several other bases. The format varies by installation, but the objective remains the same: Give youngsters an unforgettable experience and, if only for a moment, help them get their minds off of the diseases that dominate their lives.

The procedure is simple. Each child is invited to spend a full day at the base, is welcomed like a visiting general, outfitted in gear like a pilot's, allowed to sit in the cockpit of an airplane, and given a "flight" in a simulator.

Alex Langlee may have realized deep down that it was all make-believe, but he had been as proud of his short Air Force career as any pilot who ever trained at Randolph. On one of the last days that he was able to attend school, he had insisted on wearing the tiny flight suit he had

been given at Randolph. He was particularly proud of the patch proclaiming him a member of the 560th Flying Training Squadron.

## How It Began

The idea of bringing such children to the base for their special day originated with then-Capt. Rory Blackburn, a giant of a man known as "Ox" in the 560th, where he was a pilot at the time.

In 1994, Blackburn's wife had been hospitalized and, visiting her, the captain had seen youngsters whose lives had been taken over by their chronic, often fatal, illnesses. Thinking that some might benefit from a little special attention, he developed the idea of bringing them and their families to the base and making them honorary members of the squadron known as the "Chargin' Cheetahs."

It was not an altogether unprecedented concept. Open houses and VIP visits long have been routine at US Air Force installations throughout the world, and individual USAF members traditionally have been involved in community projects from the Boy Scouts to athletic programs for underprivileged children. Blackburn simply put these elements together and came up with a plan to single out a few chronically ill children and, for a few hours, make them the center of attention.

He sent letters to a number of agencies that dealt with young cancer pa-

tients. Several agencies showed interest and soon the program was up and running. Social workers helped select children who were both seriously ill and had evinced an interest in aviation. The squadron did the rest.

"These children usually end up spending more time in the hospital than they do with their families and friends," Blackburn later remarked. "We were trying to ease the pain of losing a childhood, ... to give back a little something after they've had so many things taken away from them."

The captain played host to the first several children. When he moved on to another assignment and, eventually, to a civilian airline, other pilots carried on the tradition at Randolph. Capt. Phillip Johnson, also a pilot with the 560th, now coordinates the visits, handles the logistics, and hosts many of the visiting youngsters.

From the start, Pilot for a Day has been a volunteer project, sanctioned but not financially underwritten by the Air Force. At Randolph, most funding comes from the Officers' Wives Club and the chapel fund. Squadron personnel donate their time to man static displays, demonstrate equipment, and otherwise entertain the young guests.

Typically, a child's day begins with "suing up." The child is issued a scaled-down flight suit, flight cap, and scarf, along with a set of "wings" and squadron patches. The young "pilot" then tours the squadron, meets its commander or another representative, and

visits the life-support facility to try on a parachute and oxygen mask.

### In "Combat"

A tour of the flight line usually follows. The child sees aircraft (a variety of training airplanes and a C-21) on static display. Each airplane has the child's name painted on the side, below the cockpit. A pilot from the 560th stands by each aircraft to answer questions and help the youngster climb into the airplane. The child is encouraged to sit in the cockpit, feel the controls, and do what youngsters do best—pretend they are pursuing the Red Baron or his Star Wars counterpart.

The children's medical conditions preclude their making actual flights, but, after lunching with members of the squadron, they experience the next best thing. In the simulator facility, they "fly" missions in a T-1, T-37, or T-38, often losing themselves in the virtual reality of the high-tech trainers. For a few minutes, they play with what, to an active youngster, must seem like the ultimate video game.

The whole day is designed to make the child feel like part of the unit, said Johnson. "We have their names on the marquee at the gate when they enter. We do a fire station tour where they can get into the trucks and squirt the water. We take them to the [aircraft control] tower so they can watch airplanes come and go and turn on lights. They visit the Taj Mahal

[Randolph's ornate headquarters building] and ride the old elevator."

Johnson added, "I have had letters from the moms telling how much the kids appreciated their day." One told him that her son had passed on and was buried in his flight suit.

"These are great kids and it's terrible to think what will happen to many of them," he said, "but we love to have them come. We have a Pilot for a Day wall in our squadron with pictures of them and the host pilots. We don't forget them."

After leaving Randolph in 1997, Blackburn was assigned to the 77th Fighter Squadron, known as "The Gamblers," at Shaw AFB, S.C. He promptly organized a "Fighter Pilot for a Day" program there.

The Shaw program closely follows the Randolph model but it has acquired some local embellishments. One is the presentation of a squadron coin to each of the pilots for a day. In the tradition of the World War II "short snorter," squadron members are supposed to produce their coins when challenged. If one isn't carrying it, the member is obliged to buy a drink for the challenger.

The first guest pilot at Shaw was 9-year-old Heston Zeller. He had been under treatment for two years for neuroblastoma, a cancer that attacks nerves and bones. Heston received his coin from Maj. David Minto, squadron operations officer, who explained its significance. Later that day, the boy dug it out when he met Col. Chuck Rogers, then-vice commander of the parent 20th Fighter Wing. When the colonel could not come up with his matching coin, he bought the boy a soda.

Shaw also has the advantage of having simulators that duplicate the actions of a real fighter. Heston not only "flew" the ground-bound F-16 but reportedly scored a few hits on enemy aircraft in the process.

### The Idea Spreads

Other bases heard about the program at Randolph and asked for particulars with an eye toward setting up their own. At least half a dozen installations in the US and overseas now host pilots for a day.

At Charleston AFB, S.C., however, the program developed in a different way. Capt. Brian Doyle, a pilot with the 17th Airlift Squadron, remembers.

USAF photo by TSgt. Brian Jones



*In the cockpit as a pilot for a day at Charleston AFB, S.C., nine-year-old Eric Thompson had a chance for a little while to think about something other than his illness, sickle-cell anemia.*

"In September 1997," the captain said, "SSgt. Brian Williams and I were talking, and we agreed we wanted to do more charity work. We were living pretty well and it was time to give something back. The more we talked, the more we felt that we could do something right at the base and the idea for pilot for a day resulted."

"Sergeant Williams had heard something about a program at Randolph, but he didn't know how it worked so we pretty much built our own program from scratch. We contacted the Children's Hospital at the Medical University of South Carolina. They put us in touch with one of their child-life specialists, a person involved with helping kids adjust to long stays in the hospital. He set up the arrangements at that end."

Since then, the process has become a familiar routine. About every two months, Doyle contacts the Medical University and says the base is ready to host another child. The hospital makes the selection and has the family complete a questionnaire, giving information on the child's illness, physical and dietary restrictions, and interests, including favorite foods.

With help from TSgt. Brian Jones, a community relations advisor in the base's Public Affairs Office, Doyle works out the logistics for the day. About two weeks in advance, Doyle phones the child and the family to explain the plans. "I like to get to know them and answer any questions they have," said the captain. "Sometimes it's a little daunting for a 6- or 7-year-old to show up at a big base and meet 100 people he has never seen before. I think it helps to read them in on the plans."

The plans also include any siblings the selected child may have. "We encourage them to bring their brothers and sisters along," said Doyle. "The philosophy is that siblings may not always get as much attention as the sick child so we make this their day, too. The [sick] child is the center of it, of course, but we don't want the other kids to feel left out."

For all the youngsters, there are ample souvenirs of the day. As it ends, they are loaded up with stickers, T-shirts, posters, and other mementos donated by base and tenant organizations.

The main out-of-pocket expenses for the program are lunch for the



USAF photo by TSgt. Brian Jones

**Leukemia patient Chris Banks, 12, also became a pilot for a day at Charleston. The base is one of several that have helped chronically ill children with an interest in aviation enjoy a day of being an Air Force VIP.**

visitors and the pilot's wings for the youngster. At Charleston, these are underwritten by the 17th AS Enlisted Fund. Transportation and other forms of support are provided by base public affairs, as they would be for any base tour or open house.

So far, 12 children, ages 7 to 15, have been through the program. Their illnesses have included liver failure, heart disease, leukemia, sickle-cell anemia, and cystic fibrosis. Doyle acts as host on most visits, but he has been encouraging other pilots to take on the role so the program will go on when he is not there.

### North to Alaska

In 1998, the Pilot for a Day program moved north. Inspired by the Randolph example, the 354th Fighter Wing at Eielson AFB, Alaska, wanted to do something similar. Capt. Joe Porrazze and SSgt. Julie Grippo developed the local program, but, rather than limit it to a single squadron, they decided that the Eielson "day" should involve the whole wing.

The result was a basewide effort with various squadrons taking turns to act as hosts for a given day. Last summer, for example, the 355th Fighter Squadron, welcomed 6-year-old cerebral palsy victim Joshua Coffey. Capt. Rich Beavers acted as his "wing man" for the day, introducing him to the unit's A-10s.

Joshua's day at Eielson included sitting in real airplanes and flying simulators, visiting the control tower

and fire department, and meeting the base's four-legged K-9 patrol.

As at Randolph, each of the children is outfitted in a model flight suit. Those at Eielson receive not only pilot's wings but also first lieutenant bars. Nor does the pilot's day end when the child leaves the base. Every year, the wing invites its former guests back to the annual open house and "promotes" them to the next higher grade. In 1998, the Thunderbirds officiated at the promotion ceremony.

Recent Eielson pilots for a day have included Amber Stephenson, an 11-year-old with a heart defect, and 12-year-old Elizabeth Vukmir, with a growth-stunting genetic disease.

In one case, Eielson could not play host to a child on its schedule. Zac Hansen, son of a base noncommissioned officer, was taken to McChord AFB, Wash., shortly before he was to have his day, so Eielson asked folks at McChord to substitute. Maj. Tim Zadalis of McChord's 62nd Operations Support Squadron picked up the ball. He presented Zac with a pilot's scarf and other gifts and arranged for him to "command" a refueling flight.

Air National Guard Capt. Gil Delgado read about the Randolph program in an Air Force press release and began shaping a similar Pilot for a Day program at the 184th Bomb Wing, an ANG unit at McConnell AFB, Kan. Delgado is a weapons systems operator on the wing's B-1 bombers.

"I read about the program at Randolph on the Internet," said Delgado. "I called Capt. Rory Blackburn on the phone and picked his brain about the contacts he made to get the program up and running. We followed his lead but personalized ours a little."

Each month, the 184th invites a seriously ill youngster to enjoy VIP status and bring along the child's family and a few friends. In December 1999, Teasha Decaire, a 14-year-old leukemia patient, was the honoree.

### Ranking Officer

With friends from Grace Baptist Church, Teasha was welcomed by Col. Ed McIlhenny, wing commander, who promptly made the girl an honorary brigadier general and, for the moment, ranking officer in the unit. She was dressed in her flight suit and issued a flight cap with a single star on it.

Capt. Scott Waddell, helps Delgado with the program and serves as host for some visits. "We work with several local hospitals," Waddell said. "Each is assigned a specific time during the year. As their month comes up, the hospital selects the child and we work with the youngster and the parents on the plans."

The 184th BW experience includes a tour of the 127th Bomb Squadron, an introduction to the fire station's canine mascot, and a visit to life support, where the child is fitted for the day with a helmet and harness and briefed on egress procedures.

"After the static displays," said Waddell, "we take them to the runway where, usually, two jets will take off, circle, and do an honorary flyby. The kid gets to talk to the pilots on the radio."

The guest pilot, parents, and friends then are treated to a special meal before moving on to the B-1 simulator. For Teasha Decaire the meal was donated by a local pizzeria. The day ends with presentation of an honorary unit member certificate to the child and lithographs from the squadron and the Thunderbirds.

In July 1998, Tinker AFB, Okla., also heard of the Randolph program and used it as a model for its own effort. Tinker's first guest was Jimmy Reyes, 13, a leukemia patient at Children's Hospital of Oklahoma and son of a man stationed at the base. With Maj. Pat Penland and Capt. Kurt Birmingham of the 10th Flight Test

Squadron as his escort officers, Jimmy received his flight suit, toured the fire station and tower, got a weather briefing, and flew the E-3 simulator. Since then, Tinker has scheduled quarterly pilot for a day visits.

In 1997, Air Force Television News followed Jason Moon, an 11-year-old with a congenital heart defect, through his tour as pilot for a day at Whiteman AFB, Mo. The base, home of the 509th Bomb Wing, hosted four youngsters that year but then had to suspend its program due to its high operations tempo.

"The last two years have been pretty busy for us," said TSgt. Dee Ann Poole, with 509th public affairs. The wing, which flies B-2 stealth bombers, has been involved in a number of operations, including action in the Balkans. "We just didn't have the people to keep up the Pilot for a Day program," said Poole.

However, the base plans to revive the tradition soon. "We expect to host another child during the first quarter of 2000," Poole said. As in the past, visits will include tours of the B-2, base operations, the weather shop, the tower, and the fire department. The young pilots will find their names on one of the airplanes as they do at other bases. At Whiteman, however, the names will be on removable plates that the children can take home with them.

Whiteman's program is spearheaded by the 509th Operations Support Squadron, but it is a wing effort supported by volunteers from all units.

### Sneak Previews at Whiteman

While Whiteman had to suspend its Pilot for a Day program, it managed to host some special visitors another way, by offering a sneak preview of its annual air shows to seniors and disabled persons. The day before the shows opened to the general public, the special guests are given a VIP tour of the base's B-2 stealth bomber and other displays.

Other bases that don't have ongoing programs also have hosted children who are referred to them by the Make-a-Wish Foundation of America, a national, nonprofit organiza-

tion supporting seriously ill children. Make-a-Wish has 81 local chapters across the country.

One unit involved was the 116th Bomb Wing of the Georgia ANG. When that unit deployed to Nellis AFB, Nev., last summer, it entertained 35 such children all in one day. The visit, organized by SSgt. Tracy Tharpe, included a tour of the wing's B-1 aircraft, souvenir T-shirts for all the children, and a pizza and snow cone party.

Make-a-Wish Foundation also works with the Thunderbirds to host children at bases where the T-birds fly demonstrations. The team invites local Make-a-Wish chapters to send children with life-threatening diseases and their families to their flight shows in select cities. The special guests meet the pilots, tour the airplanes, take photos, and collect autographs from team members.

Said Christina L. Carmony, public relations manager for the foundation, "We're pleased to partner with the Thunderbirds and grateful for the warmth and generosity extended by the pilots to the families and children."

Charleston AFB teamed with Make-a-Wish Foundation in one instance to find its pilot for a day. Paul Smiley from Northern Ireland spent a week in the US under that group's sponsorship and, during the week, received VIP treatment at the South Carolina base.

At Eglin AFB, Fla., F-15 pilot Maj. Brett Loyd also drew on the Randolph example to found a program for the 40th Flight Test Squadron. In late 1997, the unit welcomed its first guest pilot, a 4-year-old with a rare form of muscle cancer.

Pictures of the event show Michael "Flash" Dosedel manning the cockpit of a fighter, his head bald from cancer treatments and his surgical mask lowered briefly for the photo op. If only for a day, he was a full-fledged member of the 40th.

When a local reporter asked if Michael would be allowed to keep his child-size flight suit, Loyd asked, "Would you like to try and take it away from him?" ■

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*Bruce D. Callander, a regular contributor to Air Force Magazine, served tours of active duty during World War II and the Korean War. In 1952, he joined Air Force Times, serving as editor from 1972 to 1986. His most recent story for Air Force Magazine, "New Rules on Dual Compensation," appeared in the January 2000 issue.*

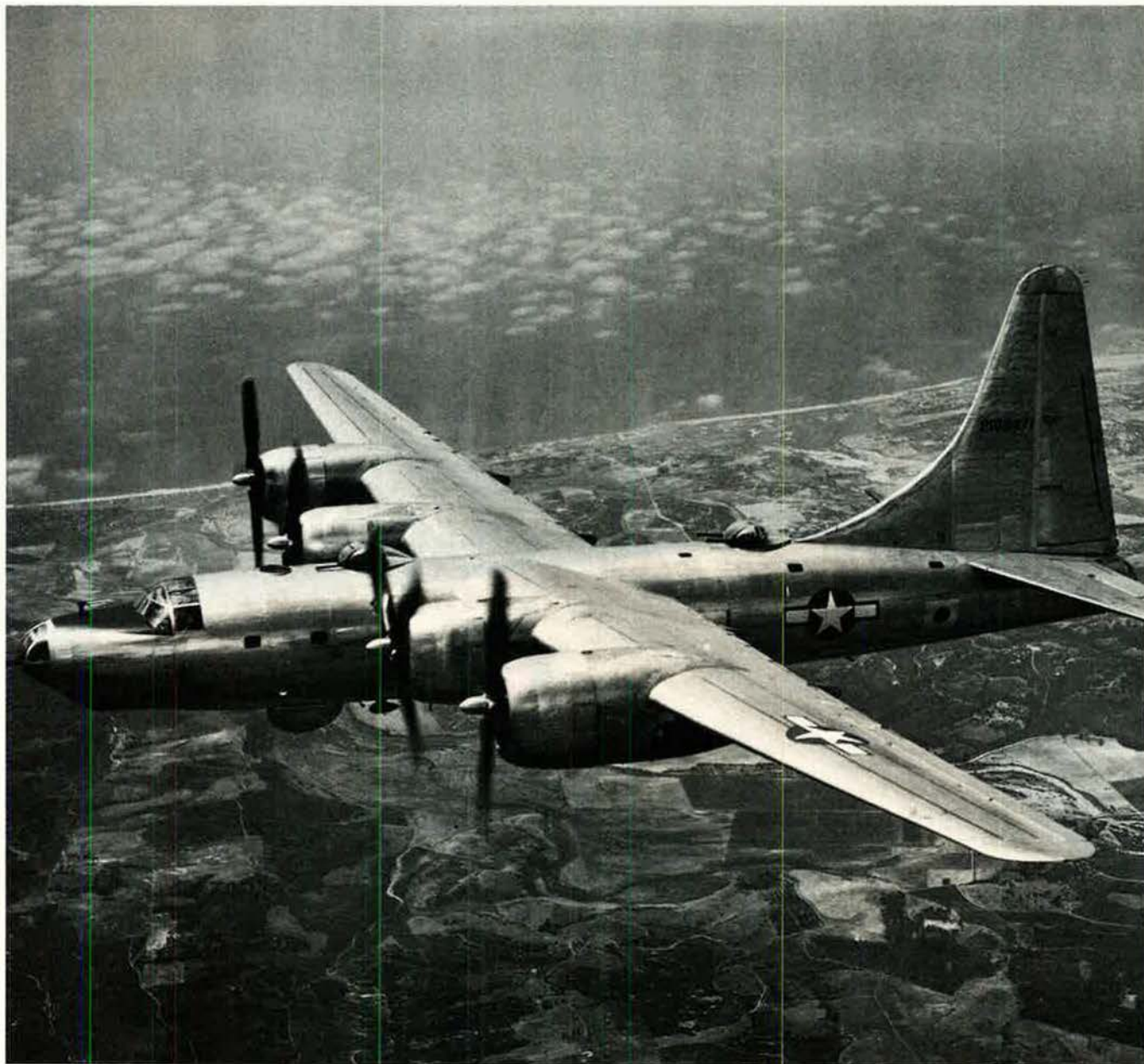
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## Forgotten Bomber



*Overshadowed by the B-17, B-24, and B-29, the Consolidated B-32 Dominator nevertheless had an important part in World War II combat aviation history. Other than the B-29 Superfortress, it was the only very heavy bomber produced during the war. It also had innovative, reversible inboard propellers that could be used for braking on landing. Few in numbers—AAF took delivery of*

*115 production aircraft—the B-32 was pressed into service by Far East Air Forces at the urging of Lt. Gen. George C. Kenney. In the closing days of World War II, B-32s claimed the distinction of fighting what is cited as the final aerial combat action, on Aug. 18, 1945. By mid-September 1945, just three years after the first XB-32 prototype had rolled off the company's San Diego assembly*

*line, the B-32 program was canceled. The last six bombers went directly to disposal centers.*

The space team takes on computer network defense and attack.

# New Missions for Space Command

**Gen. Richard B. Myers, USAF,**

*is former commander in chief, US Space Command, which recently acquired computer network defense and attack missions. (Plans called for Myers to become vice chairman of the Joint Chiefs of Staff on March 1.) On Jan. 5, in response to questions at a session of the Defense Writers Group and a later Pentagon news conference, Myers discussed the US military's approach to the new missions. Here are excerpts of what he said.*

## **Computer Network Defense**

"It was September of 1998 when the decision was made to move computer network defense to US Space Command. The efforts, up to that point, had been the starting up of the joint task force for computer network defense in Washington. ... The other service chiefs and unified commanders decided that this particular mission area was so important that it should be placed in a warfighting Commander in Chief or unified command.

"So, we started working in September 1998 and we got the formal tasking later than that when the unified command plan came out and they formally gave it to us. But we started working all that and coordinated our implementation plan, our concept of operations. Basically, a joint task force for computer network defense fell under US Space Command on 1 October of 1999. We've been working the issue ever since."

## **Computer Network Attack**

"This coming October we are slated to get the computer network attack mission. Right now we are in the implementation planning phase of that. There will be a lot of work between now and 1 October to sort through all of that and try to bring focus to the particular mission area. This will be a lot more difficult than the defense piece of the computer network business.

"There are a lot of policy and legal ramifications for everything we do in that area. We haven't even begun to organize for that particular mis-

sion yet. In computer network defense, the services organize themselves to some degree. There were network operation centers. There were computer emergency response teams set up. There was a framework out there that you could overlay the joint task force for computer network defense. That framework for computer network attacks doesn't exist yet. ...

"There is a sense [that] there are a lot of capabilities out there, but they are worked by small groups of people, sometimes highly classified. Trying to put all that together and figure out how we can provide a warfighting CINC ... with the tool kit is going to have to be the thing we have to work the hardest."

### **Computer Attacks During Allied Force**

"After the mistaken bombing of the [Chinese] Embassy in Serbia, there was stepped-up activity. Exactly from where, I don't think I can go into. There was some attack on NATO computers and other sites. Most of it was fairly innocuous and was thwarted fairly easily. I think we are a long way from saying any of it was state-sponsored. Some of it was just sympathizers. In fact, most of the attacks, we think, were from folks who were sympathetic to the Serbian cause and would get together in groups and then try to have some impact on our network. But as I said before, those were fairly easily dealt with and there was absolutely no mission impact by any of those attempts."

### **Effect of Reliance on Commercial Systems**

"Reliance on commercial systems and software ... does not make us more vulnerable. We obviously are very reliant on commercial systems. We want to go more toward commercial systems and when I say we, I am talking about Space Command. We are already heavily outsourced. We have a large contractor force that supports us. ...

"That is just not an issue with us. When we talk about commercial off-the-shelf software, I don't think that in itself makes us any more vulnerable than it would if we had our own software. I think we have a lot of confidence in the software that is provided by our contractors, and it is

all done under the appropriate security umbrella."

### **Can Private Sector Provide Defenses?**

"We rely on the private sector to a large degree to help us with the intrusions, detecting devices that we set up in our firewall and so forth. Our relationship with the private sector will grow. It is one of the things we are looking at in computer network defense. We have a logical partnership here with the private sector, perhaps informal, perhaps formal, we haven't decided on the mechanism or the venue or any of that yet, where they would be very much interested in what our take is on the threat and they would see some value in that, and we could have this continuous dialogue and they could also notify us of possible weaknesses in some of the software applications. We are working that very hard with industry."

### **Legal Issues in Computer Network Attack**

"Come this October, [the question of legal constraints] ought to be one of our primary issues. [We must] bring these issues to the forefront and work through the process. We'd like to get to the point with some of these capabilities that all the unified commanders know what they are, [that] they have been apportioned.

"The commander in theater, for instance, ... would say, 'I know I have these certain tools available. I know that on Day 1 of the conflict that they would be available for use.' And that is where we have to get. We are a long way from that today for good and sufficient reasons, I think. Those are the kinds of issues that I think we will help work through. Just like we've been doing on space. We are still in the process of operationalizing our space capabilities, integrating that down to the tactical level. ...

"I think the legal concerns are absolutely real, and we've got to work through those and we've got to come up with a process by which we can do that. The legal community is going to have to be an ally here, and I think they will be and they have been in Kosovo. There was some work done and I don't think anybody is going to point any fingers at the lawyers for not having done their

job. Again, these are legitimate issues that we need to work through, and I expect the legal community inside DoD to help."

### **The Emerging Threat**

"In general, cyberattack is deemed useful by those countries that perhaps don't have the conventional military capability the United States does. And so it's a way of, asymmetrically perhaps, attacking adversaries, not just the United States but potentially other adversaries. So you can read in a lot of the military literature that people more and more, of most of the world, are looking at this as a potential area for some growth. ...

"I think we are pretty well prepared. We have invested a lot of resources in defending our capabilities. And it's not just the JTF-CND [Joint Task Force-Computer Network Defense], and it's not just the intrusion software and the firewalls and so forth. It's also the training of our people. And we are working on all pieces of it. ...

"I think we're in reasonably good shape, but it will be like everything else we do: You know, we come up with the defense, somebody else comes up with a different offense, and back and forth. And so it's not that we're going to sit back and rest on our previous work; we're going to continue to work it."

### **Decentralized Operations**

"We did not envision that US Space Command in Colorado Springs is going to be the focal point. ... This is not something that's going to be kept behind in Cheyenne Mountain and only be turned on by that level. These are tools that need to go to the operational and tactical level.

"So our first job is to figure out what our capabilities are out there. Every service has some capability in this area. We need to round those up, focus them, apportion them to the warfighters, and then ensure that they are tested and that we work through the policy and legal implications, which there will be and there are. That will be a very big part of what we do. ...

"We see our job more as focusing what we currently have, giving confidence to the warfighter that these tools are available, that they have been tested, that they have some as-



urance that they will work, and that we have worked through the policy and legal implications of using them."

### The Computer Attack Tool Box

"It gets into the ability of denying, disrupting, degrading systems. It could be in the area of air defense, for instance. If you can degrade an air defense network of an adversary through manipulating ones and zeros, that might be a very elegant way to do it, as opposed to dropping 2,000-pound bombs on radars, for instance. So that's—you know, the whole idea would be that we can do this, ... perhaps with keystrokes, preventing casualties on our side and collateral damage on the adversary's side.

"It's an elegant solution in some cases, and as I said, there are going to be some policy and legal ramifications of all this that we have yet to work through."

### Where To Get Cyberwarriors

"We 'Red Team' essentially everything we do. In fact, we have a Space Aggressor Squadron that we are just standing up at Schriever AFB [Colo.] to do that for the exercises that we run traditionally, to bring a force in there that would try to disrupt our ability to take advantage of these space resources. So that's another analogy. And we would do the same thing, of course, for computer network attack. And that is being done—it's a very prudent thing to do. But it's—a lot of the other issues are to be determined, as we work through our implementation plan this year. ...

"People are what is going to make all this work. It's not the software, it's not the hardware; it always boils down to competent people. And that's a real issue for us in US Space Command and for the Department of Defense as a whole. Now, the services are trying to attract the best and the brightest to come into this area. We think we can do that because we are going to be working on leading-edge technology, we'll give them the right tools, and they'll be doing something for their country. So we think all of that will make it appealing."

### Role of Cyberattack

"Well, I think it's just going to be one more arrow in the quiver ... in terms of the tools we can use. ... I'll

use the air defense analogy again. If you want to take down an air defense system, we know how to do that kinetically. We know that we can drop bombs, we can send cruise missiles against it, we can use attack helicopters against that kind of system. As I suggested, there might be other ways to do that, and I don't know—I mean this is premature—but there might be other ways to do that similar job. And I don't think it's going to fundamentally take us in too different a direction, although I would say that I think the ones and zeros part of this equation will be more important in the future than it is today—I mean dramatically more important. [It] will probably never supplant kinetic weapons."

### Unintended Consequences

"There may be unintended consequences, depending on how you work that. If you're working on a communications network, for instance, it does more than just air defense. They use it for other things. Then there is the question of what are the consequences of perhaps taking down a communications system that may support other needs that may have no direct impact on the conflict, and then you'd have to study that."

### Special Cybercorps?

"We want to build not a corps but a group of individuals that can work in this area. And you know, in the way it's kind of grown up—this had been a sort of a pickup ball game. I mean, we don't have specialties in the Air Force [for] information warrior. One of the things, I think, that we will bring to the table is: Should we create specialties that encourage a career path in this kind of work? Right now, for the most part, [we have] those that are most inclined or like to do it, and that's fine for the time being, at least on the active duty side. Of course, on the contractor side, which we use heavily, we can get real specialists and real expertise.

"I guess my overall comment would be that creating a special corps would tend to put this in a stovepipe that would tend to revolve in its own world and ... the product of their work would not necessarily get pushed down to the operational and tactical level like we're trying to do for information operations."

### Operations in Kosovo

"I would like to say—without giving you a lot of detail—that we worked through some policy and legal issues during Kosovo that will hopefully help us in the future, because we addressed some issues ... and, I think, came up with a good resolution. And I think that portends well for our future capability in this area. But, as you know, the opposing forces in Serbia were not reliant, for instance, on space systems. They were not reliant on systems that were heavily involved with information technology; so, limited opportunities, there. ...

"A lot of the existing capability is very immature, has not been tested. And we need to operationalize this like we do for everything else. It needs to be thought of like that. The planning for that needs to happen up front and early, so people like General Clark [Army Gen. Wesley K. Clark, Supreme Allied Commander Europe] can say, 'I have got this arrow in my quiver, and I'd like to use it here.' We are short of that capability, today."

### Decision-Making Issues

"Any time we prosecute war, ... certain decisions have to migrate up to the national command authorities, and I think certain aspects of this would. I think our hope in the future is that we've thought through it, and for certain capabilities that we might want to use, that it would become understood what the effects are and that that would be something that would be very easily approved. Other capabilities might have to go all the way to the President for approval. That would not be unusual. We do that today in a conventional sense, as you know. ...

"I think it's fair to say that we have done this in the past on a case-by-case basis. And of course if you're in the middle of a conflict, you'd prefer to not work this on a case-by-case basis. That usually takes longer. So, we would look to a process to be a little more robust in that area where we could have, like I said before, preapproval of some capabilities—I'm not talking—this is all very notional—of some capabilities. ... There will still be—no doubt there will still be some case-by-case issues. ... We have done certain things on a case-by-case basis, yes." ■

# AFA State Contacts



Following each state name are the names of the communities in which AFA chapters are located. Information regarding these chapters or any of AFA's activities within the state may be obtained from the appropriate contact.

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**ARIZONA** (Green Valley, Phoenix, Prescott, Sedona, Sierra Vista, Sun City, Tucson): **Angelo Di Giovanni**, 973 Vuelta Del Yaba, Green Valley, AZ 85614 (phone 520-648-2921).

**ARKANSAS** (Fayetteville, Hot Springs, Little Rock): **John L. Burrow**, 211 W. Lafayette St., Fayetteville, AR 72701-4172 (phone 501-751-0251).

**CALIFORNIA** (Apple Valley, Bakersfield, Edwards AFB, Fairfield, Fresno, Los Angeles, Merced, Monterey, Orange County, Palm Springs, Pasadena, Riverside, Sacramento, San Diego, San Francisco, Sunnyvale, Vandenberg AFB, Yuba City): **James H. Estep**, 6251 N. Del Rey Ave., Clovis, CA 93611-9303 (phone 209-299-6904).

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**DELAWARE** (Dover, New Castle County): **Ronald H. Love**, 8 Ringed Neck Ln., Camden Wyoming, DE 19934-9510 (phone 302-739-4696).

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**IOWA** (Des Moines, Marion, Sioux City, Waterloo): **Donald E. Persinger**, 1725 2nd Ave., South Sioux City, NE 68776 (phone 402-494-1017).

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**liam S. Clifford**, 102 Drury Ln., Garden City, KS 67846 (phone 316-275-4317).

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**MICHIGAN** (Alpena, Battle Creek, East Lansing, Kalamazoo, Marquette, Mount Clemens, Oscoda, Traverse City, Southfield): **James W. Rau**, 466 Marywood Dr., Alpena, MI 49707 (phone 517-354-2175).

**MINNESOTA** (Duluth, Minneapolis-St. Paul): **Coleman Rader Jr.**, 6481 Glacier Ln. N., Maple Grove, MN 55311-4154 (phone 612-559-2500).

**MISSISSIPPI** (Biloxi, Columbus, Jackson): **Gerald E. Smith**, 231 Theas Ln., Madison, MS 39110-7717 (phone 601-898-9942).

**MISSOURI** (Kansas City, St. Louis, Springfield, Whiteman AFB): **Terri Politi**, 1970 Timber Ridge Dr., Sedalia, MO 65301-8918 (phone 660-829-0628).

**MONTANA** (Bozeman, Great Falls): **Regina L. Cain**, 426 Deerfield Ct., Great Falls, MT 59405 (phone 406-761-8169).

**NEBRASKA** (Lincoln, Omaha): **Densel K. Acheson**, 903 Lariat Cir., Papillion, NE 68128-3771 (phone 402-554-3793).

**NEVADA** (Las Vegas, Reno): **Kathleen Clemence**, 35 Austrian Pine Cir., Reno, NV 89511-5707 (phone 775-849-3665).

**NEW HAMPSHIRE** (Manchester, Portsmouth): **Terry K. Hardy**, 31 Bradstreet Ln., Eliot, ME 03903-1416 (phone 603-430-3122).

**NEW JERSEY** (Andover, Atlantic City, Camden, Chatham, Forked River, Ft. Monmouth, Jersey City, McGuire AFB, Newark, Old Bridge, Toms River, Trenton, Wallington, West Orange): **Ethel Mattson**, 27 Maple Ave., New Egypt, NJ 08533-1005 (phone 609-758-2885).

**NEW MEXICO** (Alamogordo, Albuquerque, Clovis): **Peter D. Robinson**, 1804 Liano Ct. N.W., Albuquerque, NM 87107 (phone 505-343-0526).

**NEW YORK** (Albany, Binghamton, Buffalo, Rome, Jamestown, Nassau County, New York, Queens, Rochester, Staten Island, Syracuse, Westhampton Beach, White Plains): **Barry H. Griffith**, 5770 Ridge Rd., Lockport, NY 14094 (phone 716-236-2487).

**NORTH CAROLINA** (Asheville, Charlotte, Fayetteville, Goldsboro, Kitty Hawk, Raleigh, Wilmington): **Bobby G. Suggs**, P.O. Box 53469, Fayetteville, NC 28305-3469 (phone 910-483-2221).

**NORTH DAKOTA** (Fargo, Grand Forks, Minot): **Gary H. Olson**, 725 Center Ave., Ste. 3, Moorhead, MN 56560 (phone 218-233-5130).

**OHIO** (Cincinnati, Cleveland, Columbus, Dayton, Mansfield, Youngstown): **J. Ray Lesniok**, 33182 Lakeshore Blvd., Eastlake, OH 44095-2702 (phone 440-951-6547).

**OKLAHOMA** (Altus, Enid, Oklahoma City, Tulsa): **William P. Bowden**, P.O. Box 620083, Oklahoma City, OK 73162-0083 (phone 405-722-6279).

**OREGON** (Eugene, Klamath Falls, Portland): **John Lee**, P.O. Box 3759, Salem, OR 97302 (phone 503-581-3682).

**PENNSYLVANIA** (Allentown, Altoona, Beaver Falls, Coraopolis, Drexel Hill, Harrisburg, Johnstown, Lewistown, Philadelphia, Pittsburgh, Scranton, Shiremanstown, Washington, Willow Grove, York): **Eugene B. Goldenberg**, 2345 Griffith St., Philadelphia, PA 19152-3311 (phone 215-332-4241).

**RHODE ISLAND** (Newport, Warwick): **David Buckwalter**, 83 Tuckerman Ave., Middletown, RI 02842 (phone 401-841-6432).

**SOUTH CAROLINA** (Charleston, Clemson, Columbia, Myrtle Beach, Sumter): **Guy R. Everson**, 9 McKay Rd., Honea Path, SC 29654 (phone 864-369-0891).

**SOUTH DAKOTA** (Rapid City, Sioux Falls): **Ronald W. Mielke**, 4833 Sunflower Trail, Sioux Falls, SD 57108 (phone 605-339-1023).

**TENNESSEE** (Chattanooga, Knoxville, Memphis, Nashville, Tullahoma): **William E. Freeman**, 2451 Stratfield Dr., Germantown, TN 38139-6620 (phone 901-755-1320).

**TEXAS** (Abilene, Amarillo, Austin, Big Spring, College Station, Commerce, Dallas, Del Rio, Denton, Fort Worth, Harlingen, Houston, Kerrville, Lubbock, San Angelo, San Antonio, Wichita Falls): **C.N. Horlen**, 11922 Four Colonies, San Antonio, TX 78249-3401 (phone 210-699-6999).

**UTAH** (Clearfield, Ogden, Salt Lake City): **Craig E. Allen**, 5708 West 4350 South, Hooper, UT 84315 (phone 801-774-2766).

**VERMONT** (Burlington): **Erwin R. Waibel**, 1 Twin Brook Ct., South Burlington, VT 05403-7102 (phone 802-654-0198).

**VIRGINIA** (Alexandria, Charlottesville, Danville, Langley AFB, Lynchburg, McLean, Norfolk, Petersburg, Richmond, Roanoke, Winchester): **Thomas G. Shepherd**, HCR 61 Box 167, Capon Bridge, WV 26711-9711 (phone 540-888-4585).

**WASHINGTON** (Seattle, Spokane, Tacoma): **Fred Rosentfelder**, P.O. Box 59445, Renton, WA 98058-2445 (phone 206-662-7752).

**WEST VIRGINIA** (Charleston): **Samuel Rich**, P. O. Box 444, White Sulphur Springs, WV 24986 (phone 304-536-4131).

**WISCONSIN** (Madison, Milwaukee, General Mitchell IAF/ARS): **Kenneth W. Jacobi**, 6852 Beech Rd., Racine, WI 53402-1310 (phone 414-639-5544).

**WYOMING** (Cheyenne): **Irene G. Johnigan**, 503 Notre Dame Ct., Cheyenne, WY 82009 (phone 307-773-2137).

**A L E R T**

# **ACT NOW TO END HEALTH CARE DISCRIMINATION!**

**Tell Congress to  
Keep Health Care Promises  
Call (800) 423-8440**

Over the last several years, Congress has become increasingly sensitive to the government's broken health care promises to Medicare-eligible uniformed services beneficiaries — enacting pilot or test programs authorizing enrollment of Medicare-eligible uniformed services beneficiaries in TRICARE Senior Prime (Medicare subvention), Department of Defense retail and mail-order pharmacy programs, and the Federal Employees Health Benefits Program (FEHBP-65).

But 1,000 World War II veterans die every day, so the need for a "final fix" is increasingly pressing. Both defense and congressional leaders have expressed their hopes to make 2000 the "year of military health care." But we must make it clear that any health care fix has to include restoration of equity for Medicare-eligibles.

You can help ensure the government keeps its promises to uniformed services retirees by using the Health Care Equity Hot Line to send messages urging your two U.S. senators and your U.S. representative to take immediate action on health care equity legislation. Here's how:

■ Dial Western Union's toll-free Health Care Equity Hot Line number, (800) 423-8440, which is open seven days a week, 24 hours a day. If you have Internet access, you can send the same messages via Western Union's Web site (<https://infonet.tsifax.com/hotline/hotline.asp>).

■ Give the Western Union operator your full name, address, and ZIP code, plus your major credit card number and expiration date. Ask the operator to send The Military Coalition's pre-tailored health care equity messages to your elected officials. You don't need to know their names or addresses; Western Union will automatically send your messages to the right legislators.

■ Three Western Union messages will be hand-delivered the following day to your two U.S. senators and your U.S. representative.

■ You will be billed \$6.75 on your Visa, MasterCard, or American Express card (no other billing options are available).

■ If you are an overseas member or without access to the toll-free number, you can send a letter with your full name and voting address, plus your Visa, MasterCard, or American Express card

**WESTERN  
UNION**

Dear Representative:

I am writing to ask you to cosponsor H.R. 2966, the Keep Our Promise to America's Military Retirees Act, a bill to restore health care equity for Medicare-eligible uniformed services retirees.

As late as 1993, service recruiting and retention literature promised "lifetime health care" for members who endured the extraordinary sacrifices inherent in 20-plus years in uniform. But most older retirees who fought in World War II, Korea, and Vietnam find themselves locked out of military health coverage upon attaining age 65. H.R. 2966 would fulfill the government's promises by authorizing them a choice of continuing military TRICARE coverage after age 65 or allowing them to enroll in the same Federal Employees Health Benefits Program (FEHBP) authorized for every other category of federal retiree. For those who entered service before June 7, 1956 (the date the first reference to "space available" care for retirees was put into law), this coverage would be provided at no cost.

Congress has approved demonstration programs to test various coverage options for Medicare-eligibles. But 1,000 World War II veterans die each day, and urgent action is needed now to allow all Medicare-eligibles access to military health care, DoD pharmacy programs, and FEHBP.

Please cosponsor H.R. 2966 and support comprehensive health care equity legislation to ensure our nation keeps its health care promises to those who sacrificed so much to protect its interests in hot and cold wars over so many decades.

Sincerely,

(Note: Message will be tailored based on your representative's cosponsorship status. Similar messages will go to both of your senators.)

number and expiration date to: Western Union Hot Line Services (Attn: Hot Line manager), P.O. Box 1037, McLean, VA 22101.

■ If you have any problems with the service or your bill, call (800) 336-3337, ext. 6015, Monday through Friday, 9 a.m. to 5 p.m. ET.

**Health Care Equity  
HOT LINE  
(800) 423-8440  
(cost is only \$6.75)**

# AFA / AEF National Report

By Frances McKenney, Assistant Managing Editor

## USAF Agrees With Findings of AFA Report

An Air Force Association report released Jan. 13 said that US Air Force spending on research and development has fallen too far and that key technologies may not be available when they are needed in the future. (See "The Shortfall in Science and Technology," p. 48.)

Later that day, the Air Force issued a statement agreeing that the decline must be reversed.

The report, "Shortchanging the Future," was prepared by the AFA Science and Technology Committee. It pointed out that the Air Force now ranks behind the Navy and the Army in spending on Science and Technology.

The Air Force statement concurring with the AFA finding said: "The Air Force agrees that the decline in Air Force Science and Technology spending must be reversed. Further, an increased overall budget would be the single most important factor in accelerating the strengthening of the Air Force S&T program.

"Air Force leadership shares the Air Force Association's concern about providing a robust S&T base from which future Air Force capabilities will grow. 'We are striving hard to reverse the declining S&T budget and anticipate a significant real increase for S&T in Fiscal Year 01,' said Lt. Gen. Stephen Plummer, principal deputy assistant secretary of the Air Force for acquisition. 'We are working hard to raise it further in the years beyond that.'

"In addition, the Air Force is creating and institutionalizing processes by which S&T investment decisions, including the total S&T budget, are made. This is being pursued in the Air Force with the assistance of the Air Force Scientific Advisory Board. A study will kick off this month with representation from the AFA."

### "Legends" on Cable

"Legends of Airpower" began airing in February on Speedvision Cable Network every Wednesday evening at 7:30 p.m. (EST).

The 13-part series of 30-minute biographies was originally underwritten partially by the Aerospace Education Foundation and produced by



*Brig. Gen. Kevin Chilton (center) spoke to a recent meeting of the David J. Price/Beale Chapter, which is undergoing a revitalization effort, guided by Chapter President Maj. Dennis Davoren (right) and Chapter Vice President Capt. Brian McLaughlin (left).*

Three Roads Communications of Arlington, Va., with help from AFA.

It covers the lives of military aviators "Hap" Arnold, Randy "Duke" Cunningham, Benjamin O. Davis Jr., Jimmy Doolittle, Russell E. Dougherty, "Gabby" Gabreski, John Glenn, Charles A. Horner, Curtis E. LeMay, Billy Mitchell, Bernard A. Schriever, Jimmy Stewart, and Chuck Yeager.

AEF receives credit as an underwriter at the beginning and end of each program. AEF has also partially underwritten the distribution of the series on the Public Broadcasting System. The PBS airing is scheduled for late September. AFA chapters can help underwrite the series in their local PBS television markets.

Information on the series is on the Web at [www.legendsofairpower.com](http://www.legendsofairpower.com).

### Revitalization Redux

They revitalized the **Pensacola (Fla.) Chapter** last year. Now they're applying that experience to the **David J. Price/Beale (Calif.) Chapter**.

No matter where they're stationed, it seems Maj. Dennis R. Davoren and

Capt. Brian P. McLaughlin have a knack for reviving interest in the local AFA chapter.

In Pensacola, where he was a T-34 instructor pilot, McLaughlin worked month after month on rebuilding the chapter. He sought guidance from AFA leaders, reeled in dedicated members to fill chapter officer positions, farmed out tasks to many members rather than a few, started a chapter newsletter, and concentrated on planning chapter events one by one. He was fortunate to have Davoren working as his vice president for membership and Carl E. Hodges as his Webmaster.

The chapter earned the AFA Outstanding Chapter award in 1999 in the small chapter category.

Davoren and McLaughlin are now stationed at Beale with the 1st Reconnaissance Squadron as U-2 pilots, and Hodges is scheduled to join their unit as a mission planner. Davoren now serves as the David J. Price Chapter president, with McLaughlin as vice president. "We have a winning combination," wrote McLaughlin. "We'll employ the same techniques



and start small and educate people about AFA, and the rest is easy."

The chapter now has 10 Community Partners, all new, but Davoren said the chapter was virtually "a box of stuff" when he first arrived. He credits Clinton W. Andreasen, current and past chapter treasurer, with keeping the chapter going.

Brig. Gen. Kevin P. Chilton, 9th Reconnaissance Wing commander at Beale, served as guest speaker for the chapter's January dinner, the fourth event since Davoren and McLaughlin began working to build up the chapter.

Chilton graduated from the Air Force Academy in 1976 and after test pilot school was assigned to NASA in 1987. He piloted the space shuttle *Endeavor* both in 1992 (its maiden voyage) and 1994 and commanded *Atlantis* in 1996 on what was the third docking mission to the Russian space station Mir.

Chilton spoke to the AFA audience about his space shuttle missions and shared video footage.

### Just a Regular Guy

TSgt. Joseph J. O'Keefe spoke to a **Pope (N.C.) Chapter** meeting about how he became one of USAF's Outstanding Airmen for 1999.

A combat control operator with the 24th Special Tactics Squadron at Pope, he told the audience he was just a regular guy who went to work every day and went home to his family. According to Maj. Kevin Sluss, Pope Chapter president, O'Keefe said others could just as easily become outstanding airmen.

O'Keefe, however, is a team leader in Special Operations Command's premier special tactics squadron and began racking up impressive awards within a year of enlisting in the Air Force in 1983. Along with numerous Airman and Noncommissioned Officer of the Quarter awards, he was an honor graduate from the air traffic control course, an award winner at combat control school, received the Levitow Award at NCO Leadership School, and won the commandant's award from the NCO Academy. He also attended the Navy's SEAL parachutist and scuba courses as well as

several Army specialized training courses.

A member of the Pope Chapter, O'Keefe said he had not even been aware of the Outstanding Airman program until his selection as NCO of the Quarter at Pope. He said he was overwhelmed by the Outstanding Airmen ceremony held at AFA's National Convention and by the attention from senior Air Force leaders.

The Pope Chapter meeting featuring O'Keefe began with a posting of the colors by the base's honor guard. A 43rd Operations Group quartet sang the national anthem, and Chaplain (Col.) Philip Fain, a chapter member, delivered the invocation. At the meeting, the audience viewed the latest public service announcements that AFA has prepared for airing on television, and Bobby Suggs, North Carolina state president, presented Sluss with a 1999 national-level Exceptional Service award.

### Talking About "Tooey"

Since his topic was the legendary Air Force leader for whom the **Gen. Carl A. "Tooey" Spaatz (N.Y.) Chapter** is named, it was fitting that AFA Chairman of the Board Doyle E. Larson, a retired major general, spoke to the chapter about "One General's View of Another General."

He could also have called his December presentation "Chairman to Chairman" since Spaatz also served as an AFA chairman of the board (1950-51).

Among the more than 50 members and guests who turned out to hear Larson was Rebecca Spaatz Nagel, one of Spaatz's daughters. She talked about her father's experiences as a cadet at West Point.

Bill Hazel, a docent coordinator with the Mid-Atlantic Air Museum in Reading, Pa., also attended the chapter meeting and described the museum's collection, which includes one of only four Northrop P-61B Black Widows known to exist. It was rescued from a jungle in Indonesia.

### Dining In

The **Ark-La-Tex (La.) Chapter**

presented eight \$500 AFROTC scholarships to cadets at a December dining-in for Grambling State University of Grambling, La., and Louisiana Technical University of Ruston, La.

Ivan L. McKinney, AFA national director and chapter project officer, presented the scholarships to cadets Daniel Bass, Lewis Benton, Kyle Bordenon, Daniel Durr, Robert Fitzpatrick, Gracie Moore, Carl Polk, and Rodney Wall. They were chosen on the basis of citizenship, integrity, leadership, academic performance, and financial need. The chapter raises funds for the scholarships primarily through its Community Partner program.

This marked the fourth year that the chapter has provided these scholarships.

### What's in a Name?

At a chapter dinner held at Kingsley Field, Ore., in December, the Klamath Basin (Ore.) Chapter officially changed its name to the **Bill Harris Chapter**, honoring a World War II ace who lives in nearby Northern California.

A P-38 pilot with 13th Air Force in the South Pacific, Brooklyn "Bill" Harris is credited with 16 aerial victories. He was a lieutenant colonel when World War II ended and became a rancher in Nevada and California. Today he lives in Macdoel, Calif., just south of Klamath Falls, Ore. According to Richard G. Oelkers, chapter secretary, Harris often visits Kingsley Field to spend time with the pilots of 173rd Fighter Wing (ANG). They consider Harris an Air Force living legend, said Oelkers.

Harris recently became a member of the chapter that now carries his name. His wife, Rosalyn, and three children attended the chapter meeting. John Lee, Oregon state president, and Curtis D. Ritchie, chapter president, presented Harris with a copy of the new chapter charter.

### SOC Memorial

The **Jerry Waterman (Fla.) Chapter** donated \$250 to the US Special Operations Command Memorial Foundation at MacDill AFB, Fla., in December.



**TSgt. Joseph O'Keefe, one of USAF's 12 Outstanding Airmen, spoke to the Pope Chapter in November. He described his role as a member of AFA's Enlisted Council and said he was available any time enlisted members wanted to discuss issues of concern.**

George W. Norwood, chapter president, and Lt. Col. Lance S. Young, chapter treasurer, presented the donation to Ross P. Van Lerberghe, foundation president and also a chapter member, and Geoff Barker, foundation secretary.

The Special Operations Memorial is located outside US Special Operations Command headquarters at MacDill. Phase 1 of the memorial, dedicated in May 1999, consists of a bronze statue representing Special Operations Forces from all services and three marble walls engraved with the names of SOF members who died in combat or training. The Waterman Chapter's donation will help fund an expansion of the memorial.

### Raising the Flag

The raising of a Merchant Marine flag, found through help from AFA, was the high point for a Pearl Harbor Day ceremony held at the Veterans Memorial at Flag Park in South Sioux City, Neb. A \$30,000 monument in the park honors all branches of the armed forces and the Merchant Marine.

According to Donald E. Persinger, Iowa State president, the local American Legion post had been trying to locate a Merchant Marine flag for four years. It was the one element missing from Flag Park.

In preparation for a Dec. 7 ceremony, Persinger asked AFA's Field Services in late October for help in finding a Merchant Marine flag. Kent Eckles, field organizations director, learned from the Internet what the flag

looked like and found a company in Alexandria, Va., that could supply one.

Persinger—a member of the **Richard D. Kisling (Iowa) Chapter**—and two American Legion members, raised the flag and its flagpole at the ceremony. A photo of this event ran in the local newspaper, with prominent credit given to AFA for providing the long-sought-after flag.

### Inspiring the Cadets

AFROTC cadets from the University of Colorado-Boulder received leadership tips from **Mile High (Colo.) Chapter** president Kenneth L. Hagemann and member John R. "Bob" Pardo when the AFAers took part in a panel discussion at Det. 105's Veterans Day leadership lab in November.

Hagemann was director of the Defense Nuclear Agency before his retirement from USAF as a major general in 1995. Pardo made history in March 1967 when he literally pushed another F-4, damaged in battle, out of North Vietnam toward Laos.

As part of the panel discussion, Hagemann spoke about situational awareness in everything from driving a car to flying a fighter. Pardo spoke about commitment, integrity, and trust. The students, in turn, asked them questions such as what is most important in leadership and how to prepare for the next job.

Hagemann returned to his alma mater, Colorado State University in Fort Collins, as guest speaker for Det. 30's dining-in held at the university's student center Nov. 12. He explained

to the cadets why they should feel good about wanting to serve in the military, the honor of service, the obligation to those who served before them, and the need to ensure the future.

The next day, chapter members joined Arnold Air Society members from UC-Boulder in picking up litter along a 2.4-mile stretch of 6th Ave. in Aurora, Colo. The chapter participates in the city's Adopt-a-Street Program and is responsible for the portion of the street that leads up to Buckley ANGB's main gate. Cleaning up is a two- to three-hour task because the road is a major east-west thoroughfare in that section of Aurora, lined with businesses, noted Hagemann.

In December, the chapter provided 10 American flags for UC-Boulder to use at its commissioning ceremony. Chapter member Bud Martin represented the chapter at the ceremony, where the new lieutenants were presented with the flag used to administer their oath of commissioning.

### A Winner

The **Dallas (Texas) Chapter's** AFA float won third place among 94 entries in the Veterans Day parade in Dallas.

The 221st Combat Communications Squadron (ANG), Garland, Texas, helped the chapter create their winning design: a flatbed with a combat set up—tent, communications gear, and camouflage. Huge blue and white AFA banners and several state and American flags completed the decorations.

Chapter President J. Christopher Wilt and chapter members Cregg Crosby, George W. Pease, George L. Schulstad, and William A. Solemene participated in the parade.

In Abilene, Texas, meanwhile, Bruce R. Sutherland, **Abilene Chapter** president; Jack F. Nuding, chapter vice president for membership; and David J. Mason, chapter vice president for aerospace education, still fit in their uniforms, in the words of William G. Zavatsion, chapter treasurer. So the three retired colonels put on their service dress uniforms and rode on the back of a white convertible, festooned with an AFA banner, for the Veterans Day parade in Abilene. Gene Williams served as driver for the chapter's parade entry.

### More AFA/AEF News

■ AFA National President Thomas J. McKee presented the Academic Achievement Award, sponsored by AFA, to MSgt. Kathleen Hoke at the Senior NCO Academy's December graduation ceremony at Maxwell AFB,

Ala. Hoke is from Tyndall AFB, Fla. Air Force Chief of Staff Gen. Michael E. Ryan and Lt. Gen. Lance W. Lord, Air University commander, also attended the graduation.

■ On behalf of the **Capt. Eddie Rickenbacker Memorial (Ohio) Chapter**, Jack E. Reed, chapter president, recently presented Paul W. Tibbets Jr. with an unusual memento: a block of wood that, according to Reed, came from the floor of a hangar in Omaha, Neb. Tibbets was pilot of the *Enola Gay*, which was built at the Martin Aircraft plant in Omaha. The B-29 aircraft dropped the atom bomb on Hiroshima, bringing World War II to a swift end. Reed, who obtained the block of wood from a friend, made the presentation to Tibbets, a member of the Rickenbacker Chapter, at the Motts Military Museum in Groveport, Ohio, where the retired brigadier general was holding a book signing for *Return of the Enola Gay*, his latest book.

■ Raymond "Bud" Hamman, region president (Northeast), and Eugene B. Goldenberg, Pennsylvania state president, recently presented a Community Partner plaque to Bobbi Michelfelder, sales manager for the Radisson Hotel Philadelphia Northeast in Trevese, Pa. All are members of the **Liberty Bell (Pa.) Chapter**.

■ Arthur R. Beach, **Mercer County (N.J.) Chapter** president, and Allen Hoffman, chapter member, recently presented Community Partner plaques to Cook Conkling and son Douglas

AFA Conventions	
April 1	<b>Maryland State Convention</b> , Andrews AFB, Md.
April 28-30	<b>Iowa State Convention</b> , Marion, Iowa
April 28-30	<b>Tennessee State Convention</b> , Memphis, Tenn.
May 5-7	<b>New Jersey State Convention</b> , Cape May, N.J.
May 5-7	<b>South Carolina State Convention</b> , Myrtle Beach, S.C.
June 1-4	<b>California State Convention</b> , Palm Springs, Calif.
June 3-4	<b>Ohio State Convention</b> , Cincinnati
June 9-11	<b>Arizona-Nevada-New Mexico State Convention</b> , Albuquerque, N.M.
June 9-11	<b>New York State Convention</b> , Lockport, N.Y.
July 21-23	<b>Pennsylvania State Convention</b> , Pittsburgh
July 21-23	<b>Texas State Convention</b> , Dallas
July 28-30	<b>Florida State Convention</b> , Homestead ARB, Fla.
Aug. 11-13	<b>Colorado State Convention</b> , Denver
Aug. 11-13	<b>Georgia State Convention</b> , Robins AFB, Ga.
Aug. 11-13	<b>Indiana State Convention</b> , Indianapolis

Conkling, who own a local hardware store in Robbinsville, N.J. The chapter raises funds by recycling aluminum and has been picking up aluminum cans, along with litter, from a two-mile stretch of road near Trenton, N.J. They initially met the Conklings when Hoffman approached them to ask if they would donate to the chapter any discarded aluminum.

#### Henry W. Boardman, 1932-2000

Henry W. Boardman, former region president (South Central) and national director, died Jan. 13 in Gulfport, Miss. He was 67 years old.

A native of Gulfport, Boardman earned a bachelor's degree from Mississippi State University and a master's degree from George Washington University in Washington, D.C.

His Air Force career spanned 30 years, beginning in 1954, and he served as a crew member, in staff positions, and as a wing commander, rising to the rank of colonel.

Active in aviation and civic organizations, Boardman joined AFA in 1975 served in state level positions from 1989 through 1994, then as region vice president from 1994 to 1996. He had been a national director from 1996 through the 1999 AFA National Convention.

#### Have AFA/AEF News?

Contributions to "AFA/AEF National Report" should be sent to *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Phone: (703) 247-5828. Fax: (703) 247-5855. E-mail: afa-aef@afa.org. ■

## Unit Reunions

reunions@afa.org

**1st FG Assn**, all members of the 27th, 71st, and 94th FSs (WWII or later). May 24-28, 2000, at the Mission Inn in Riverside, CA. **Contact:** Robin Hansen, 1926 Timber Point West, Prescott, AZ 86303 (520-778-7040) (rhansen@cablene.net) (www.cableone.net/rhansen/1stfighter).

**17th and 19th SOS**, Shadow and Stinger gunships. Sept. 29-Oct. 1, 2000, in Fort Walton Beach, FL. **Contact:** Fred Graves, 1105 Maple Dr., Mountain Home, ID 83647 (208-587-9255) (farkle@micron.net) (www.ac-119gunships.com).

**26th BS**, 11th BW, and supporting units, Altus AFB, OK (1957-68). April 29-May 2, 2000, at the Doubletree Hotel at Red Park in Tucson, AZ. **Contact:** Bill Mitchell, 3252 N. Placita Brazos, Tucson, AZ 85750 (520-885-9908) (mitch3252@aol.com).

**29th Air Service Gp Assn**, Thirteenth AF, **321st and 570th Air Service Gps**, and all stationed at Morris Field, N.C., from 1941 until closing. July 11-15, 2000, at the Holiday Inn in Fort Mitchell, KY. **Contact:** Frank Pace, 315 W. 15th St., Dover, OH 44622 (330-343-7855).

**59th FG**, 339th AAF BU, Thomasville AAF, GA (1943-45). May 19-21, 2000, at the Hampton Inn

in Thomasville, GA. **Contact:** Samuel A. Owens, 125 Bayview Dr., San Carlos, CA 94070-1672 (phone or fax: 650-595-4344).

**69th FS (WWII) and 69th Fighter-Bomber Sq**, Korea. April 13-16, 2000, in Austin, TX. **Contact:** George E. Mayer, 7445 Thomas Ave. S., Richfield, MN 55423 (612-866-6073).

**71st Tactical Recon Gp**, 17th Recon Sq (B), 25th Liaison Sq, and 82nd and 110th Tactical Recon Sqs, South Pacific (WWII). Sept. 28-Oct. 2, 2000, at the Marriott Airport Hotel in St. Louis. **Contact:** Jim Welsch, 2603 Louis Ave., Brentwood, MO 63144-2536 (314-645-5557).

**75th FS Assn (WWII)**. June 15-17, 2000, in Oklahoma City. **Contact:** Don Miller, 75th FS Association, Inc., 5515 W. Washington Ctr. Rd., Fort Wayne, IN 46818 (219-489-9629) (miller75dk@msn.com).

**84th ATS/MAS Sq**. June 17-18, 2000, at the Holiday Inn of Fairfield in Fairfield, CA. **Contact:** John Burnett, 579 Leisure Town Rd., Vacaville, CA 95687 (707-448-4264) (jnburnet@cwnet.com).

**313th FS (WWII)**. Sept. 8-10, 2000, in Dayton, OH. **Contact:** Lee Hudson, 101 N. Upper Broad-

way St., Apt. 1011, Corpus Christi, TX 78401-2750 (361-882-6383) (ulee@aol.com).

**315th TCG (WWII)**, all squadrons and support units. Aug. 24-28, 2000, in Dayton, OH. **Contact:** Robert L. Cloer, 1417 Valley View Dr., Yuba City, CA 95993 (530-674-3681) (rlcloer@syix.com).

**328th Airlift Sq**, 3rd Combat Cargo. April 8, 2000, at the Best Western Summit Inn in Niagara Falls, NY. **Contact:** Dave Tarnowski, 328th Airlift Squadron, 10460 Wagner Dr., Niagara Falls ARS, NY 14304-5010.

**351st BG**, Polebrook, UK (WWII). June 6-10, 2000, in Polebrook. **Contact:** Clint Hammond, PO Box 281, Mechanicsburg, PA 17005 (717-766-1489).

**447th BG**, Eighth AF. June 21-24, 2000, in Colorado Springs, CO. **Contact:** Pete Petrillo, 965 N. Pasadena Ave., Elyria, OH 44035 (440-365-2561).

**494th BG (H) Assn, Inc.**, 373rd, 864th, 865th, 866th, and 867th BSs. May 1-6, 2000, at the Doubletree Guest Suites Tucson in Tucson, AZ. **Contact:** Charles G. Milliron, 101 W. River Rd., Unit 305, Tucson, AZ 85704-5117 (520-888-6920).

## Unit Reunions

**610th Mass.** Aug. 11–13, 2000, at the Ramada Inn in Springfield, MO. **Contact:** Steve Life, 8711 Timberline Dr., Louisville, KY 40291 (502-231-2031) (sl45@juno.com).

**752nd AC&W Sq/Radaron**, Empire AFS, MI, 1950 to closure. Sept. 21–24, 2000, in Traverse City, MI, area. **Contact:** Lowell Woodworth (904-620-9635) (kathylowell@earthlink.net).

**905th ARS.** June 26–28, 2000, at the Luxor Hotel & Casino in Las Vegas. **Contacts:** 905th Reunion, PO Box 1263, Sherwood, OR 97140 or Bill Sykes (503-625-1939).

**3558th CCT/FTS**, Perrin AFB, TX. Sept. 28–Oct. 1, 2000, in Sun Valley, ID. **Contact:** Jim Hancock, 3250 San Amadeo Unit O, Laguna Woods, CA 92653-3049 (949-859-7344) (jimhk3250@aol.com).

**Air Proving Ground Center**, Eglin AFB, FL, all junior officers (1962–66). April 13–16, 2000, at Eglin AFB. **Contacts:** Phil Byrne, 55 Constellation Wharf, Charlestown, MA 02129-4227 (617-242-8822) or Mike MacDonald (864-391-3559).

**Aviano Reunion Assn.** Aug. 7–11, 2000, in Seattle. **Contact:** Emily Povey, 626 E. Davis Blvd., Tampa, FL 33606-3922 (813-251-4664) (emp@tampabay.rr.com).

**Evreux AB, France**, alumni assigned to TDY or tenant units. Sept. 25–28, 2000, in San Antonio. **Contact:** Jim Strickland, 3218 Greenwood Ct., Fort Collins, CO 80525-2916 (970-282-0209) (cojimhar@aol.com).

**Flying Tigers of the Fourteenth AF Assn** (WWII), veterans of the American Volunteer Gp (1941–42), China Air Task Force (1942–43), and Fourteenth AF (1943–45). May 25–28, 2000, in Arlington, VA. **Contact:** Robert M. Lee, 717 19th St. S., Arlington, VA 22202-2704 (703-920-8384).

**Pilot Training Class 55-Q.** Aug. 30–Sept. 2, 2000, in Colorado Springs, CO. **Contact:** Bill Berkman, 4340 Whispering Cir. N., Colorado Springs, CO 80917-3627 (719-574-5476) (billincs@aol.com).

Seeking former members of the **16th Communications Sq** (FEAF) for a reunion in spring or summer 2000 in Tempe, AZ. **Contact:** Mick Bloom, 1002 Day Dr., Bellevue, NE 68005 (402-733-5340) (mickusaf@cs.com).

Seeking former members of the **859th AC&W Sq**, Red Bluff AFS, CA, for a possible reunion. **Contact:** Ronald J. Kerrigan, 5492 N. Acorn Ct., Greenfield, IN 46140 (317-326-7094) (robekerr@hrtc.net)

Seeking former **Indiana USAF recruiters** for a possible reunion. **Contact:** Ronald J. Kerrigan, 5492 N. Acorn Ct., Greenfield, IN 46140 (317-326-7094) (robekerr@hrtc.net).

Seeking current and former **USAF nurses** for a Southeast region reunion, April 6–9, 2000, in Myrtle Beach, SC. **Contact:** Dee Reiter (803-469-7124).

Seeking primary pilot school graduates of the **Wilson and Bonfils AAF Flying School**, Chickasha, OK (1942–45), for a reunion in April. **Contact:** Ron Baker, 23 Walnut Dr., Ninnekah, OK 73749 (405-224-5343).

Mail unit reunion notices well in advance of the event to "Unit Reunions," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Please designate the unit holding the reunion, time, location, and a contact for more information.

## Bulletin Board

bulletin@afa.org

Seeking **Lt. Col. Roy Scrimshaw**, C-141 pilot stationed at Nakhon Phanom, Thailand, 1971–72, whose last known assignment was Dover AFB, DE, in the early 1980s. **Contact:** Dan Hengesh, 801 Andover Dr., DeWitt, MI 48820-8713 (sheriff@clinton-county.org).

For a book, seeking a photo and details of **L-20 Beaver #16475**, from Elmendorf AFB, AK, in the early 1950s. It carried a Sikorsky H-5 tail boom atop the fuselage to Sheep Mountain, Canada. **Contact:** D. Stern, 12850 72nd Ave. S., Seattle, WA 98178.

Seeking **Capt. Marian Collins, MSgt. Boyd P. Lane, and SSgt. Aaron Griffin** of the 377th CSW/DPMAP, Personnel Div./MPB, Customer Assistance Section, Personal Affairs, Ramstein AB, Germany, 1984–86. **Contact:** Trudy Adomeit, Freiherr vom Stein Strasse #22, Mackenbach, Germany 67686 (06374-5323) (hcowling@interquest.de).

For a book, seeking photos of (including nose art and markings) and information on the **B-52G and H** and all the units that used them from the 1950s to the present. **Contact:** William Reid, 1600 Prairie St., Essexville, MI 48732-1446 (tsreid@gateway.com).

Seeking **Col. George Norman Cobb**, a 1967 USAFA graduate who commanded the 1924th Computer Service Sq at Randolph AFB, TX, and retired in 1993. Also seeking **Joseph Winston Pedrick**, also a USAFA 1967 graduate, who completed pilot training at Laughlin AFB, TX, in 1968 and flew C-130s. **Contact:** Jim Icenhour, 101 Shinnecock, Williamsburg, VA 23188-9125 (757-258-0460) (jicenhour@compuserv.com).

Seeking **Capt. Jane Hightower**, Hickam AFB, HI, 1961–63. **Contact:** Michael Friel, 5937 W. State Ave., Glendale, AZ 85301 (623-937-8134) (sfingerio@hotmail.com).

Seeking **2nd Lt. Charles M. Kirschner**, 346th FS, 350th FG, who was forced to land in Ireland on Feb. 5, 1943. Also seeking information on a

350th FG association. **Contact:** Martin Gleeson, 7 Hilltop Dr., Dooradoyle, Co. Limerick, Ireland.

Seeking information on **Robert Neil Edgett** of Grand Rapids, MI, who joined the AAC in 1942 and served as an IP at bases in California. He flew C-46 and C-47 aircraft in the China–Burma–India theater and after the war flew C-46s in a reserve unit in Indianapolis. **Contact:** Robert N. Edgett, 21985 Tobarra, Mission Viejo, CA 92692-4215.

Seeking former **Capt. Lionel G. Gilbert or Lloyd S. Gilbert** concerning the P-51 accident of brother Kenneth L. Gilbert, July 17, 1945, in Fowlmere, UK. **Contact:** Kenneth R. Willard, 67 Harvest Rd., Fairport, NY 14450-2859 (716-381-4648).

Seeking photos or slides of **F-4 Phantoms** in Southeast Asia, all variants, units, roles, periods, and nose art. **Contact:** Terry Panopalis, 30 D'Auvergne, Candiac, Quebec, Canada J5R 5R2 (tpanopalis@sprint.ca).

Seeking **James Elliott**, who lived in France in the 1960s. He was stationed in Thailand in 1969. His father-in-law (Mr. Willis) was in USAF at Laon–Couvron AB, France. **Contact:** Jocelyne Bourdin Pretat (josspaule@wanadoo.fr).

For unit history, seeking information on and photos of members and aircraft from the **82nd Recon Sq**. The unit has been known as the 82nd TRS, 82nd SRS, and 82nd RS and has been part of the 71st TRG, 4252nd Strategic Wg, 376th Strategic Wg, and 55th Wg. **Contact:** TSgt. Danny L. Rhoads, 82nd RS, Kadena AB, Japan (DSN: 315-634-6057 or 011-81-6117-346057) (danny.rhoads@kadena.af.mil).

Seeking anyone who knew **TSgt. John G. Popravak**, who enlisted in USAAF in 1942 and served as an administrative clerk in North African and European theaters and possibly Dakar, French West Africa. Also seeking a **USAF medical doctor** of Indian descent, stationed at Clark AB, Philippines, in 1988. **Contact:** Maj. Terrence G. Popravak Jr., 1705 Scarborough Dr., Apt. 3X,

Bellevue, NE 68123 (terrylinapop@earthlink.net) (yapmarline@hotmail.com).

Seeking **command chief master sergeant insignia**, all sizes and colors, especially standard 4-inch silver–blue. **Contact:** David Freese, 317 3rd Ave. SE., Cresco, IA 52136 (dfreese@featherliteinc.com).

Seeking photos of and contact with personnel who used the **WWII mess hall** in Venice, FL, that is now the site of the Venice Municipal Mobile Home Park. **Contact:** Judy Strigel, 780 Tamiami Trail S., Venice, FL 34285.

Seeking contact with anyone who knew **1st Lt. Charles "Freddy" Friedrich Jr.**, who was stationed at Kahuku, HI, during WWII and was on a bombing mission from Funafuti, Ellice Islands, when his B-24D Liberator was reported missing Nov. 23, 1943. **Contact:** Adrienne (smhcapa@bellsouth.net).

Seeking **Kenneth F. Kelleher**, a mechanic at bases in Spain and Morocco, who knew Inger Maria Garslev. **Contact:** Lynn Kelleher, Radvroenget 94, Nyborg Fyn, Denmark 5800. ■

If you need information on an individual, unit, or aircraft, or want to collect, donate, or trade USAF-related items, write to "Bulletin Board," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Items submitted by AFA members have first priority; others will run on a space-available basis. If an item has not run within six months, the sender should resubmit an updated version. Letters must be signed. Items or services for sale, or otherwise intended to bring in money, and photographs will not be used or returned.



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# Pieces of History

Photography by Paul Kennedy

## From Tigers to Vipers



Robert L. Scott Jr. authored many books, but none more famous than *God Is My Co-Pilot*, his 1943 collection of rousing stories about Flying Tigers taking on Japanese pilots over China. Dennis Morgan, Raymond Massey, and Alan Hale starred in the 1945 movie version of this Scott autobiography. Memorabilia displayed here highlight not only the years covered by the book but

also other periods from Scott's 30-year Air Force career. For example, he acquired the uniform in back—with its "tar bucket" hat—as a West Point cadet. Two years after his graduation, in winter 1934, he flew the air mail, recording his experiences in his pilot's logbook (foreground). Scott wore the belted jacket shown above when he commanded the Flying Tigers of the 23rd

Fighter Group, Kunming, China, during the period July 1942 to January 1943. In the war, the author flew 388 combat missions and was credited with 10 confirmed aerial victories. During the 1980s and 1990s when the retired brigadier general made several flights in the B-1 bomber and the F-15 and F-16 fighters, he wore the contemporary flight helmet shown here.

Memorabilia courtesy Museum of Aviation, Warner Robins, Ga.

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