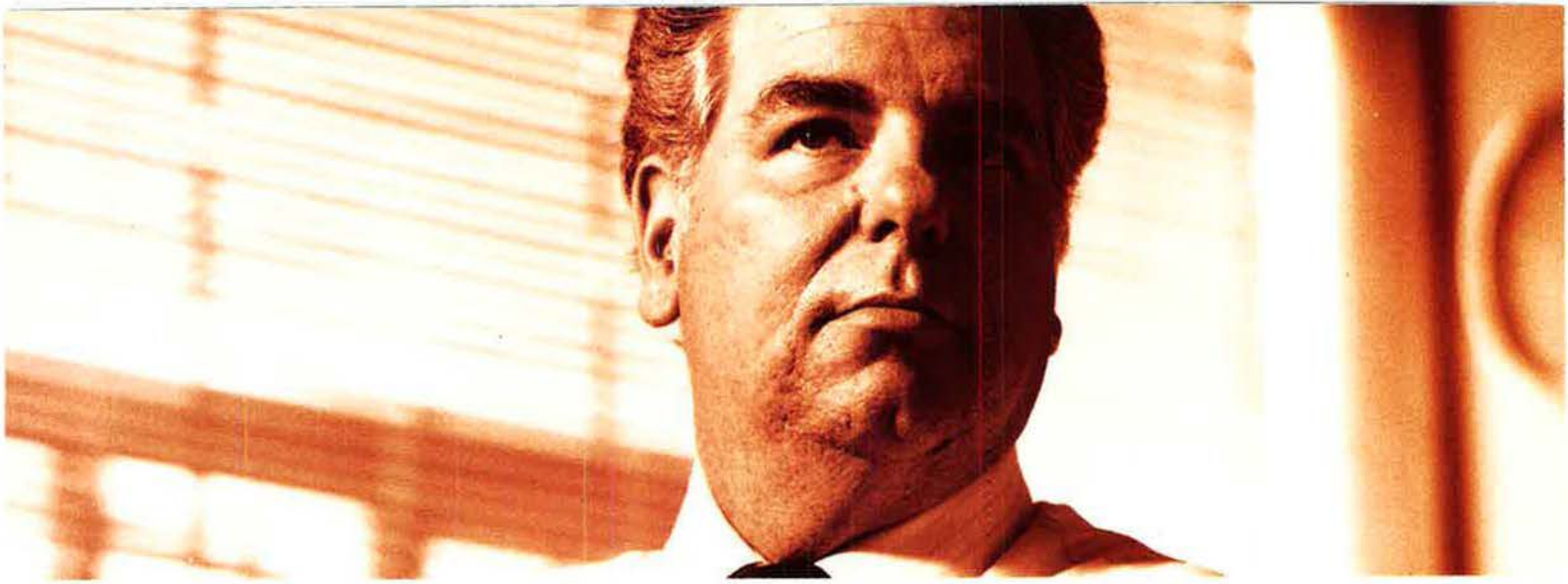
JULY 1995/$3

AIR FORCE

PUBLISHED BY THE AIR FORCE ASSOCIAT

MAGAZINE

Green Flag



Frank Statkus, Vice President, F-22 Program Manager, Boeing Defense & Space Group

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F22
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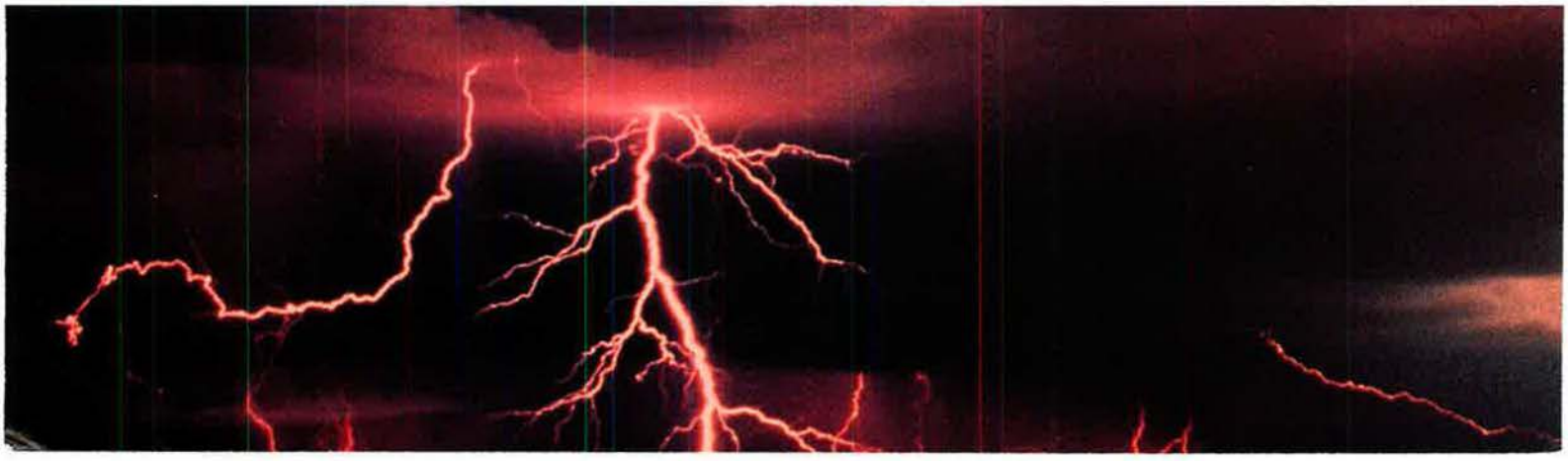

July 1995, Vol. 78, No. 7

AIR FORCE MAGAZINE

PUBLISHED BY THE AIR FORCE ASSOCIATION

About the cover: TSgt. Teresa L. Bosch, of the 609th Air Intelligence Squadron, Shaw AFB, S. C., prepares post-strike imagery, part of the intelligence planning for the best in electronic combat flying exercises. See "Green Flag," p. 42. Staff photo by Guy Aceto.

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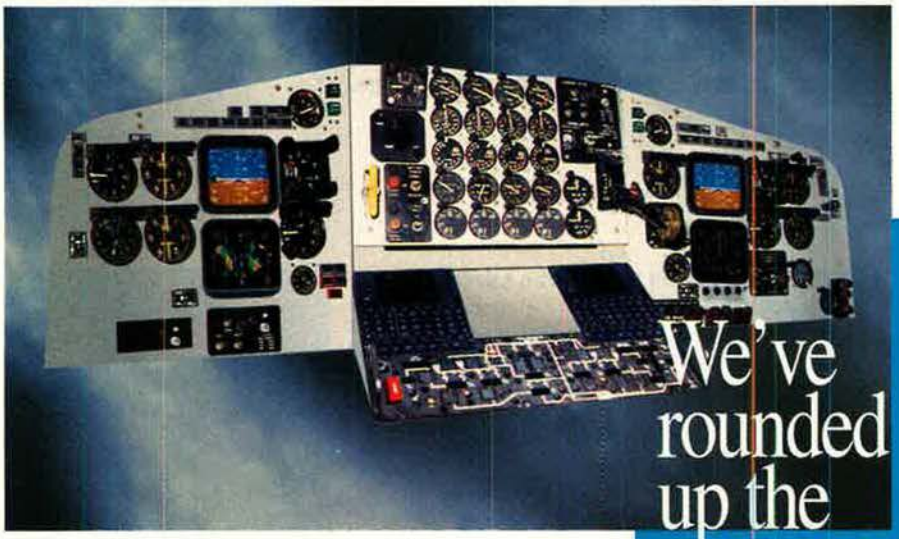

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Editorial

By John T. Correll, Editor in Chief

Health Care in the Lurch

IT WILL come as a big surprise to most military retirees to hear that they are not entitled to government-sponsored health care. According to various budgeteers and other federal officials, medical care for armed forces retirees and their families is just a "contingent benefit." It was never established in law as an entitlement. In effect, it is a privilege rather than a right.

That message is pressed with particular intensity by the Congressional Research Service in a report about the consequences of closing military bases and shutting down the military health-care facilities on which retirees had relied. (This month, we publish a condensed version of that report. See "Base Closure and Retiree Health Care," p. 74.)

The point, of course, is not a philosophical distinction between entitlements and benefits. It is saving money, and "contingent benefits" are a naturally easier target than entitlements.

Budget cutters would like to scale back the service medical programs to the austere wartime minimum, leaving dependents and retirees to get their health care from the private sector. This idea is further advanced by the charge that the military medical system is excessively shaped by peacetime demands, with the result that hospitals have plenty of obstetricians and family-care practitioners but not enough specialists in the treatment of wartime wounded.

The issue, however, is not strictly one of streamlining military hospitals and clinics for combat and readiness. The Congressional Research Service and those of similar persuasion do not recognize sponsored treatment programs, like CHAMPUS and Tricare, as entitlements either.

To the exasperation of the budgeteers, almost ninety percent of military retirees believe they were promised health-care benefits for life. The Military Coalition, an alliance of military and veterans' groups, has collected examples of recruiting literature in which exactly such promises were made. As recently as 1993, an Army brochure declared, "Health care is provided to you and your family while you are in the Army, and for the rest of your life if you serve a minimum of twenty years of active Federal service to earn your retirement."

Asked by *Air Force* Magazine to comment, Congressional Research Service acknowledged that promises were given but took the position that the people making these promises had no authority to do so. That argument is legalistic and shabby.

It is dishonest to pretend that medical care was never promised as a military retirement benefit.

Past generations of recruiters, retention counselors, commanders, and supervisors did tell people—because they believed it themselves—that lifetime medical care was a retirement benefit. It was an article of faith throughout the force, and if the assumption was wrong, it's curious that so little was said about it until recently. People based their career plans and retirement plans on a belief that the government would honor the obligation.

The number of military retirees has now reached 1.5 million, reflecting the large standing force of the Cold War era. That is a lot of people expecting to exercise their "contingent benefit" to health care, either in a military medical facility or in a private-sector alternative.

Since 1988, more than 500,000 retired beneficiaries have lost access to military hospitals and clinics because of base closures. "Space available" treatment for retirees is rapidly becoming nonexistent in the base facilities that remain. The Air Force assured retirees in a newsletter circulated in May that it has "no intention of cutting them loose" from the medical-care system, but budget pressures will make that position increasingly difficult to sustain.

The Department of Defense is moving toward nationwide implementation by 1997 of the new multiple-option system called Tricare, but retirees age sixty-five and older, who are eligible for Medicare, are excluded from Tricare. And if military hospitals treat these individuals—as they did some 230,000 Medicare eligibles in 1994—they do it without any funding to compensate for the additional patient load. Present law blocks the transfer of coverage money from Medicare to the Department of Defense.

At present, the armed forces operate 124 military hospitals and 504 clinics. This infrastructure has not stopped shrinking, and it is obvious that most beneficiaries, who now total 8.2 million, will have to go elsewhere. The system cannot continue to deliver care in the same way it has done in the past.

There is no available solution that will satisfy everyone. A realistic-sounding view of the future was given by the Commission on Roles and Missions of the Armed Forces in its May 1995 report, which envisioned a system with "high accessibility to quality medical care for all beneficiaries (including the Medicare-eligible) at no cost to active-duty personnel, at no increased cost on average to active-duty families, and at reasonable cost to retirees and their families."

However it shakes out, we have heard more than enough about how retiree medical benefits are some sort of privilege that can be withdrawn at any time. It is dishonest to pretend that medical care was never promised as a retirement benefit. It is condescending to claim that the commitment should not have been taken seriously. Agreement on this point is fundamental to resolution of the issue. ■

Letters

Struggling With History

Congratulations on an outstanding editorial in the May issue *["Japan's Struggle With History," p. 5].* It is unfortunate that, as generations go by, history is being rewritten to suit politics and appeasement.

Those who lived in the 1930s and 1940s know full well the meaning of "Remember Pearl Harbor." Japan was a ruthless aggressor in Asia and the Pacific, as was Germany in Europe. When World War II finally came, it was fought to win and restore world peace. As you said, the right side won and the wrong side lost.

I wonder what the world would be like today if we had treated Japan and Germany the way they perhaps deserved to be treated. We spent our time and money to encourage the growth of a strong Japan and Germany, while they had free security. Instead of being vanquished nations, they are among the leaders of the world in business and wealth, thanks to our postwar policies. Now, they can attempt to change historical perspectives on the conduct of World War II.

Unfortunately, when those of us who have lived those years are gone, they may very well succeed.

Col. Chester Czepyha,
USAF (Ret.)
Sanbornville, N. H.

"Japan's Struggle With History" prompts me to declare that I, for one, will not celebrate "victory in the Pacific" but will choose to continue celebrating V-J Day, which, by the way, is September 2, the date of the formal signing of the surrender documents aboard *USS Missouri* in Tokyo Bay, not August 15, as you stated in your editorial.

The surrender brought on by the dropping of the two atomic bombs saved countless lives, mine included. Invasion of the Japanese homeland would have caused a disastrous number of casualties.

If any of our learned college professors wish to change the history of World War II, take them to Pearl Harbor and let them stand at the *USS Arizona* Memorial and contemplate who the aggressors were. . . .

Robert Serveiss
Reston, Va.

■ *The Allies announced Japan's acceptance of peace terms and the cessation of hostilities on August 15, 1945, touching off the celebrations normally associated with V-J Day in Allied nations. Both September 2 and August 15 can legitimately be referred to as "V-J Day."*—THE EDITORS

On the fiftieth anniversary of V-E and V-J Days, the May issue of *Air Force* Magazine unfortunately declined an opportunity to strike a positive note. Your vilification of World War II Japan unintentionally encourages Japanese nationalism and American isolationism, two conditions that fueled World War II. *Air Force* Magazine's readers deserve commentary that goes beyond shrill indictment of a World War II adversary and a dogged defense of the *Enola Gay.*

Rather than taking a backward look in anger, you could have commented on the evolution of US-Japan relations and the challenges that lie ahead. For example, with a Gross Domestic Product that is predicted to eclipse ours in a few years, Japan can't continue the free ride that US military power has provided. Yet, east Asia has bad memories of a Japanese occupation.

The most troubling aspect of your editorial was the sanctimonious moralizing about who was on the right side and who was on the wrong side. War brings out the best and the worst in us. War is always a tragedy and sometimes a necessity, as it was in World War II. But right and wrong get blurred, as during the March 1945 bombing raids on Tokyo that killed an estimated 100,000 Japanese civilians. Likewise, the Allies reduced Dresden, Germany, a baroque masterpiece, to a lunar landscape, killing up to 35,000 civilians. This cannot be dismissed simply as just deserts for the bad guys. There is sufficient culpability in war's death and destruction to go around.

Air Force Magazine misses the point of the fiftieth anniversary of World War II. It's not about who's right or wrong. It's about honoring our courageous servicemen and -women and then burying the hatchet. No crowing. No moralizing. Abraham Lincoln's Gettysburg Address honored the courageous soldiers, living and dead, Union and Confederate, in America's bloody Civil War. In his second inaugural address, President Lincoln counseled malice toward none and charity for all and binding up the wounds of a divided nation. His words of more than 100 years ago ring true today.

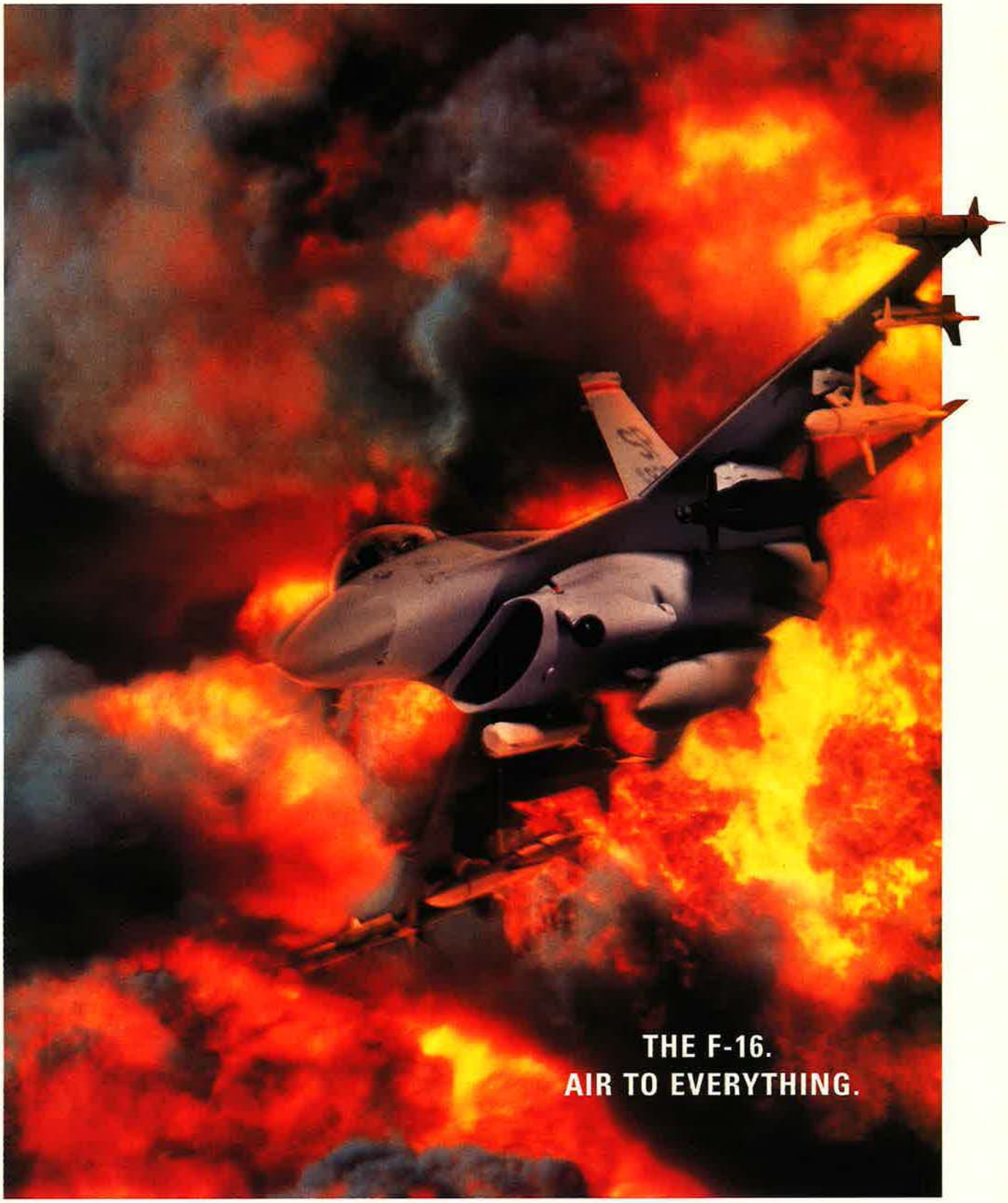
Don Markham
Rolling Hills Estates, Calif.

Congratulations on your May editorial.

Thanks to the leadership of the Disabled American Veterans, Veterans of Foreign Wars, and the Air Force Association, we have prevailed over the groups who would apologize for Hiroshima and the *Enola Gay.*

I am reminded of our counterparts in the Royal Air Force. Members of a bomber association elected to honor their World War II commander, Air Marshal Sir Arthur "Bomber" Harris, with a heroic, nine-foot bronze statue of the Air Officer Commanding in Chief, Bomber Command. The Germans protested that Air Marshal Harris was, in fact, a war criminal who had gutted German cities. Members of RAF Bomber Command's Memorial Association responded with, "Make no mistake. We are not seeking or asking for German permission."

Do you have a comment about a current issue? Write to "Letters," *Air Force* Magazine, 1501 Lee Highway, Arlington, VA 22209-1198. Letters should be concise, timely, and preferably typed. We cannot acknowledge receipt of letters. We reserve the right to condense letters as necessary. Unsigned letters are not acceptable. Photographs cannot be used or returned.—THE EDITORS



LOCKHEED MARTIN

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We owe no one an apology for the conduct of the US Army Air Forces in World War II.

CMSgt. Thomas W. O'Brien, Jr., USAF (Ret.)
New Braunfels, Tex.

Thank you, *Air Force* Magazine, for providing the necessary leadership to depoliticize the Smithsonian's *Enola Gay* project. Your voice was a clarion.

However, the views expressed by some readers were no less ideological or intemperate than those expressed at the Smithsonian. Worse, some reflected revenge as their primary motivation. This apparently was the reason behind David Napoli's statement, "Pearl Harbor was still fresh in our minds," and Gordon Sharp's statement, "Its unique culture could not save Japan from its well-deserved fate" *[see "Backlash to the Backlash," April 1995 "Letters," p. 6].* I do not deny that revenge plays a part in some wartime acts, but it is too much to either extol or rationalize it afterward.

Furthermore, if it is a "fact" that 50,000 or 250,000 Americans would have been killed in a land invasion, it is just as much a "fact" that a demonstration shot (or two) would have caused the immediate capitulation that did occur. Arguments against a demonstration shot may be plausible, even persuasive, but none of them is convincing. It should have been tried, but this does not lessen the heroism of our crews.

Rolland D. Truitt
Summit, N. J.

ANG's State Missions

In "Letters" *[March 1995, p. 7],* SMSgt. Noel A. Sivertson asked why there is an Air National Guard and why those fighters, tankers, and cargo aircraft are not put in the Air Force Reserve. He also asked, "Can anyone remember the last time a governor called up or activated a fighter wing?"

We can. It was July 1993. Missouri Gov. Mel Carnahan called Missouri ANG members to duty to respond to local flooding. Included were members of the 110th Fighter Squadron and the 131st Fighter Wing. Also on duty at the time were men and women from Missouri's two other major ANG units, the 139th Airlift Group and the 157th Control Group.

Like Army National Guard units, Air National Guard units serve routinely in times of disaster. Like Army Guard units, they sometimes don't do the same missions they would in wartime. Missouri's field artillery units and our fighter wing didn't put steel on targets during their 1993 duty. Instead they used all the other skills that military units possess—organizational and leadership skills to help people in need and bolster overburdened civilian public safety agencies.

Those state missions are paid for by the state, so state duty is performed without hurting the federal mission. Even when units are not on state duty, the state bears some of the day-to-day operating costs of units and bases.

The recent William Tell win by the 119th Fighter Group of North Dakota is continuing proof that our ANG units are ready and able to perform their federal mission at the highest level of readiness.

The ANG is a high-quality federal reserve force, readily accessible for short-notice missions. It works daily as a part of the Total Force team worldwide from Sarajevo to Aviano to Somalia, Rwanda, and Haiti. It is also a highly effective force for emergency relief at home in times of disaster. This unique dual role makes the Air National Guard one of the most cost-effective components of our armed forces.

Maj. Gen. Raymond L. Pendergrass, Mo. ANG
Jefferson City, Mo.

I find it almost unbelievable that after twenty years of the Total Force concept, we still have active-duty personnel who do not know or do not understand the function and role of the Air National Guard. It is obvious to me that most Guardsmen know more about the US Air Force's active component than the active-duty members know about us.

It is unfortunate that the current budget-cutting in the Defense Department has fostered an atmosphere of self-preservation at the expense of the Reserve and ANG components of the Total Force.

Sergeant Sivertson may not realize that the Air Force can no longer go to war without the ANG component. A simple review of *Air Force* Magazine's annual Almanac will dramatically illustrate just how much of the mission is in ANG.

Another fact that Sergeant Sivertson fails to appreciate is that the Air Force has routinely moved weapon systems into ANG to save the system and mission when the budget-cutters begin work. A classic example of this

are the B-1 bombers newly assigned to Kansas ANG and Georgia ANG. Without ANG, when the budget-cutters come a-calling these systems would be lost permanently.

As to Sergeant Sivertson's question about the last time a governor called up a fighter unit for state active duty, one answer is Hawaii in September 1992. The 154th Composite Group was activated for hurricane relief. This included the 199th Fighter Squadron. We also have a tanker squadron and a C-130 airlift squadron. Along with our sister ANG units, who provided airlift support, the presence of flying units in ANG ensured that the infrastructure was already in place to achieve successful relief and recovery. This was all accomplished while our F-15A MSIP fighters remained on twenty-four-hour active alert, as they have since 1957.

Maybe Sergeant Sivertson is asking the right question but is confused about who should be moving. Should more active-duty flying wings be moving into the ANG and Reserve? I believe we can do it better for less, since the ANG has always been doing more with less.

Maj. David C. Snakenberg,
Hawaii ANG
Hickam AFB, Hawaii

"Voluntary" Retirement

I found the comments made by Gen. Henry Viccellio, Jr., concerning the antirecruiter role of those who "volunteered" to leave the Air Force to be no surprise *["Washington Watch: The Risk of a 'Hollow Future,'" May 1995, p. 15]*. It would be surprising to learn that any senior officers who originated or supported the policies and procedures of the early retirement boards and forced retirement of nonselectees to the rank of lieutenant colonel did not expect this. In particular, a lessening of interest in ROTC scholarships was predictable, considering the harsh impact of reductions on officers who served for approximately seventeen to twenty-four years.

First, for many officers, the term "voluntary" gained a new definition: Retire now or be kicked out. With such a wide selection of career choices, we "volunteered" to retire. Thus, the Air Force can hide such forced reductions under the term "voluntary retirement."

Second, for those forced to leave, the methodology used and explanations given left many officers with no confidence in the personnel system. The promotion or selection criteria and fail-safes, touted as the fairest possible, seemed to disappear. No objective scoreboard was openly acknowledged as providing for a direct comparison of individual abilities and attributes. Written guidelines of doing the best job possible, completing civilian/military education needs, and competing for jobs of higher responsibility did not seem to apply.

For those who had worked hard and had been selected for promotion below the zone, in-residence military schools, command positions, and Air Staff, joint, or DoD positions, to then be notified that they were no longer good enough to be promoted or remain in service was a numbing experience. When you compare your service accomplishments with those who remain and no correlation is found, frustration and disillusionment rise. Assurances of fairness hold no value when selection parameters continue to be hidden—if they exist at all.

These experiences are passed on to family, friends, and ultimately to those prospective recruits in high school and college. I know this because my new career brings me into direct contact with these students across the country. The best students, along with their school counselors, spend hours researching different educational and career opportunities. The security of employment, potential for advancement, and fairness of employer-employee interaction are factors they want to know about and place value on. These are areas in which the Air Force, and the military in general, fall short.

If people are truly the most prized asset of the Air Force, they should be treated fairly and openly with a list of determinants or factors used to decide who stays or goes. It seems the Air Force has no intention of letting us know these determinants, as noted in the efforts of some to take legal action against the processes used. This behind-closed-doors approach to such decisions makes it difficult for those who have experienced it to have faith and trust in this system—much less recommend it as a future career to anyone.

Maj. William C. Summers, Jr.,
USAF (Ret.)
Clarksville, Tenn.

A One-in-a-Million Story

"Pieces of History" *[February 1995, p. 88]* provided a one-in-a-million story. The night I received that issue, I happened to glance at "Name, Rank, and Serial Number." I looked closer at one of the small photos depicted and read the inscription: "2Lt Vaughn, K. L., POW #2234." It's my father, the day he became a resident of Stalag Luft I near Barth, Germany.

In 1982 while I was attending the Air Force Institute of Technology, my parents visited my wife and me, and we took a tour of the Air Force Museum. Among the various exhibits was a POW display, which at that time had a modest sampling of World War II memorabilia. Upon returning to his home, my father decided to donate some of his POW items, some of which (like the photo ID on p. 88) I had never seen. . . .

Thank you, Air Force Association. Not only was this "Pieces of History" a source of great pride and reflection for my family, it reconfirmed why I proudly serve our nation. Of course, my dad's story is one of many for the thousands of veterans who know firsthand the real meaning of the phrase "Freedom isn't free." I will always salute Col. Kenneth L. Vaughn, USAF (Ret.), and those like him who fought to maintain the freedom we Americans enjoy today. . . .

Lt. Col. Robert J. Vaughn,
USAF
Clifton, Va.

The Correct Super Sabre

"Fogleman Begins His Mission" *[March 1995, p. 22]* ascribes General Fogleman's Purple Heart medal to "injuries sustained when his F-100F was shot down." General Fogleman was shot down while flying a single-seat F-100D (not a two-seat F model), tail number 56-3245.

The incident occurred on September 12, 1968, while he and I were assigned to the 510th Tactical Fighter Squadron at Bien Hoa AB, South Vietnam, and he was flying a close air support mission in the IV Corps area of South Vietnam.

David S. Osterhout
Arlington, Va.

Look for the "Droop Snoot"

The photo on p. 19 of "Aerospace World" in the April 1995 issue is one of an EC-18B, not an EC-135 as stated in the caption. Eight former American Airlines 707-323Cs were procured by the Air Force in the early 1980s and refitted as military aircraft with the designation C-18A.

Later, four of these C-18As were modified with the so-called "droop snoot" radar noses (as shown in the photo) for use as advanced range instrumentation aircraft (ARIA) with the designation EC-18B.

I was stationed at Wright-Patterson AFB, Ohio, when these conversions were made by the 4950th Test Wing of Aeronautical Systems Division.

Lt. Col. John Langley,
USAF (Ret.)
Colorado Springs, Colo.

The Chart Page

By Tamar A. Mehuron, Associate Editor

Defense Dollars by State: The Top Ten

Lineup of States and Procurement Funds (amounts in thousands)

State	1994	1993	Change From 1993	Percent Change From 1993
California	$ 22,573,106	$ 22,951,965	–$ 378,859	–1.65
Texas	8,145,430	9,010,273	–846,843	–9.60
Virginia	8,017,082	7,482,748	+534,334	+7.14
Missouri	6,146,610	5,605,884	+540,726	+9.65
Florida	5,910,498	6,485,989	–575,491	–8.87
Massachusetts	5,105,861	5,935,650	–829,789	–13.98
New York	3,629,346	4,641,425	–1,012,079	–21.81
Ohio	2,965,510	3,445,640	–480,130	–13.93
Louisiana	2,148,116	1,554,603	+593,513	+38.18
Arizona	1,974,863	2,593,378	–618,515	–23.85

Note: Contract totals are for prime contracts over $25,000. The FY 1993 and FY 1994 figures for prime contract amounts include the following contract categories: supply and equipment, RDT&E, service, construction, and civil function.

Source: Department of Defense, *Atlas/Data Abstract for the United States and Selected Areas, Fiscal Year 1994.*

Even as the defense procurement budget shrank, California continued to receive the largest portion of spending on military hardware, according to a recent Pentagon report. The Department of Defense in Fiscal 1994 awarded prime contracts totaling $110.3 billion, marking a 3.3 percent decline from the Fiscal 1993 total of $114.1 billion. California captured $22.6 billion (or 20.5 percent) of the 1994 total. Texas was second with $8.1 billion, and Virginia was third with $8 billion.

Other states in the top ten were Missouri, Florida, Massachusetts, New York, Ohio, Louisiana, and Arizona. Of these, only Missouri and Louisiana gained more prime contract funding in FY 1994 than in FY 1993, with 9.65 percent and 38.18 percent increases, respectively. New York lost the most funding in FY 1994 with a $1 billion drop, or 21.8 percent, from FY 1993.

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Capitol Hill

By Brian Green, Congressional Editor

The House Votes for Growth

The House now outstrips the Senate in support for higher defense spending.

THE HOUSE decision to jack up the Pentagon's latest budget plan by nearly $70 billion underscores a significant shift in the structure of power on Capitol Hill: While both the Senate and House have become more defense-minded, the House has supplanted the Senate as the more hawkish of the two chambers.

Not since the 1970s, before the first Reagan electoral sweep, has this been the case. The Republicans' November victory drove out a generation of Democratic committee heads, including Rep. Ron Dellums (D-Calif.), who was chairman of the House Armed Services Committee. Now, in both chambers, leaders of the key defense committees strongly support a larger military budget than that proposed by the Clinton Administration.

In the House, however, the rank-and-file membership has voted decisively in favor of such growth. When it voted on its own budget resolution, the Senate adopted a lower level of defense funding.

The House sanctioned a Fiscal Year 1996 budget resolution approving a defense top line of $267 billion in budget authority and $265 billion in outlays (the amount actually to be spent in 1996). The budget resolution represents a $9.5 billion increase in budget authority, compared to President Clinton's proposal.

The long-term spending package incorporated into the resolution has been characterized as a "hard freeze" at Fiscal 1995's level of about $272 billion in outlays, with no adjustment for inflation. Outlays would slowly rise from $265.1 billion in Fiscal 1996 to $279.2 billion in 2002 but would average about $272 billion over the six-year period.

Spending under the "hard" outlay freeze would surpass the Clinton defense budget numbers by about $68 billion over seven years.

Meanwhile, defense budget authority over that period would rise at about the pace of inflation.

The resolution vote in the House was 238-193. All House Republicans but one supported the resolution; eight Democrats voted for it. President Clinton opposed the measure. The House rejected three alternative budgets that would have provided less money for defense than the resolution approved. None of the options attracted more than 100 votes.

The Senate, however, approved a budget resolution that incorporates the defense spending levels proposed by President Clinton. The Senate Budget Committee endorsed that level, in spite of strong language in its report contending that the Administration budget "fails to provide adequate funding to meet the full spectrum of national security requirements."

By a vote of 60-40, the Senate rejected an amendment that would have pegged the Senate budget resolution at the House-approved level. Of the fifty-four Senate Republicans, seventeen opposed the higher defense spending limit; only three Democrats supported it.

Both the House and Senate Budget Committee reports criticized the Administration for shortchanging modernization, but only the House budget resolution assumes an increase in 1996 modernization funding. The House plan would spend $45 billion for procurement, about $6 billion more than proposed by the Administration. It also assumes a $35 billion research and development budget, a small increase over the Administration proposal. Operations and maintenance, personnel, and military construction would remain consistent with the Administration request.

The House budgeteers noted an "overly ambitious strategy funded by a budget that understates the forces necessary to implement the strategy." Savings, both the House and Senate reports suggest, could be found by cutting "nondefense" spending in the defense budget. The House also focuses on eliminating funding to convert defense industries to commercial use, comprehensive acquisition reform, and reducing DoD "infrastructure, overhead, and bureaucracy."

Rep. Floyd D. Spence (R–S. C.), chairman of the House National Security Committee, expressed satisfaction with the budget resolution defense allocation. "This defense budget plan will get us started on a wide range of initiatives to enhance our military posture—modernization, improved readiness, and better quality of life for our servicemen and -women and their families," he said.

Budget Plans May Hit Vets

Even though the House budget resolution pushes hard for additional defense spending for today's forces, veterans would not fare as well. Both the House and Senate resolutions make substantial cuts in the Veterans Affairs budget. When measured against spending in the current law, the House recommends a $7 billion trim over a seven-year period, while the Senate resolution lops off $13 billion in outlays. Compared to the five-year Clinton Administration budget plan, the House would trim about $2 billion in outlays and the Senate about $5 billion.

While the resolutions do not mandate particular cuts, both committee reports propose reductions. Both would target major Department of Veterans Affairs construction. The House resolution assumes a savings of $1 billion from reductions to medical program construction. The Senate would cancel all major VA construction, arguing that the veteran population will start to fall in a few years, before such facilities would be completed.

The House resolution suggests increased copayments for prescription drugs, limits on benefits to mentally incompetent veterans, a permanent additional loan fee for veterans buying a house through the VA, and limits on GI Bill cost-of-living adjustments.

The Senate measure also recommends higher prescription drug copayments, "targets compensation in the future to veterans disabled in combat . . . and during performance of duty," and would reset service members' contributions to their GI Bill benefits at the higher pre–Persian Gulf War level. ■

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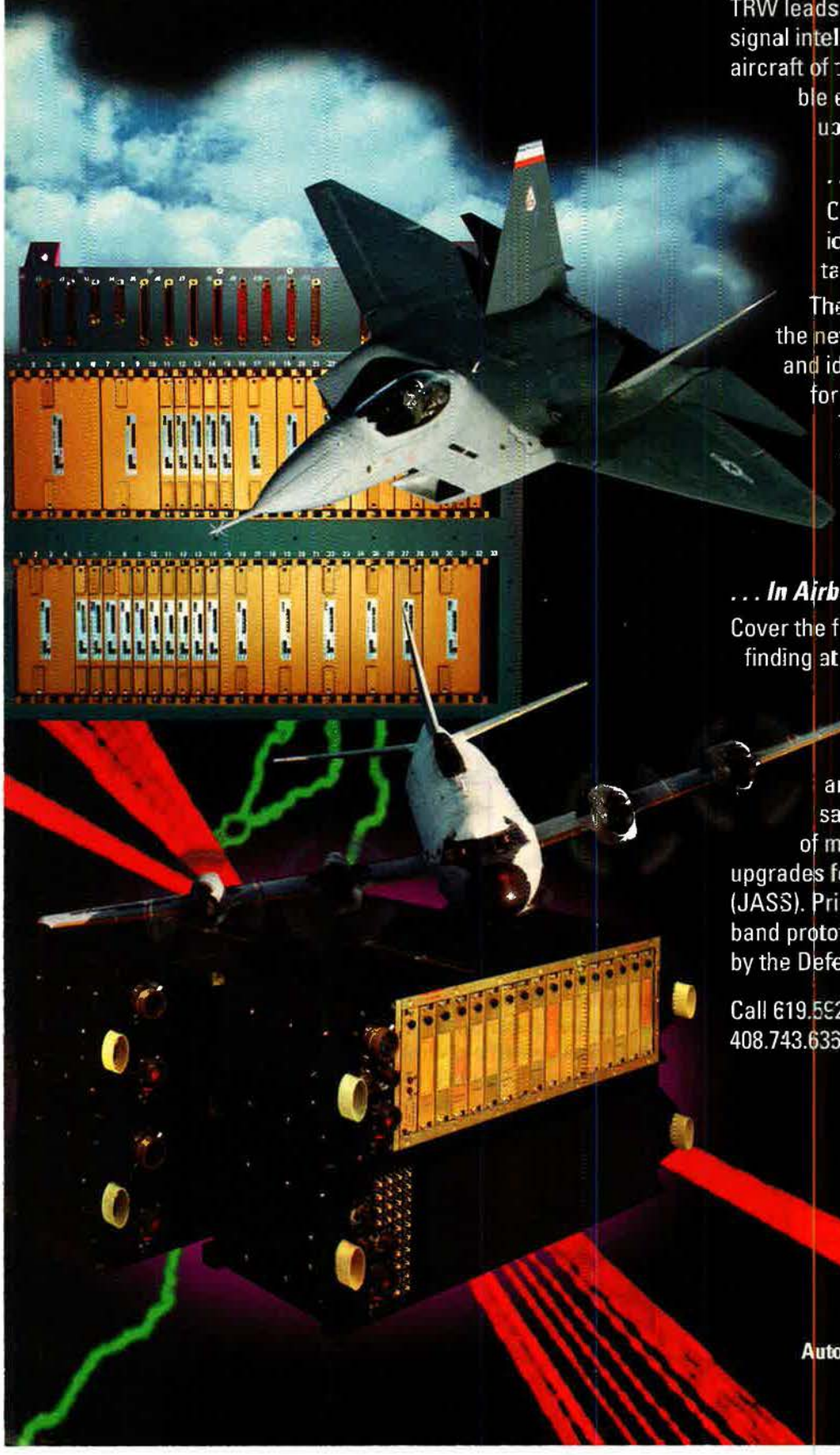

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Washington Watch

By John A. Tirpak, Senior Editor

The Pentagon Declines More B-2s

The decision draws support from a think tank study saying twenty stealth bombers are enough. Doubts persist in Congress, and industrial base questions are still open.

THE BOMBER force authorized in the 1993 Bottom-Up Review is still the best one taxpayers can afford, and no further purchases of the stealthy B-2 Spirit are warranted, a Defense Department study concluded in May.

The Heavy Bomber Force Study, mandated by Congress and performed by the Pentagon and the Institute for Defense Analyses (IDA), yielded findings that were hardly surprising. They coincide precisely with what Pentagon leaders have been saying for the last two years—namely, that more B-2 bombers would be useful in a crisis, but no more can be bought without dislodging higher-priority items from the defense budget.

Air Force and Pentagon leaders have long since closed ranks behind this position. Many on Capitol Hill, however, remain skeptical of the findings because, they argue, the study's basic assumptions do not jibe with real-world experience or reasonable expectations. Some congressional supporters of additional B-2s—on both sides of the aisle—found enough flaws to dismiss the study outright.

Still, as the official opinion of the Defense Department, the study's conclusions carry political weight. A second part of the analysis—deciding whether a unique bomber industrial base must be preserved—was still under way. Results of that study are expected this month.

Sen. Sam Nunn (D-Ga.), the Senate Armed Services Committee's ranking Democrat and former chairman, favored the production of more bombers, but he said the study's findings make it "an uphill climb" to obtain any more of the stealth bombers.

The study results "do not make the case for buying additional B-2s," announced Paul G. Kaminski, under secretary of defense for Acquisition and Technology, at a May Pentagon press conference.

Dr. Kaminski said that, while the research showed there is indeed "additional value" in having more B-2s, what stood out was "the much greater cost effectiveness that can be derived from [investing in] advanced and accurate weapons" that boost the abilities not only of existing bombers but of tactical aircraft as well.

The analysis, he said, was the "most comprehensive" look at bomber requirements in nearly two decades and took into account "all the relevant forces" that affect this nation's ability to project power at long range, including tactical air forces, which often have been considered separately.

Dr. Kaminski also owned up to being "the culprit" for a two-week delay in the release of the report's findings, having "forced more severe" scenarios, "just to be sure I was satisfied that we had covered the waterfront" and rendered the report as complete as possible.

Dr. Kaminski reported that the IDA study "illuminated the overwhelming importance that tactical air plays in the two-MRC [major regional conflict] scenario and the fact that you can't ignore the impact of tactical air in making this decision, as have many other studies of this issue."

The money that might be spent to acquire more than the planned twenty B-2s would be much better devoted to precision munitions *[see box, p. 14]* and conventional attack upgrades for the existing bomber fleet, including the B-2, Dr. Kaminski said.

The B-2 upgrades—beyond the currently planned final Block 30 configuration—could include radar upgrades, the ability to carry more and different munitions—such as the Wind-Corrected Munition Dispenser (WCMD)—improvements to communications, and software updates.

The bomber question has flared repeatedly in recent years. USAF's June 1992 Bomber Roadmap revised the requirement, reducing it from 300 or so to only 211 operational B-1s and B-52s. One year later, Gen. John Michael Loh, commander of Air Combat Command, told Congress that USAF needed "about 180 to 200 operational bombers."

Then, in late 1993, the Bottom-Up Review concluded that, though the US required 100 bombers for each of the two MRCs in the strategy, it could safely keep a total of 180 bombers, of which only 100 needed to be operational. In Senate testimony, Under Secretary of the Air Force Rudy de Leon said, "The analysis concluded that deploying 100 bombers forward . . . would, in conjunction with other forces, including fifty-four F-111Fs, be sufficient to fight two nearly simultaneous major regional conflicts. Deployed bombers were shifted from the first to the second MRC, so that the total needed for the two-MRC scenario was still 100 bombers."

At present, the planned bomber force consists of a total aircraft inventory of 181 aircraft: sixty-six B-52Hs, ninety-five B-1Bs, and twenty B-2s.

The new analyses behind the Heavy Bomber Force Study set existing forces against several scenarios—some more "stressing" than others—that were then gamed in computer simulations, or "excursions." Most scenarios postulated two nearly simultaneous MRCs: one war already under way in southwest Asia when another breaks out in the Far East.

However, Dr. Kaminski set up one extreme case—a war in which no tactical aviation, landbased or carrier-based, could get to the scene for fifteen days and in which bombers alone had to halt the advance of enemy troops. Under such conditions, the planned bomber force gave up fifty percent more ground than would have been the case if the total force, including tactical aircraft, participated.

It was not until the bomber force was enhanced with sixty more B-2s, for a total of eighty, that its perfor-

Precision Munitions

The Heavy Bomber Force Study favors spending money on advanced precision weapons rather than on further production of B-2 bombers. Some of these weapons are:

- AGM-86C Conventional Air-Launched Cruise Missile (CALCM): A nuclear cruise missile converted to carry a 1,000-pound conventional warhead with blast effects comparable to those of a 2,000-pound bomb. Guidance is by Global Positioning System (GPS) satellite receiver.
- Joint Direct Attack Munition (JDAM): A GPS/INS tailfin kit that will permit a standard bomb to guide itself to within a few meters of a target without the need for the launching aircraft to guide it by means of laser or TV tracker. JDAM was undertaken to provide a precise target attack capability in bad weather. There will be 500-, 1,000-, and 2,000-pound variants of JDAM. A later version will have a terminal seeker.
- Joint Standoff Weapon (JSOW): A stealthy glide bomb or dispenser that can be launched fifty miles from a target. Intended to be inexpensive, partly through use of some common components with JDAM. A more sophisticated variant is planned with a terminal, man-in-the-loop imaging infrared seeker.
- Wind-Corrected Munition Dispenser (WCMD): An INS tailfin kit that will allow attack aircraft to drop dispenser weapons from high altitude or without directly overflying the target, while maintaining the accuracy of a low-altitude drop.
- Sensor-Fuzed Weapon (SFW): A dispenser of submunitions that seek out armored vehicles and destroy them by firing down a shaped copper projectile. The SFW is intended to permit multiple-kills-per-pass, minimizing the kind of "tank plinking" required of aircraft in the Gulf War.
- Joint Air-to-Surface Standoff Missile (JASSM): A stealthy weapon with a 2,000-pound-class warhead, able to strike a target with high accuracy after a flight of several hundred kilometers. This is the replacement for the canceled AGM-137 TSSAM system.

mance was equivalent to that of the already planned bomber force abetted by tactical airpower.

In this scenario, "additional B-2s certainly helped to mitigate the absence of tactical air," Dr. Kaminski said. "But one needs a significant number [of them] to make up the difference."

Moreover, he added, a "substantial increase" in advanced antiarmor munitions would be needed to make the B-2s perform at the postulated levels. The bombers would also have to operate from forward bases, rather than by mounting their missions from their home bases in the continental US.

Dr. Kaminski stated that the "notacair" scenario, despite being unrealistic, was useful in that it came closest to comparing "apples to apples" in relation to previous studies that didn't take into account the tactical strike aircraft. That was important to do both to verify previous assumptions—on which current force levels are based—and to corroborate previous cost estimates.

Dr. Kaminski presented a chart *[see p. 16]* that explains much of the confusion over just how much it would cost to increase the B-2 force by twenty aircraft. It presents six different figures ranging from $14.8 billion to $24.5 billion. All are accurate, in their own way but cover different items. "Not surprisingly, different people who do the [cost estimates] get different results," Dr. Kaminski said.

He noted that studies done by the Air Force, the Pentagon's Cost Analysis Improvement Group, and the IDA are "all really close," at about $25 billion in life-cycle costs for twenty additional B-2s. Numbers developed and publicized by Northrop Grumman, maker of the B-2, came in around $17 billion, a figure that was lower because of "things that aren't included, . . . such as warranties, sustained engineering, and reserve for engineering change orders, additional spares, . . . and learning curve," Dr. Kaminski pointed out.

The IDA-Pentagon study looked at the bomber force as it would be in 1998, 2006, and 2014 and in different configurations involving as few as 114 bombers and as many as 201. The combinations of aircraft in these scenarios varied as well, including no B-1Bs, more B-52Hs, and simply tacking on another twenty B-2s to the planned force.

One scenario looked at the benefits of retiring all ninety-five of today's B-1Bs and using the resulting savings—plus another $4 billion to $5 billion—to buy twenty more B-2s. However, the study found that wartime losses went up substantially because the Air Force had far fewer platforms available.

Looking ahead to 2014, when all the currently planned and a notional extra twenty B-2s would be in the field, "it's very hard to see" the additional effectiveness of more B-2s, Dr. Kaminski said. In aircraft losses, "we did somewhere between five and ten percent better" with twenty more B-2s "than we did with the baseline case." In the number of sorties necessary to complete the mission, "we also did slightly better. But [there were] small differences in each of these cases."

Asked why doubling the number of B-2s didn't seem to help much, Dr. Kaminski explained that "we have ten times more tactical aircraft than bombers involved, so the differences caused by varying the bomber forces are very small when all these tactical aircraft are present. . . . It's lost in what all the rest of the tactical forces are doing."

He noted, though, that bombers are "far more important in the 'halt' phase as tactical air is arriving." After everything has arrived, bombers become less significant in the overall picture.

That assertion is a key one because the study assumed the US would have fourteen days' warning before the outbreak of an MRC, something that isn't borne out by experience. In both the Persian Gulf War and the Korean War, the US had less than a week's warning before the aggressor attacked.

Rep. Floyd D. Spence (R–S. C.), chairman of the House National Security Committee, Senator Nunn, and other members of Congress criticized the fourteen-day warning time as "unrealistic."

That contention was backed up by a separate report, worked up by the staff of the Commission on Roles and Missions of the Armed Forces, which, in addition to studying the division of military tasks and functions between the services, also looked at bomber requirements.

Noting that basic assumptions strongly influence final conclusions, the commission staff report said that if there is an assumption of "little or no warning time," the tide turns in favor of acquiring additional B-2s "to hedge against surprise and increase warfighting options," such as the potential to stop armor invasions without deploying large surface forces.

Though Dr. Kaminski said that the Pentagon-IDA analysts "went down to zero tactical warning time," he could not discuss those results or the planning involved because they are classified.

The Roles and Missions Commission staff report also argued that the Heavy Bomber Force Study gave the Pentagon a fourfold benefit of the doubt as to how fast tactical air assets could reach a theater of operations. The Pentagon study assumed that the US could deploy 800 tactical aircraft in two weeks; in the Gulf War, the US moved only 200 in two weeks.

The Pentagon report, too, assumed substantial host-country basing support, clearly not available in all parts of the world. It also failed to give adequate consideration to a nuclear strike on a forward base of operations, the report contended.

Finally, the Pentagon-IDA study didn't take into account the normal and predictable attrition of bombers over the next twenty to thirty years that, by historical measure, could claim up to twenty-five bombers.

The basic conclusion of the Roles and Missions Commission's staff report, however, was disavowed by the voting members of the commission itself. They released their final report in late May—after the Heavy Bomber Force Study findings had been released.

"We agreed with the DoD conclusion that money spent on precision weapons and other improvements is better spent than on more B-2s," said Gen. Larry D. Welch, USAF (Ret.), the former Air Force Chief of Staff who served on the commission. In a session with defense reporters, General Welch explained, "What the staff reported and what the commission decides can be two different things."

He added that, among the roles and missions panel members, the vote had been "unanimous" on report language supporting the investment in precision weapons "for existing bombers and other strike aircraft or otherwise improving the conventional warfighting capabilities of existing bombers."

But the roles and missions panel urged that no decisions be made that would rule out additional B-2 buys until the Bomber Industrial Base Assessment is completed.

In explaining the results of the Heavy Bomber Force Study, Dr. Kaminski pointed out that the capability of bombers is "very sensitive" to the number and type of munitions available.

When the analysts factored in a twenty-five percent cut in the currently planned number of munitions, "the number of aircraft losses went up almost sixty percent over what they were in the baseline. . . . This has a big impact."

By doubling the planned inventory of advanced munitions, he added, "we reduce the number of losses to a little less than forty percent of what they were in the baseline situation."

While he agrees with the idea of investing more in precision weapons, Senator Nunn said he's worried the Pentagon won't follow through because, historically, it has shortchanged such accounts in the budget.

"It's a bias we have to work against," Dr. Kaminski said in response to Senator Nunn's assertion. He told defense reporters that there has long been a tendency in the armed services to

"buy the platforms this year and buy the munitions [that go with them] next year."

Now, he said, budgeteers are beginning to see the vast improvement in capability that will be offered by the advanced munitions and are beginning to give them the budget priority they deserve.

He allowed, though, that many of the Heavy Bomber Force Study's assertions were based on the success of a long-range, stealthy, standoff munition, very much like the canceled Triservice Standoff Attack Missile (TSSAM).

"The requirement has not gone away" for a weapon of TSSAM's planned capabilities, Dr. Kaminski said, but he acknowledged that TSSAM failed to perform after nearly a decade's worth of effort and would not have appeared in the force "on the schedule advertised." This, he said, "had a fair amount to do with its being canceled."

Though Air Force leaders have testified that the TSSAM's planned replacement, the Joint Air-to-Surface Standoff Missile (JASSM), could be deployed by the time the TSSAM would have entered service, Dr. Kaminski said this was unlikely and that JASSM will probably not reach the field until the early part of the next decade at the earliest.

However, JASSM is not starting from a "clean piece of paper," he said, noting that the Air Force already has a usable powerplant, guidance system, and other subsystems that can be readily applied to it. Northrop Grumman, though, the maker of TSSAM, "most certainly is not" the *de facto* successor to itself as prime contractor.

RAND Corp. tried to drive home the importance of munitions in testimony to the House Appropriations Committee in May about its own analysis of the munitions issue.

Glen Buchan, a RAND analyst, said that without increasing the number of munitions and accelerating the timetable on which they are fielded, the bomber force "will have very limited capability regardless of how large it is."

He added that, with the budget constraints of the last few years, the munitions stockpile early in the next decade "will only be large enough to provide the bomber force with a very limited capability during the early critical phases of a campaign." Adding advanced munitions to the bomber repertoire is "a prerequisite, . . . not a trade-off."

Congress appropriated $125 million last year to preserve a capability to produce B-2s beyond the twenty now planned. The money was earmarked for those manufacturers involved in the early B-2 production process who were beginning to close up shop because all twenty of the bombers have progressed to the midpoint of assembly or further. The funding was designed to keep these companies capable of producing parts until the issue of producing more B-2s could be resolved.

Of the $125 million, some $52 million had been spent by the time the Heavy Bomber Force Study was completed. This was enough to keep the restart option open through the end of this month.

In testimony before the Senate Armed Services Committee, General Loh, then ACC commander, said, "We must preserve our capacity to produce bombers for the long term. We have invested heavily in technologies based on stealth and modern manufacturing techniques that are unique to bombers. Our bomber industrial base is a national asset; we must find a way to preserve it."

Dr. Kaminski, however, said, "If our industrial base study predicts that we don't need to use" the leftover amount from the bomber industrial base preservation funding, "I would then be redirecting those funds back to those high-payoff areas, . . . back into munitions or conventional upgrades."

Another item that emerged from the disclosure of the Heavy Bomber Force Study was that the Air Force plans to retain the B-52H in the active inventory into the 2030s, when the youngest of the type will be more than seventy years old.

Dr. Kaminski told *Air Force* Magazine that he's not concerned about fielding such an elderly aircraft in such a critical role.

"Those are essentially modern airplanes," he asserted. With the Air Force having diligently replaced parts and systems over the years, "it's just like lifting up the nameplate and driving a new plane under there."

Sen. John McCain (R-Ariz.), who opposes buying more B-2s on the basis of affordability, said he "doesn't have a problem" with maintaining B-52s in service for such a long time, if they continue to get adequate inspections and routine system upgrades.

During markups of the Fiscal 1996 defense authorization bill, Representative Spence included $500 million to procure long-lead items necessary to build the twenty-first, twenty-second, and twenty-third B-2 bombers, but he was expecting significant debate and was uncertain whether the provision would survive throughout this year's entire defense budget cycle. ■

How Much for Twenty More B-2s?

(billions of FY 1996 dollars)

Type of Cost	Items Included	Change	Total
Recurring flyaway cost	Government-furnished equipment, sustaining engineering, and engineering change orders.	$0.0	$14.8
Aircraft flyaway cost	Adds nonrecurring costs: facilities, warranties, etc.	+1.7	16.5
Weapon system cost	Adds technical data and training equipment.	+0.1	16.6
Procurement cost	Adds initial and mission readiness spares kits.	+1.5	18.1
Program acquisition cost	Adds program's research, development, test, and evaluation costs.	+0.8	18.9
Life-cycle cost	Adds project operations and support costs over twenty-five years.	+5.6	24.5

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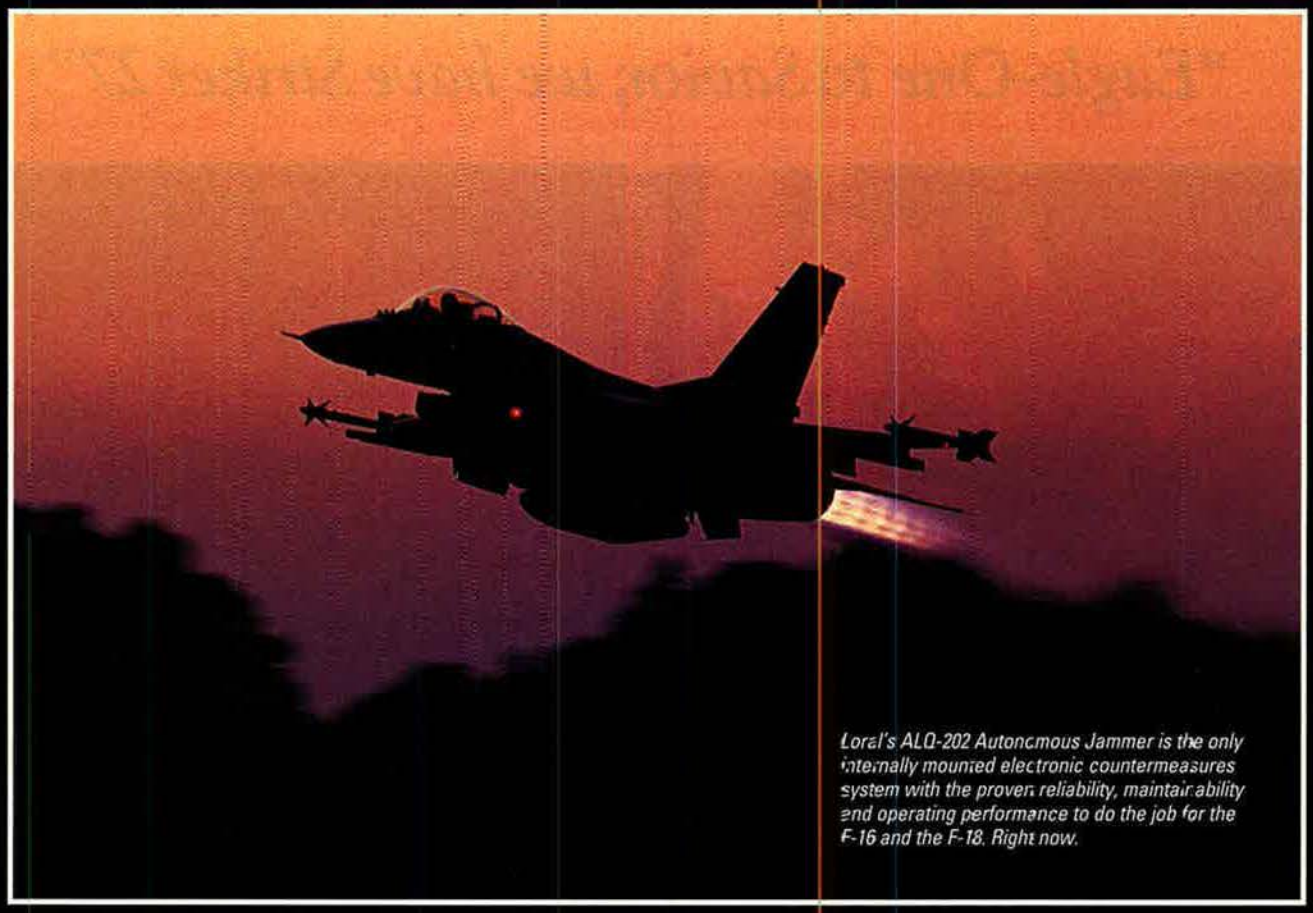

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Aerospace World

By Suzann Chapman, Associate Editor

Heavy Bomber Study: No More B-2s

Based on the Institute for Defense Analyses cost-effectiveness analysis, the Defense Department concluded in its Fiscal 1995 Heavy Bomber Force Study that the planned bomber force can meet requirements for two nearly simultaneous major regional conflicts.

On May 3, DoD officials said that the department would continue "development and production of twenty B-2 aircraft, the B-1B conventional mission upgrade program, and the B-52H conventional mission enhancement program." *[See "Washington Watch: The Pentagon Declines More B-2s," p. 13, for a detailed discussion of the study.]*

USAF Evaluation Systems Reviewed

Following months-long Air Force reviews, both the current enlisted and officer evaluation processes will continue with only modest revisions.

On the enlisted side, the major changes are that all enlisted ranks, not just technical sergeants and below, will now receive feedback on their evaluations. Also, supervisors can say "promote above peers" on an Enlisted Performance Report, according to personnel officials.

For officers, changes include considering "whole person" factors, such as professional military education and advanced academic degrees, in addition to performance-based data—a return to the pre-1988 format. Another change requires so-called "bullet" statements for the narrative portion of the promotion recommendation form. *[See "A New Shot at the Promotion System," p. 70, for a fuller review of the promotion process.]*

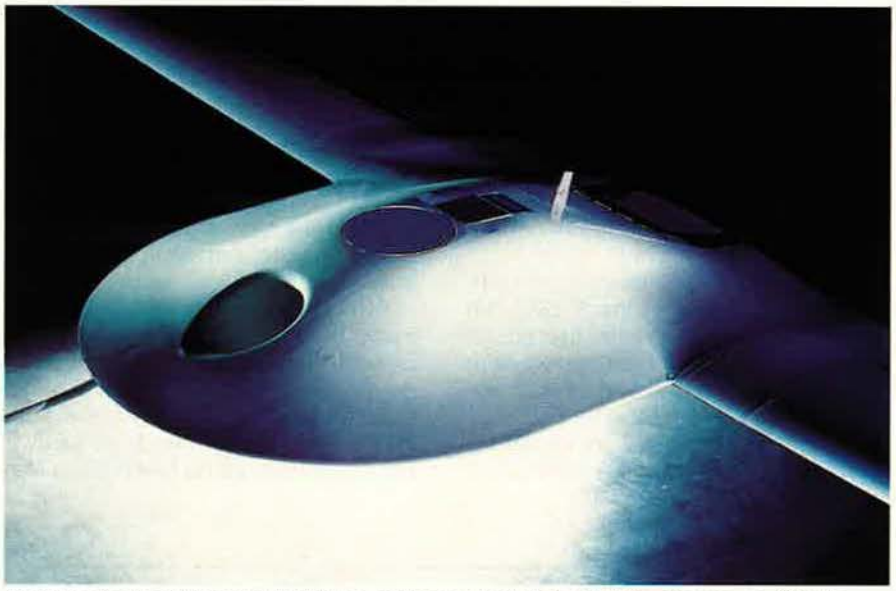
Acquisition Rules Streamlined

According to Paul Kaminski, under secretary of defense for Acquisition and Technology, the Defense Department has now embarked on "a whole new approach to defense acquisition, fundamentally changing the way we undertake our processes in acquisition." Defense Secretary William J. Perry signed a letter May 10 directing the change in acquisition oversight.

The change institutionalizes the Integrated Product and Process Development (IPPD), using an integrated product team (IPT) approach. *[See "AFMC Spotlights Acquisition Reform," May 1995 "Aerospace World," p. 23.]*

Dr. Kaminski said, "In this new approach, the user, the program manager, the Program Executive Officer, the service component staff, the DoD staff and related decision-makers, and the contractor involved will all share ownership in their programs, and they'll have a stake in making the program successful."

In effect, the Defense Department expects IPPD and IPT to emulate commercial practices to reduce the government decision cycle times. Dr. Kaminski explained that in 1994, the average period between Defense Acquisition Board review of an acquisition decision memo and the date it was signed was twenty-three days. In 1995, under the new process, the average is two days.



Lockheed Martin photo by Eric Schulzinger and Denny Lombard

DoD uncloaked its Tier III Minus unmanned aerial vehicle, known as "Darkstar," on June 1 at the Lockheed Martin Skunk Works in Palmdale, Calif. This computer-enhanced photo depicts the low-observable tactical reconnaissance UAV banking to the left, moving toward the camera.

Privatization May Ease Housing Dilemma

The Pentagon's proposed legislation to privatize housing in tiatives will help the services build and renovate family housing faster and at less cost to taxpayers, according to a DoD statement.

The proposal recommends using modified and new private financing tools and commercial standards and practices to drive down the cost of quality housing while shortening the process of replacing and renovating housing from thirty to about ten years.

At a May 8 press conference, Secretary Perry noted that decent and affordable housing for military families is a key factor in retaining high-quality, experienced people, which has a direct impact on readiness. He said that housing quality has declined for more than thirty years because it has had low priority and because of "regulatory or legislative roadblocks."

Under the proposal, DoD could guarantee private-sector firms rent-

als or mortgages and make fixed-payment commitments, such as leases, or co-invest with developers to gain access to housing. The Defense Department has requested up to $1 billion in budget authority over the next five years to fund pilot programs and test approaches in a draft bill—the Military Family Housing Revitalization Act of 1995.

USAF Acquires Milestone F-16

Lockheed Martin Tactical Aircraft Systems, Fort Worth, Tex., turned over the 3,500th F-16 fighter April 27 to pilots from the 79th Fighter Squadron, Shaw AFB, S. C., who flew it back to the base. General Dynamics, the original contractor, delivered the first production F-16 to the Air Force in 1978.

Aircraft No. 3,500 is a single-seat, Block 50D version of the F-16C, the newest fighter model in the USAF inventory. It comes equipped with the latest subsystem and cockpit upgrades developed for the F-16, including compatibility with Texas Instruments' High-Speed Antiradiation Missile Targeting System. F-16s have racked up sixty-nine aerial combat victories without any losses, according to Air Force officials.

Eighteen nations either operate F-16s or have placed orders for them, said Lockheed Martin representatives. F-16s have been assembled at Fort Worth and in Belgium, the Netherlands, and Turkey. A factory in South Korea will begin delivering F-16s later this year.

Moves Seek to Ensure Equal Opportunity

A Pentagon task force found forty-eight areas where the services must improve their equal opportunity processes, although the group stated the current sexual harassment and discrimination prevention programs are "fundamentally healthy."

After a year-long study, the DoD Task Force on Discrimination and Sexual Harassment, co-chaired by Air Force Secretary Sheila E. Widnall and Under Secretary of Defense for Personnel and Readiness Edwin Dorn, announced its findings on May 12. Secretary Widnall called the review the "most intensive" ever. She said many of the group's recommendations have already been adopted by the services.

Task force recommendations include:

- Ensuring accountability of leaders through such practices as conducting periodic work-climate assessments and noting commanders' commitment to equal opportunity and deviations from that commitment in their performance evaluations.
- Adopting standard definitions for key terms.
- Establishing and adhering to time lines for investigation and review.
- Establishing reprisal prevention programs.
- Adopting standards for investigation.
- Providing feedback to complainants.

Funds Sought for TSSAM Replacement

Air Force Chief of Staff Gen. Ronald R. Fogleman asked Congress for an additional $50 million in Fiscal 1996 to begin the replacement program for the canceled Triservice Standoff Attack Missile. The new program, dubbed "Son of TSSAM," is officially called the Joint Air-to-Surface Standoff Missile and, as the name implies, will be a joint venture between the Air Force and Navy.

However, a major stumbling block is the Air Force's immediate need for the missile, which conflicts somewhat with the Navy's view that it does not need to field the system until around 2005. Both services have been working on a joint requirements document. It had been expected to be completed last month.

First B-1B Is History

The first production B-1B bomber, which rolled out of Rockwell International's Palmdale, Calif., assembly plant September 4, 1984, bearing a gold number one and the Strategic Air Command shield on its side, has not flown since August 22, 1988, when it arrived at Ellsworth AFB, S. D. It will never fly again once a Tinker AFB, Okla., depot maintenance team completes the process of "canning" the aircraft.

The first B-1B was a hand-built prototype made from major subassemblies originally intended for use in building a fifth B-1A, the program canceled by President Jimmy Carter in 1977. The Air Force further customized the bomber with special

Les Aspin (1938–1995)

Former Defense Secretary Les Aspin died May 21 at Georgetown University Hospital, Washington, D. C., after suffering a stroke the day before. He was fifty-six. While he spent only eleven months as Defense Secretary, he worked a lifetime in and around national security and defense issues.

From his days as a Pentagon "whiz kid" to his twenty-two years as a Wisconsin congressman serving on the House Armed Services Committee, he seemed a knowledgeable and experienced choice for Defense Secretary. Yet, shortly after he made the move from politician to cabinet official, things went wrong. His academic training and congressional experience fostered his ability, as one Washington *Post* reporter phrased it, to "awe a listener while ruminating aloud, masterfully examining arcane issues with a kind of brilliant dispassion." That did not serve him well in the Pentagon. He knew the capital scene from players to policy to media, but he had never managed an organization larger than the eighty-person staff of the Armed Services Committee, which he chaired from 1985 to 1993.

Mr. Aspin was a constant critic of the Pentagon, but he genuinely liked and respected the military. During his last year in Congress, he devised a series of force "options," one of which later evolved into the "Bottom-Up Review" force in the Clinton Administration. Mr. Aspin's problems with the Administration centered on the mismatch of this force with available funding levels. This led to a rift with the White House and Mr. Aspin's departure from government in December 1993.

Born in Milwaukee, Wis., on July 21, 1938, he graduated *summa cum laude* from Yale University, majoring in history. He earned a master's degree for a combined major in economics, politics, and philosophy from Oxford University, England, and a Ph.D. in economics at the Massachusetts Institute of Technology. As an Army officer at the Pentagon from 1966 to 1968, he employed systems analysis—the use of logic and mathematical and computer models—to help find solutions to military and national security problems. That service helped form his view of the Vietnam War, victory in which, as he termed it, was not worth the resources necessary to win it.

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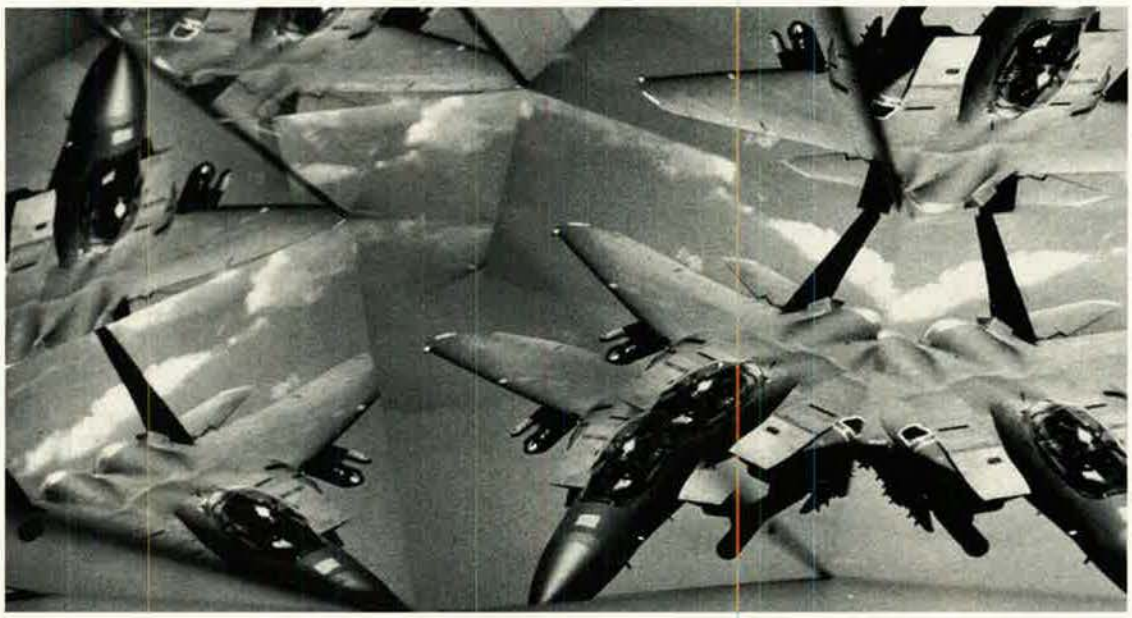


THE ACTION.
ENEMY RADAR SPOTS AN AIRCRAFT EQUIPPED WITH ONE OF OUR ECM SYSTEMS AND ATTEMPTS TO LOCK ONTO IT.

THE REACTION.
NORTHROP GRUMMAN'S ELECTRONIC COUNTERMEASURES PICK UP THE THREAT, DETERMINE THE BEST WAY TO REACT AND TAKE THE STEPS TO NEUTRALIZE IT.

THE RESULTS.
AN AIRCRAFT YOU CAN PUT A PRICE TAG ON IS SPARED ALONG WITH AN AIRCREW YOU CAN'T.

IT'S HARD TO TRACK DOWN AIRCREWS USING OUR ELECTRONIC COUNTERMEASURES SYSTEM. THAT'S WHY THE AN/ALQ-135 IS ON BOARD EVERY COMBAT F-15E IN THE USAF FLEET. IN FACT, AN F-15E ISN'T CONSIDERED TO BE COMBAT-READY UNTIL OUR SYSTEM IS INSTALLED AND OPERATIONAL.

OUR LEADERSHIP IN AIRCRAFT DESIGN, STEALTH TECHNOLOGY, COMPOSITES, COUNTERMEASURES AND SENSORS PUTS US IN AN ELITE GROUP OF DEFENSE COMPANIES ATTUNED TO HOW THE WORLD IS TODAY. AND WILL HELP US STAY THAT WAY FOR YEARS TO COME. **NORTHROP GRUMMAN**

Exhibit Blunders Force Smithsonian Probe

Shock over a "revisionist interpretation" of the use of atomic weapons to speed the end of World War II has led a Senate committee to review the management practices of the nation's premier museum.

The Senate Rules and Administration Committee, which has oversight responsibility for the Smithsonian Institution, held two public hearings, May 11 and May 18, following national controversy over a planned display of the historic bomber *Enola Gay* at the Smithsonian's National Air and Space Museum.

Sen. Ted Stevens (R-Alaska), chairman, established the framework for each hearing in his introductory remarks. He said that the *Enola Gay* controversy was not the first incident that has generated public concern about the museum and that the issues "raised serious management questions." He also said that the hearings were not being held to tear down the Smithsonian and that it is the duty of Congress to help preserve the Smithsonian as the central depository of the artifacts of our nation's history.

He added, "Those artifacts, together with facts proven at the time of decisions, permit judgments of history to be fair and unbiased."

Some of the committee members had served in uniform during World War II. A recurring issue for them—particularly those who served in the Pacific theater—was the museum's failure to consult individuals who had actually been there and seen the war firsthand. Responding to a question at the May 11 hearing, Maj. Gen. Charles W. Sweeney, USAF (Ret.), the World War II pilot who flew on both the Hiroshima and Nagasaki bombing missions, said that historians from the Smithsonian had never contacted him. In fact, Smithsonian officials even stated that they had "not exactly" consulted the NASM's advisory committee, which includes top military officers.

Dr. I. Michael Heyman, Smithsonian Institution secretary, said, "Our first script was deficient." He testified that the Smithsonian is incorporating a procedure "so exhibitions are quite well reviewed," adding that they will consult groups early enough to affect design and will include "explicit conversation at the outset" on a story line for exhibits.

However, Dr. Heyman and other Smithsonian officials maintained that they felt "the fundamental flaw [of the *Enola Gay* exhibit] was attempting to couple an historic dialogue of the use of atomic weapons with the fiftieth commemoration of the end of the war."

Throughout the second hearing, discussion centered on the attempts of some historians to "interpret" events. Sen. Dianne Feinstein (D-Calif.) noted that there was a difference between what is acceptable for a public institution, such as the NASM, supported largely by taxpayer dollars, and a private one. She also took exception to what she termed the current theme of history books that "interpret" events rather than simply present facts that permit readers to reach their own conclusions.

Photo by Nancy W. Carr

AFA President R. E. Smith, testifying before the Senate Rules and Administration Committee, said, "The problem [with the* Enola Gay *exhibit] was not the coupling of history with commemoration. It was that history had been given a countercultural spin The problem was not that the exhibition was analytical. The problem was that the analysis was distorted."

Senator Stevens read aloud a section of the statute (Title 20 of US Code), dating from 1961, that provides guidance for the National Air and Space Museum. He then stated, "I don't think you have any authority to display an exhibit questioning US use of the atomic bomb under this statute." Museum officials stated that this was not their intent.

In his testimony, Rep. Sam Johnson (R-Tex.), who recently joined the Smithsonian Board of Regents, said that while the *Enola Gay* "was not the only exhibit that had been overcome by political correctness and revisionism, I do want to stress that the majority of exhibits at the Smithsonian are very impressive and historically accurate."

Dr. Heyman, who became secretary in September 1994, said that the Smithsonian should be "historically accurate and balanced in all of its exhibitions." He added, "We have an obligation to consider the opinions of the interested public in the framing of the exhibitions." Among other corrective measures, he also noted that guidelines the Smithsonian is developing would include "the extent to which historical exhibitions should speak within the context of time."

Noting that private funding had been decreasing steadily since the 1950s, from thirty-one percent to fifteen percent of the Smithsonian's budget, Senator Stevens said that with the country facing "severe budget cuts," the Smithsonian would need to increase its private donations. He added, "Eroding public support will threaten the ability of the Smithsonian to continue to be the central depository of our nation's artifacts."

flight-test parameter monitoring equipment to serve as the primary test aircraft for aerodynamic and weapons release testing at Edwards AFB, Calif. It logged 617 hours in 138 test missions and achieved numerous firsts.

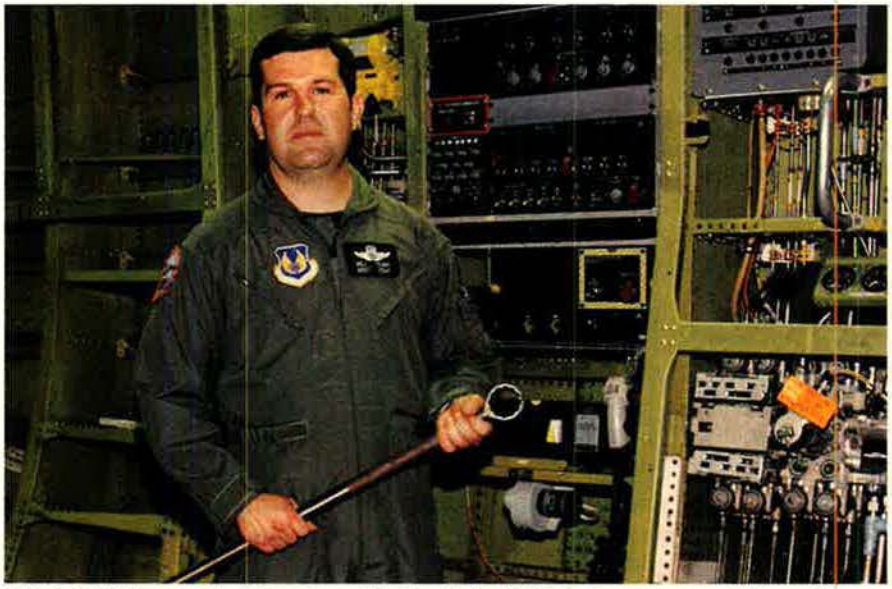
At Ellsworth, the aircraft became a ground and weapon load trainer. Its parts were used to sustain other B-1Bs. Because it would be "economically unfeasible" to upgrade it to current production standards, the Air Force finally declared the first B-1B "excess," according to an Air Force press release.

Although several museums expressed interest in the aircraft, USAF decided it could use even more of the parts of the original bomber to sustain the fleet and also to provide live-fire testing in which crews will repair damage to return aircraft to "combat" in minimum time.

Pentagon Names Top Contractors

McDonnell Douglas is once again the top defense contractor, according to an annual Pentagon report, with contract awards that totaled $9.3 billion during Fiscal 1994, compared to $7.5 billion in Fiscal 1993.

The top ten companies listed in the report are McDonnell Douglas, Lockheed, Northrop Grumman, Martin Marietta, General Motors, General



MSgt. Bill Yeary, a loadmaster with the C-17 flight-test program at Edwards AFB, Calif., is the first person to fly more than 1,000 hours in USAF's newest airlifter. He received a plaque and a second Air Achievement Medal June 6 for that feat and for helping to develop C-17 procedures and standards.

Dynamics, Raytheon, General Electric, United Technologies, and Loral.

The Pentagon report also stated that the most significant change during Fiscal 1994 was Northrop's acquisition of Grumman. The gigantic merger of Lockheed and Martin Marietta came too late to be included in this report.

Twenty-three companies that did not appear on the list in Fiscal 1993 are among the top 100 companies in Fiscal 1994. DoD prime contract awards of more than $25,000 totaled $118.1 billion during Fiscal 1994, $5.6 billion less than in Fiscal 1993.

Academy Turns Forty

From shortly after World War I, when Army Lt. Col. A. J. Hanlon proposed an "Aeronautical Academy," through the next thirty years, such notables as Billy Mitchell, "Hap" Arnold, Carl Spaatz, and others fought to establish an air academy. The initiative came closer to reality two years after the creation of the Air Force as a separate entity, when the first Secretary of Defense, James V. Forrestal, appointed an Academy board to study the matter in 1949.

The board recommended founding an Air Force Academy without delay, but the Korean War intervened. It was not until April 1954 that President Dwight D. Eisenhower actually signed the public law creating the Air Force Academy. In June 1954, following examination of some 350 possible sites, Harold E. Talbot, third Secretary of the Air Force, chose Colorado Springs, Colo., as the permanent site, with a temporary home at Lowry AFB, about seventy miles away in Denver.

The new academy opened its doors officially at Lowry for its first class July 11, 1955, with 306 cadets. Out of those original cadets, 207 graduated four years later, June 3, 1959, after spending their last year at the newly completed Colorado Springs location.

Two graduates of that first class went on to become four-star generals, Gen. Michael P. C. Carns, former vice chief of staff, and Gen. H. T. Johnson, the last commander of Military Airlift Command. In all, the class produced another sixteen general officers.

More Bases Added to Closure List

The Defense Base Closure and Realignment Commission has added eleven more Air Force bases to the current list of facilities under consideration for realignment or closure. In its May 10 hearing, the commission, composed of eight members appointed by the President and approved by Congress, added a total of twenty-nine installations to the list released February 28 by Defense Secretary Perry, bringing the total to 175.

The Air Force installations added to the list are: Columbus AFB, Miss., Vance AFB, Okla., Laughlin AFB, Tex., Hill AFB, Utah, Homestead ARB, Fla., O'Hare IAP/ARS, Ill., Minneapolis–St. Paul IAP/ARS, Minn., Niagara Falls IAP/ARS, N. Y., Youngstown/Warren Regional Airport/ARS, Ohio, Naval Air Station/Joint Reserve Base Fort Worth, Tex., and General Mitchell IAP/ARS, Wis.

Additionally, the commission will evaluate some facilities already on the DoD list for possible further realignment or closure action. They are McClellan AFB, Calif., Robins AFB, Ga., Grand Forks AFB, N. D., Tinker AFB, Okla., and Kelly AFB, Tex.

Russian Arsenal Breakup Continues

The US has agreed to provide a total of $579 million to Russia and $297 million to Ukraine so far under the Nunn-Lugar, or the DoD Cooperative Threat Reduction, program. As set up by Sen. Sam Nunn (D-Ga.) and Sen. Richard Lugar (R-Ind.) in 1991, Congress authorized $400 million a year from the defense budget to help dismantle the Soviet nuclear weapons.

Throughout the former Soviet Union, the program has helped remove 2,600 warheads and missiles from bomber bases, taken 750 missiles from their launchers, and destroyed about 600 launchers and bombers, according to Defense Secretary Perry in a March 29 speech to the US/Russian Business Council. He also said that about twenty percent of the Nunn-Lugar funds are used to reorient the people and facilities formerly employed in nuclear weapons activities to nonmilitary work.

"Help Wanted" Budget Rises

To help attract the new recruits it must have despite continuing drawdown measures in the career force, the Air Force advertising budget rose in Fiscal 1995 from $7 million to $11 million. It will rise again in FY 1996 to $13 million.

USAF Vice Chief of Staff Gen. Thomas S. Moorman, Jr., said, "We have about 363 training seats that are going unfilled as of the end of April, and at this point, we're about 2,300 new contracts behind." Though the recruiting dollars are increasing, General Moorman also noted, "Traditionally, our advertising budget hasn't been as high as the other services' because we haven't felt the need for the increase."

However, the General added that the service will not give up its standards for new recruits: "The Air Force will not sacrifice quality for quantity. We continue to have a ninety-nine

percent high school graduation rate" among new recruits.

C-17 Passes Army Test

In late April, the Army took the Air Force's newest airlifter through a series of tests over the Arizona desert with a full complement of 102 paratroopers to satisfy requirements for mass troop exits from the C-17 Globemaster III, according to Air Force program officials.

This was the final step before dedicated initial operational test and evaluation mass airdrops that were scheduled for May at Pope AFB, N. C.

These tests also resolved a problem encountered last year during development flight testing at Edwards AFB, Calif. In August 1994, parachutes of two paratroopers became entangled at high altitude, but both jumpers landed safely.

Although not unique, the incident prompted the Army and Air Force to form a joint review team that used water tunnel, wind tunnel, and computer simulation modeling to help develop an aircraft configuration to satisfy mass-drop requirements.

Tests resumed in March at the Army's Yuma Proving Ground, Ariz., with a series of three, dual-door paratroop missions. During the final jump, each of the 102 jumpers carried a weapons container and rucksack, increasing their weight to up to 400 pounds. They all safely exited the aircraft.

Newest Reserve Unit Refuels B-2

An all-Reserve crew flew the first mission for the 931st Air Refueling Group, the Air Force Reserve's newest unit, May 13 using an active-duty KC-135 to refuel a B-2 Stealth bomber. The 931st, based at McConnell AFB, Kan., is the Reserve's first KC-135 Associate unit.

During the historic mission, Col. Vik Malling, commander of the 931st, was the only crew member wearing a unit patch. The other crew members wore their old patches showing they had been with other Reserve and Air National Guard or active-duty units across the country. Colonel Malling said that there are plenty of 931st patches on order. "We officially opened the 931st at the end of January, and the response to our recruiting effort has been tremendous," he added. "Having an all-Reserve crew fly together this quickly is quite an accomplishment. We are definitely ahead of schedule."

Under the Associate program, the 931st shares the aircraft and equipment of the 22d Air Refueling Wing at McConnell. Colonel Malling said that the Associate program is "extremely cost effective." "With 460 personnel, we'll be about half the size of a unit-equipped Reserve wing, but we'll actually have twice the number of aircrews and be able to fly more missions." In Reserve wings with their own aircraft, a majority of wing personnel are in aircraft maintenance with a smaller number of aircrews.

Overseas Reductions Continue

The Department of Defense announced April 27 that it will end operations at three more military facilities overseas.

The facilities are the US Army–run General Walker Hotel in Berchtesgaden, Germany, and the Akinci and Balikesir Munition Storage Sites at Incirlik AB, Turkey, both operated by USAF.

This latest announcement brings the total to 952 overseas sites that will be returned or have operations reduced—a fifty-seven percent reduction in facility infrastructure overseas. In Europe alone, the total is 878 for a sixty-two percent reduction in infrastructure.

Since the drawdown began, DoD has eliminated 250,000 authorized positions overseas: 177,400 military, 23,300 US civilian, and 49,300 local national positions.

DoD also announced several adjustments to previous changes, including retention of the US Army's Chiemsee Recreation Area, Germany, and Crestview Housing Area, Wiesbaden, Germany. The Army will now fully return the Stangass Camp Area at Berchtesgaden to Germany.

Air Force Honors Security Policemen

SrA. Andrew P. Brown, now with the 15th Security Police Squadron, Hickam AFB, Hawaii, received the Col. Billy Jack Carter Award, the highest USAF Security Police award, for stopping a former airman's killing spree last year at Fairchild AFB, Wash. The twenty-five-year-old airman shot and killed former A1C Dean Mellberg, who went on a shooting rampage with an MAK-90 assault rifle June 20, 1994, killing five people and wounding twenty-three others at the base hospital.

"Looking back, I have to remind myself of what could have happened had I not been there," Airman Brown said. "A lot of other innocent people might have died." The annual Security Police award is named after the first career SP officer to become the Air Force chief of Security Police. Airman Brown had earlier received the Airman's Medal for heroism.

Nearly two years after a similarly tragic event, MSgt. James E. Pierpoint with the 305th Security Police Squadron, McGuire AFB, N. J., received the Airman's Medal April 12 for heroism in killing a gunman who opened fire in the 21st Air Force headquarters building at McGuire on May 26, 1993. The gunman had killed an Air Force officer and threatened to kill other people in the building. Sergeant Pierpoint said the incident "opened my eyes," adding, "I've come to the conclusion that protecting the lives of family, friends, and other community members is important to me. It's just what I do. It's my job."

Seven Crashes Claim Twelve

April and May brought a series of unrelated Air Force aircraft crashes, including an Air National Guard F-16B and A-10, an Air Force Reserve C-130E, and four USAF aircraft, including an F-117A, two F-15s, and a T-38.

Capt. Dennis M. White, a weapon systems officer with the 336th Fighter Squadron, Seymour Johnson AFB, N. C., was killed when the F-15E in which he was flying went down off the North Carolina coast April 18. The Coast Guard rescued the pilot, Capt. Brian J. Udell, shortly before 1:00 a.m. on April 19. It found Captain White's body about noon the same day.

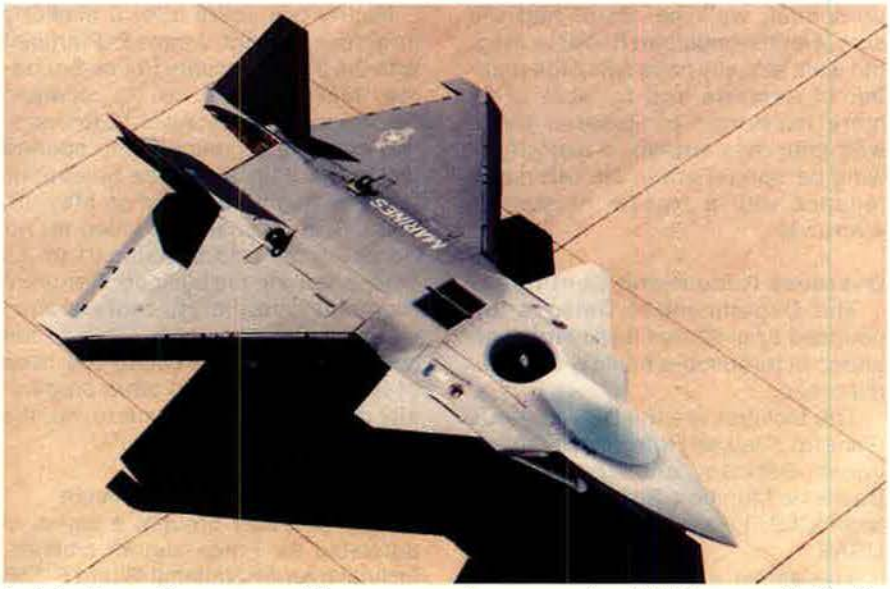
Capt. Kenneth W. Levens, the pilot of an F-117A from the 9th FS, Holloman AFB, N. M., was killed when his plane crashed seven miles south of Zuni, N. M., May 10.

All six crew members were killed May 13 when their Reserve C-130E from the 302d Airlift Wing, Peterson AFB, Colo., crashed near Bliss, Idaho. The crew included: Capt. Geoffrey Boyd, navigator; Lt. Col. Robert R. Buckhout, wing safety director and the command pilot; MSgt. Jay Kemp, loadmaster instructor; 2d Lt. Lance Dougherty, copilot; SSgt. Michael L. Scheideman, loadmaster; and CMSgt. Jimmie D. Vail, chief flight engineer.

Both pilots ejected safely from an ANG F-16B that crashed May 15 about twenty-five miles east of Lordsburg, N. M. The pilots were Lt. Col. Carl J. Thomae, 148th FS, Tucson IAP, Ariz., and student pilot 1st Lt. Abdulla Al-Khalifa from Bahrain.

Maj. Clarence T. Marsh III, the pilot of an A-10 from the 172d FS, W. K. Kellogg Airport, Mich., was killed when his plane crashed in New Mexico, north of Fort Bliss, Tex., May 19.

Maj. Donald G. Lowry, Jr., assigned to US Air Forces in Europe's operations directorate, Ramstein AB, Germany, was killed when the F-15C he



In late May, a House committee expressed concern about jointness and affordability in the Joint Advanced Strike Technology (JAST) program. However, Chief of Naval Operations Adm. Jeremy M. Boorda said recently that he's more confident now because of new technology that industry has developed. Above is a large-scale propulsion model of one of Lockheed Martin's JAST concepts.

was piloting crashed just after takeoff from Spangdahlem AB on May 30. The aircraft belonged to the 53d FS at Spangdahlem.

A T-38 Talon from the 80th Flying Training Wing, Sheppard AFB, Tex., crashed into a 120-unit apartment complex on May 31, killing two people outside the complex and injuring twenty. A Dutch instructor and American student pilot ejected safely after reporting that an engine caught fire, base officials said.

Air Force officials are investigating the accidents.

The 8th Wins "Long Shot"

Team 2 from 8th Air Force claimed the title of "Top Long Shot Team" after the annual Air Combat Command competition held April 27 at Nellis AFB, Nev. The 8th Air Force team included Air Education and Training Command F-15s from Tyndall AFB, Fla., and F-16s from Luke AFB, Ariz.; AFRES F-16s from Naval Air Station/Joint Reserve Base Fort Worth and Bergstrom ARS, Tex.; ACC B-1s from Dyess AFB, Tex.; and an ACC F-117 from Holloman AFB, N. M.

Six similar composite teams participated in the 1995 Long Shot. Each team formed a conventional combat strike force to conduct a short-notice, long-range bombing mission. They took off from their home stations, joined up somewhere over the United States, and refueled in the air on the way to their targets.

Team 1 and Team 2 from 9th Air Force, Shaw AFB, S. C., finished second and third, respectively. Other competition aircraft included A-10s, F-111Es, and B-52s. US Navy and Marine Corps F/A-18s and USAF F-4s acted as adversaries.

"Long Shot is the Super Bowl of force projection and composite force competitions," said Lt. Col. Greg Milan, 12th Air Force Long Shot director. He added that it is "very realistic because the aircrews involved have minimum warning time to accomplish mission planning."

Competition Combines ICBMs and Space

Five Air Force Space Command teams from Nebraska, Texas, Montana, Florida, and Scotland won honors as "best of the best" during the annual Guardian Challenge competition for space and missile operations crews held May 1–5 at Vandenberg AFB, Calif. Two winning teams featured all-enlisted crews.

The enlisted team from the 6th Space Operations Squadron, Offutt AFB, Neb., won the Aldridge Trophy for best satellite operations, achieving a 96.54 percent score for "flying" military weather satellites. A second all-enlisted team from the 17th Space Surveillance Squadron, RAF Edzell, Scotland, achieved 99.4 percent to win the Arnold Trophy for space surveillance and the best space operations crew award. The 17th identifies and tracks objects in orbit around the Earth using groundbased radar.

Winner of the Blanchard Trophy for best missile operations squadron was the 10th Missile Squadron, from Malmstrom AFB, Mont. The 10th MS operations, helicopter, maintenance, communication, and Security Police competitors accumulated a total team score of 93.39 percent. Its two-man missile operations crew also won first place in its category with a 96.5 percent score. The 1995 Guardian Challenge marks the first year helicopter crews from ICBM units have competed with their teams.

The 8th Space Warning Squadron, Eldorado AS, Tex., won the O'Malley Trophy with a 96.4 percent score. The squadron operates a Pave Paws phased-array radar site to provide warning of submarine-launched ballistic missiles. Winning the Schriever Trophy for best spacelift operations was the 1st Space Launch Squadron, Patrick AFB, Fla., with 81.92 percent. Its eleven-man team was named best spacelift crew, scoring 85.6 percent for launching Delta II rockets.

Delta Clipper Resumes Tests

The DC-X (Delta Clipper–Experimental), a single-stage-to-orbit reusable launch vehicle built by McDonnell Douglas, began flight tests again May 16, about one year after undergoing repairs to its outer skin, which suffered damage when a hydrogen cloud outside the vehicle detonated. The Air Force's Phillips Laboratory, Kirtland AFB, N. M., is overseeing this latest series of tests for NASA.

Commenting on the earlier flight test made on June 27, 1994, Lt. Col. Jess Sponable, Advanced Spacelift Technology Program manager for Phillips Lab, said that despite the fifteen-foot by four-foot hole in the outer skin, the DC-X lifted off and began its programmed flight profile. The crew then issued an "autoland" command, and the vehicle successfully landed.

For the recent test, the vertical takeoff and landing DC-X climbed at a constant 15° angle of attack to 4,350 feet, out to 1,150 feet downrange, then traveled laterally back about 800 feet and corrected itself during descent to land on the flight pad after two minutes and five seconds of flight. Following this series of tests, NASA will modify the vehicle with advanced technologies, changing the designation to DC-XA. Phillips will continue to work with NASA, managing the final DC-XA flight tests in mid-1996.

Delta Family Gains New ELV

McDonnell Douglas plans to enhance its space transportation program by doubling the capacity of its Delta II expendable launch vehicle through development of a next-generation ELV, the Delta III. Featuring a new single-engine, cryogenically propelled upper stage, and a larger fairing to house the payload, the Delta III will be able to launch an 8,400-pound payload to geosynchronous transfer orbit.

A company spokesman said the Delta II and new Delta III will provide both commercial and government users long-needed launch options. McDonnell Douglas will build the new intermediate-class rocket with its own funds and plans a first launch in 1998. It already has a contract with Hughes Space and Communications International, Inc., for ten launches, plus options for more through 2005.

Pentagon Features Clinton Exhibit

Charles Duncan, a junior aide to the Secretary of Defense, initiated a $7,889 display, now residing in a third-floor Pentagon corridor, that includes twenty-seven framed, color photographs of President Clinton. The photos show Mr. Clinton in various settings with sailors, soldiers, and airmen.

The exhibit caught the attention of the New York *Times,* which indicated in a May 19 article that many military members view the "Our Commander in Chief" display as a public relations ploy. According to some critics, a Commander in Chief corridor already exists. They also noted that some of the photos are duplicates and one is of the First Lady, not the President.

Mr. Duncan, who was a Clinton campaign worker, said, according to the *Times*, that there is "nothing political going on." He added that the exhibit is intended to be permanent and would feature future presidents, as well.

Navy Tests New Parachute System

A new emergency bailout parachute system, called the Lightweight Environmentally Sealed Parachute Assembly, under evaluation by the Naval Air Warfare Center Weapons Division, NAS China Lake, Calif., may reduce in-flight safety limitations for aircrews during high-threat missions. LESPA features an innovative environmental-sealing process that surrounds and protects the parachute canopy from external hazards, presenting a clean, snag-free external profile. It also has a new, one-size-fits-all personal harness assembly.

The seventeen-pound, low-profile LESPA may offer more comfort for crews on long flights, compared to existing parachute assemblies, which are larger and weigh as much as twenty-five pounds. Navy program officials also believe that the system will increase crew maneuverability, improving the potential for survival in emergency situations.

Additionally, LESPA could save time and money by reducing maintenance and repacking cycles. The Navy spends more than $6.5 million per year to inspect, maintain, repack, and replace its ejection seats and emergency egress parachute assemblies. The preliminary cost savings estimated from using the new system, which begins full-scale qualification testing in late Fiscal 1995, is $2.5 million per year. Simula, Inc., of Phoenix, Ariz., developed LESPA under a Small Business Innovation Research contract.

AMC Wins Safety Award

Air Mobility Command received the 1994 Maj. Gen. Benjamin D. Foulois Memorial Award, given by the Daedalian Foundation for the most effective aircraft mishap-prevention program in the Air Force.

During the last fiscal year, AMC moved almost 237,000 tons of cargo and more than 850,000 passengers. It participated in more than eighty Joint Chiefs of Staff exercises. An AMC crew made the first landing of a C-141 on a glacial Antarctic "blue ice" runway. An AMC C-17 made its maiden voyage across the Atlantic en route to Europe and on the way back set an endurance record of 9.6 hours without air refueling. AMC conducted its 1994 Rodeo flawlessly, involving twenty-two nations, 2,200 competitors, and sixty-nine aircraft. The command's C-141s also deployed to Germany to participate in the first joint US-Russian training exercise.

Praising AMC's "superb team effort" by active-duty, Guard, and Reserve personnel, Gen. Robert L. Rutherford, AMC commander, said the command had accumulated more than 300,000 mishap-free flying hours. "The scope and variety of your missions have been phenomenal. You were tasked to the limit and produced."

Robins Named "Best in USAF"

Robins AFB, Ga., won the Air Force's 1994 Commander in Chief's Installation Excellence Award, finishing ahead of the other three finalists: Dover AFB, Del., Luke AFB, Ariz., and Misawa AB, Japan. The award

recognizes people who have done the best with their resources to support the mission, Air Force officials said.

"Winning this award underscores what we've known all along," said Maj. Gen. William P. Hallin, Warner Robins Air Logistics Center commander. "We have outstanding people doing their jobs better than anyone else. We are a cohesive team focused on our mission and dedicated to our customers."

Supporting their customers included tackling Coral Weep, in which the base repaired 216 C-141s, returning 169 to service ahead of schedule to help avert an airlift capability crisis. Other Robins initiatives during the past year included breaking ground for a $56.7 million electrical generating facility in partnership with the Georgia Power Co. at no cost to the Air Force and taking a fast-track approach to the cleanup of twenty-two of thirty-three former disposal sites.

DoD Expands Mail-Order Pharmacy

A congressionally mandated test to determine if mailing prescriptions can help control costs and improve services to CHAMPUS and Medicare beneficiaries will now include ten additional Air Force bases and two Army posts, according to Air Force officials.

The original test, which began last November, covered Delaware, New Jersey, Pennsylvania, South Carolina, Georgia, and Florida. The additions are areas formerly covered by the following closed or realigned bases: Pease ANGB, N. H., Griffiss AFB, N. Y., Plattsburgh AFB, N. Y., Chanute AFB, Ill., K. I. Sawyer AFB, Mich., Wurtsmith AFB, Mich., Williams AFB, Ariz., Grissom ARB, Ind., Loring AFB, Me., Eaker AFB, Ark., Fort Benjamin Harrison, Ind., and Fort Devens, Mass. DoD also plans to expand the test to New Mexico and Kentucky as well as to all base realignment and closure sites not covered by a fixed-priced, managed-care contract under the military's new medical program, Tricare, officials said.

News Notes

■ Air Force Space Command declared full operational capability for the Global Positioning System satellite constellation on April 27, marking the successful end to operational military testing for this dual-use, military-civilian radio-navigation system.

■ Eareckson AS, Alaska, passed to caretaker status on March 31, ending fifty years of military presence at the installation, formerly known as Shemya AFB. A joint drawdown team of USAF, Air Force Reserve, and Alaska Air National Guard volunteers began in January to manifest and transport 6.3 million pounds of supplies, equipment, materiel, and furniture—some sixty-six C-141 loads and several barges.

■ The Air Force has received applications from 661 enlisted persons and 377 officers through May 31, under the service's Fiscal 1996 early retirement program. Personnel officials stated the goals are 1,200 enlisted and 1,000 officer volunteers.

■ USAF personnel officials also announced that the return to pre-drawdown high-year-of-tenure rates for enlisted members is still several years away. To help the Air Force meet its drawdown goal, the service lowered the maximum number of years most of the enlisted force could remain on active duty without being promoted to a higher grade.

■ The 68th Fighter Squadron, Moody AFB, Ga., dispatched fifteen F-16 pilots and more than eighty maintenance people to help provide close air support during Air Warrior, a joint training mission with the Army and Navy held at Nellis AFB, Nev., in May. Lt. Col. Glenn A. Gruner, 68th FS commander, said that the exercise provided "a unique environment" for realistic joint training because "all the players are in place, not simulated."

■ SSgt. Kenneth D. Wright, 30th Communications Squadron, Vandenberg AFB, Calif., is the Military Photographer of the Year for 1994. He won the annual American Forces Information Services and the National Press Photographers Association competition.

■ Former Deputy Secretary of Defense John M. Deutch became the seventeenth director of the Central Intelligence Agency after a unanimous confirmation vote in the Senate May 9.

■ The White House announced the nomination of John White, chairman of the Pentagon's Roles and Missions Commission, to succeed Mr. Deutch as deputy defense secretary. Mr. White is a retired Marine Corps officer who has worked in Pentagon and industry positions since the 1970s.

■ The Air Force Memorial Foundation selected a construction site on Arlington Ridge, adjacent to Arlington National Cemetery, May 4. The site is just several hundred yards from the location at Fort Myer, Va., where America's first military flight took place. The next critical step is approval of the site by the National Capital Planning Commission.

■ Foundation Health Federal Services, Inc., Rancho Cordova, Calif., won the $1.8 billion, five-year Tricare health-services contract covering more than one million beneficiaries in Oklahoma, Arkansas, and most of Texas and Louisiana. The scheduled start date is November 1.

■ Army and Air Force Exchange Service sales for 1994 totaled more than $7 billion. From that total, three cents on every dollar, or more than $183 million, went to morale, welfare, and recreation programs. (During the past ten years, AAFES has contributed more than $1.7 billion to MWR activities.) The remainder of every dollar is split so that seventy-four cents goes for inventory, fourteen cents goes for payroll, eight cents for operating expenses, and one cent for construction, renovation, and equipment.

■ A new 47,000-square-foot paint booth, designed by the Army Corps of Engineers for Edwards AFB, Calif., runs so cleanly that the Environmental Protection Agency wants to use it as a model for similar facilities throughout the US. The facility can accommodate an EC-18B or Boeing 707 and exhausts air that is ninety-eight percent clean—cleaner than outside air, said Air Force officials.

■ The second Cope Thunder exercise for 1995 featured the first-time launch for F-16s of High-Speed Anti-radiation Missiles using the HARM Targeting System. Installation of the new targeting systems aboard F-16s moves them another step toward replacing F-4G "Wild Weasels" in the Suppression of Enemy Air Defenses mission.

■ Last month, both Air Force officers and enlisted members began wearing only the highly polished US insignia without the circle, formerly worn by enlisted personnel, on the old or new service dress coats. The Air Force also announced that October 1, 1996, is the deadline for officers to begin wearing epaulets and shoulder rank, instead of the short-lived sleeve rank, on the new service dress coat.

■ The Air Force will remove the last Minuteman II ICBM from its silo at Malmstrom AFB, Mont., next month, under the Strategic Arms Reduction Treaty (START I). Minuteman II missiles first went on alert in January 1966.

■ The Pentagon has released the second in a series of regional security strategies: "United States Security Strategy for the Middle East." The report stresses the need to curb proliferation of weapons of mass destruction, which DoD sees as more widespread in the Middle East than in any other region.

■ Construction started in mid-April at Elmendorf AFB, Alaska, on the "only-one-of-its-kind" 75,000-square-foot, $15.5 million joint mobility complex. Expected to be completed this summer, the complex replaces facilities scattered across both Elmendorf and nearby Fort Richardson and will greatly speed deployment of large numbers of troops and supplies, according to base officials.

■ Cannon AFB, N. M., proved its good-neighbor policy by helping people in nearby Clovis during a tornado May 6. Answering weather questions from civilians, helping stranded motorists, and providing traffic control earned praise from local officials.

■ F-16C/D Fighting Falcons exceeded essential performance warranty requirements based on an Air Force performance test for a sample group of Block 40 and Block 50 F-16s at Hill AFB, Utah, and Shaw AFB, S. C. During a one-year period, the sample established a readiness rate of ninety-one percent, surpassing the required eighty-five percent, and a mission reliability rate of ninety-seven percent versus ninety percent.

■ The Air Force's first female maintenance officer, Marcelite Jordan Harris, also became the first black female general officer and will soon become the first black female two-star general in the military. General Harris, who began her Air Force career in 1965, is serving at the Pentagon as director of Air Force Maintenance.

■ USAF created an Outstanding Enlisted Aircrew of the Year Award program for airmen, noncommissioned

Senior Staff Changes

RETIREMENTS: B/G Jerry D. **Gardner,** Gen. John M. **Loh,** B/G Kenneth G. **Miller,** B/G Rudolf F. **Peksens,** M/G Peter D. **Robinson,** B/G Thomas A. **Twomey,** Gen. Ronald W. **Yates.**

PROMOTIONS: To be **Lieutenant General:** Charles T. **Robertson,** Jr.

To be **Major General:** John B. **Hall,** Jr.

CHANGES: B/G James R. Beale, from Dir., Intel., J-2, Hq. NORAD, Hq. USSPACECOM, Peterson AFB, Colo., to Dep. Dir., Strategic Plans, Policy, and Pgrm. Development, D-5, DISA, Ass't Sec'y of Defense, OSD, Arlington, Va. . . . **Col. (B/G selectee) Robert P. Bongiovi,** from Prgm. Dir., Recon. SPO, ASC, Hq. AFMC, Wright-Patterson AFB, Ohio, to Vice Cmdr., ASC, Hq. AFMC, Wright-Patterson AFB, Ohio, replacing B/G Leslie F. Kenne . . . **M/G Gary L. Curtin,** from Dir., Intel., J-2, Hq. USSTRATCOM, Offutt AFB, Neb., to Dir., Defense Nuclear Agency, Under Sec'y of Defense Acquisition and Technology, OSD, Alexandria, Va., replacing retiring M/G Kenneth L. Hagemann, Sr.

B/G (M/G selectee) Roger G. DeKok, from Dir., Plans, Hq. AFSPC, Peterson AFB, Colo., to Dir., Ops., J-3, Hq. USSPACECOM, Peterson AFB, Colo. . . . **B/G Robert W. Drewes,** from Dep. Ass't Sec'y, Contracting, Ass't Sec'y of the Air Force for Acquisition, Hq. USAF, Washington, D. C., to Cmdr., Defense Contract Mgmt. Command and Dep. Dir., Acquisition, DLA, Alexandria, Va. . . . **B/G Robert E. Gatliff,** from Dep. Dir., Ops., NMCC, J-3, Jt. Staff, Washington, D. C., to Vice Cmdr., 7th AF, PACAF; Vice Cmdr., US Air Forces Korea; and C/S, ROK/US Air Comp. Cmd., CFC, Osan AB, South Korea, replacing B/G Robert G. Jenkins . . . **M/G William P. Hallin,** from Cmdr., Warner Robins ALC, AFMC, Robins AFB, Ga., to Dep. Dir., Materiel Mgmt., DLA, Alexandria, Va., replacing M/G (L/G selectee) George T. Babbitt, Jr.

B/G (M/G selectee) William S. Hinton, Jr., from Dir., Requirements, Hq. ACC, Langley AFB, Va., to Dep. Cmdr., 6th ATAF, Allied Air Forces Southern Europe, NATO, Izmir AS, Turkey, replacing M/G Donald B. Smith . . . **B/G (M/G selectee) Walter S. Hogle, Jr.,** from Cmdr., 437th AW, AMC, Charleston AFB, S. C., to Dir., Ops., Hq. AMC, Scott AFB, Ill., replacing retiring M/G James F. Hinkel . . . **B/G Raymond P. Huot,** from Dep. Cmdr., Canadian NORAD Region, NORAD, and Cmdr., 4722d Support Squadron, ACC, CFB North Bay, Ontario, to Cmdr., Cheyenne Mountain Ops. Ctr., NORAD/USSPACECOM, Cheyenne Mountain AS, Colo., replacing B/G (M/G selectee) Donald L. Peterson.

Gen. James L. Jamerson, from Cmdr., AAFCE, NATO; Cmdr., USAFE; and AF Component Cmdr., USEUCOM, Ramstein AB, Germany, to Dep. CINC, USEUCOM, Stuttgart-Vaihingen, Germany . . . **M/G Eldon W. Joersz,** from C/S, Allied Air Forces Southern Europe, NATO, Naples, Italy, to Dep. Ass't Sec'y for Mil. Applications and Stockpile Support, Defense Prgms., DoE, Washington, D. C. . . . **B/G Leslie F. Kenne,** from Vice Cmdr., ASC, Hq. AFMC, Wright-Patterson AFB, Ohio, to Vice Cmdr., Sacramento ALC, AFMC, McClellan AFB, Calif., replacing M/G Francis C. Gideon, Jr.

Col. (B/G selectee) Tiiu Kera, from US Defense and Air Attaché Lithuania, DIA, Vilnius, Lithuania, to Dir., Intel., J-2, Hq. USSTRATCOM, Offutt AFB, Neb., replacing M/G Gary L. Curtin . . . **B/G Thomas E. Kuenning, Jr.,** from Dep. Defense Advisor, US Mission to NATO, and Mil. Advisor to US Permanent Representative on the North Atlantic Council, Brussels, Belgium, to Dir., OSIA, Chantilly, Va. . . . **B/G Robert E. Larned,** from Cmdr., 341st Missile Wing, AFSPC, Malmstrom AFB, Mont., to Vice Cmdr., SMSC, AFMC, Los Angeles AFB, Calif., replacing B/G (M/G selectee) Eugene L. Tattini.

Col. (B/G selectee) Arthur J. Lichte, from Exec. Officer to CINC, USTRANSCOM/Cmdr., Hq. AMC, Scott AFB, Ill., to Cmdr., 92d ARW, AMC, Fairchild AFB, Wash., replacing B/G Gary A. Voellger . . . **B/G Lance W. Lord,** from Cmdr., 30th Space Wing, AFSPC, Vandenberg AFB, Calif., to Dir., Plans, Hq. AFSPC, Peterson AFB, Colo., replacing B/G (M/G selectee) Roger G. DeKok . . . **B/G Timothy P. Malishenko,** from Dir., Contracting, Hq. AFMC, Wright-Patterson AFB, Ohio, to Dep. Ass't Sec'y, Contracting, Ass't Sec'y of the Air Force for Acquisition, Hq. USAF, Washington, D. C., replacing B/G Robert W. Drewes.

B/G Charles H. Perez, from Cmdr., 377th ABW, AFMC, Kirtland AFB, N. M., to Dir., Log., Hq. AFMC, Wright-Patterson AFB, Ohio, replacing M/G Rondal H. Smith . . . **B/G (M/G selectee) Donald L. Peterson,** from Cmdr., Cheyenne Mountain Ops. Ctr., NORAD/USSPACECOM, Cheyenne Mountain AS, Colo., to Dir., P&O, Hq. AETC, Randolph AFB, Tex., replacing M/G Glenn A. Profitt II . . . **M/G (L/G selectee) Charles T. Robertson, Jr.,** from Vice Dir., Jt. Staff, Washington, D. C., to Vice Cmdr., Hq. AMC, Scott AFB, Ill., replacing L/G Edwin E. Tenoso.

B/G Richard H. Roellig, from Prgm. Dir., TSSAM, AFPEO, Ass't Sec'y of the Air Force for Acquisition, OSAF, Wright-Patterson AFB, Ohio, to Dir., Contracting, Hq. AFMC, Wright-Patterson AFB, Ohio, replacing B/G Timothy P. Malishenko . . . **B/G Terryl J. Schwalier,** from Chief, Nuclear Ops. Command and Control Div., J-36, Washington, D. C., to Cmdr., 4404th Composite Wing (Provisional), ACC, Dhahran, Saudi Arabia . . . **M/G Rondal H. Smith,** from Dir., Log., Hq. AFMC, Wright-Patterson AFB, Ohio, to Cmdr., Warner Robins ALC, AFMC, Robins AFB, Ga., replacing M/G William P. Hallin.

L/G Edwin E. Tenoso, from Vice Cmdr., Hq. AMC, Scott AFB, Ill., to Cmdr., 21st AF, AMC, McGuire AFB, N. J., replacing retiring L/G Malcolm B. Armstrong . . . **B/G Gary A. Voellger,** from Cmdr., 92d ARW, AMC, Fairchild AFB, Wash., to Cmdr., 437th AW, AMC, Charleston AFB, S. C., replacing B/G (M/G selectee) Walter S. Hogle, Jr. . . . **Col. (B/G selectee) Tome H. Walters, Jr.,** from Dep. Dir., Prgms. & Eval., Hq. USAF, Washington, D. C., to Dep. Dir., Ops., NMCC, J-3, Jt. Staff, Washington, D. C., replacing B/G Robert E. Gatliff.

SENIOR EXECUTIVE SERVICE (SES) RETIREMENTS: David E. **Anderson,** Robert L. **Baugh,** James F. **Boatright,** William J. **Edwards,** Dennis M. **Ring.**

SES CHANGES: William C. James, to Dir., Architectures, Technology, and Interoperability, Hq. USAF, Washington, D. C. . . . **Samuel C. Lambert,** to Chief Scientist, Armaments, Wright Laboratory, AFMC Eglin AFB, Fla. . . . **Matthew D. Slater,** to Dep. Gen. Counsel, Sec'y of the Air Force, OSAF, Washington, D. C., replacing Sheila Cheston. ■

officers, and senior NCOs in Air Force Specialty Code 1AXXX.

■ The latest testament to the Total Force philosophy are dual Air Mobility Command and Air Force Reserve decals sported above the passenger door on AMC aircraft. The command's C-17s also have the names displayed on the aircraft tail.

■ Some 22,000 Air Force reservists and more than 100 aircraft are deployed around the world for training this spring and summer. From supporting Operation Deny Flight in Bosnia-Hercegovina out of France and Italy to Iceland and Panama, as well as numerous locations in the US, the reservists will be flying A-10s, F-16s, KC-135s, and HH-60 helicopters. On the road also are 6,500 civil engineers, 2,400 Security Police, and about 1,000 other service personnel.

■ Electronic Systems Center, Hanscom AFB, Mass., is working on the Combat Survivor Evader Locater, a satellite-based search-and-rescue system they hope will help pinpoint the location of downed aircrews.

■ When thousands of people deployed to Operations Desert Shield and Desert Storm, the Air Force made sure each had a gas mask, but for those who needed glasses, there were no optical inserts. Even worse, some people did not know they needed glasses. A sample survey conducted at Seymour Johnson AFB, N. C., showed that one in four people who deployed was visually deficient in some way. This prompted Maj. (Dr.) Andrew Erneston, a Seymour Johnson ophthalmologist, to actively pursue routine scheduling for eye exams every other year. All the services are now reviewing Major Erneston's program.

■ A C-141 assigned to the 60th Airlift Wing, Travis AFB, Calif., took approximately 2,000 pounds of emergency medical supplies in May to Kinshasa, Zaire, to help deal with the outbreak of hemorrhagic fever about 150 miles east of Kinshasa.

■ During Operation Uphold Democracy, which officially ended March 31 in Haiti, AMC troops controlled more than 1,400 missions, carried 41,371 passengers, and hauled 23,607 tons of cargo.

■ To consolidate missions and save defense dollars, Navy E-6 aircraft will begin replacing the EC-135 Looking Glass sometime in F scal 1998 as the aerial platform for US Strategic Command's Airborne Command Post mission. DoD estimates the change will result in a one-time cost avoidance of $1 billion and annual savings of nearly $250 million.

■ Capt. Sandra E. Chase, 20th Air Force, F. E. Warren AFB, Wyo., is the American Defense Preparedness Association's DoD Tester of the Year for 1994. Working on the Rapid Execution and Combat Targeting system, Captain Chase identified more than 225 discrepancies and improvements and discovered a critical software problem that could have affected missile force reliability, according to the awards announcement. REACT is the first major command, control, and communications upgrade to the ICBM force.

■ Three Air Education and Training Command bases won the Air Force's 1994 Nathan Altschuler Award for excellence in education programs. They are Keesler AFB, Miss., and Sheppard AFB and Reese AFB, Tex. Other award winners are AMC's Scott AFB, Ill., PACAF's Osan AB, South Korea, and ACC's Castle AFB, Calif.

■ Air Force Reserve intelligence experts have designed Digital Warrior, a personal computer–based intelligence system that combines intelligence gathering, mission planning, mission preview, and the flying of the actual mission. Maj. Scott Thomas, program manager at Dobbins ARB, Ga., said the system can be plugged into simulators or loaded into weapons computers to carry out actual combat missions. He said that unlike other systems, Digital Warrior is "accessible, portable, and affordable" using off-the-shelf technology.

■ Kelly AFB, Tex., is USAF's choice for DoD's model facility demonstration program, which recognizes excellence in waste prevention, recycling, affirmative procurement, and electronic data interchange. Kelly reduced solid waste by twenty-eight percent from January 1993 to December 1994. It also implemented an electronic contracting system that reduces time and paperwork.

■ Phillips Laboratory, Kirtland AFB, N. M., is building the Defense Department's largest telescope atop Mount Haleakala in Maui, Hawaii. The 3.67-meter telescope will help identify space objects, more than doubling existing capabilities. The Air Force and the University of Hawaii will also use it to advance atmospheric sciences, develop sensor technology, and promote optical and infrared astronomy, said lab officials. It will go into operation in spring 1998.

■ Air Force Space Command has selected the command's best enlisted personnel for 1994: SrA. Beverley Baker, 90th Operations Group, F. E. Warren AFB, Wyo.; TSgt. Bobby Richardson, 30th Operations Support Squadron, Vandenberg AFB, Calif.; MSgt. Debra Schaffer, 30th Maintenance Squadron, Vandenberg; and MSgt. Leslie Ashe, first sergeant for 448th Missile Squadron, Grand Forks AFB, N. D. ■

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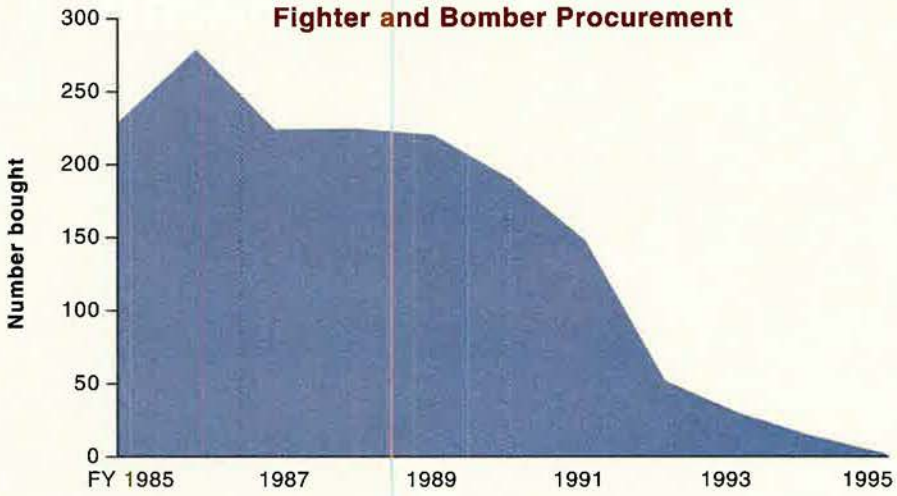
This budget takes the Air Force down to target size, but it isn't possible to live forever from inventory. USAF is presently on a 560-year replacement cycle.

The Force Heads for a Stable Landing

By John A. Tirpak, Senior Editor



After a strong modernization program in the 1980s and early 1990s, the Air Force in 1995 will purchase no bombers and no fighters—a first in its forty-eight-year history.

THE AIR Force is coming in for a landing at what should be a stable, predictable level of funding, force structure, and personnel—for a change.

Under the Fiscal 1996–97 budget request now pending before Congress, USAF will, over the next two years, finally get down to the staffing and spending levels dictated by the Bottom-Up Review (BUR) of defense needs, completed three years ago this month.

By the end of the first quarter of 1995, a little more than 408,000 blue-suiters were on active duty. By the end of 1997, the number of men and women wearing the Air Force uniform will be down to 385,000, the ultimate drawdown goal. USAF has already stabilized at twenty fighter wing equivalents—thirteen active-duty and seven Air National Guard and Air Force Reserve—and maintains 100 bombers available for combat. It was the first service to achieve its planned BUR force-structure levels.

No Lower

With the Republican movement to go at least "no lower" in defense spending and many on the Democratic side sharing that view, the services can look forward to at least a few years of consensus and stability in their budgets. In fact, the services long have maintained that such measures would save money and produce better systems because acquisition managers wouldn't have to run their programs in fits and starts.

The Air Force program for the remainder of the twentieth century,

Photo by Randy Jolly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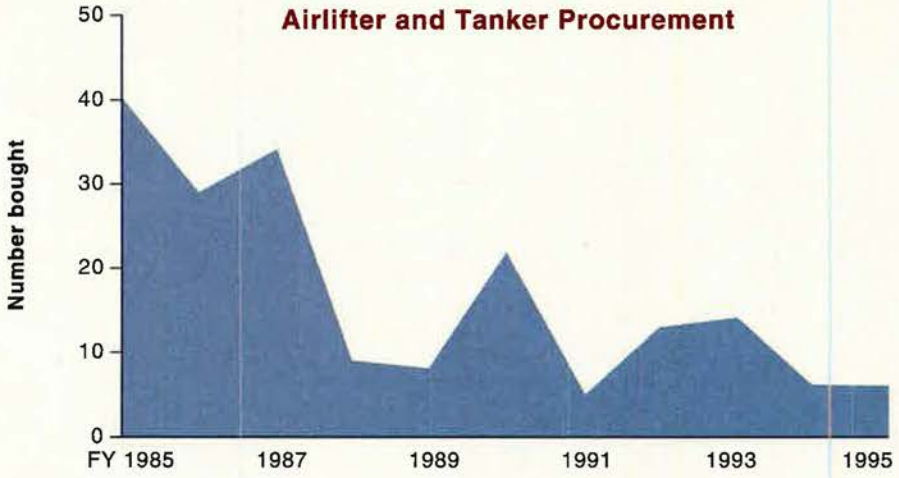


Airlift and air refueling procurement has fallen off sharply since the C-5B and KC-10 programs ended. Handfuls of C-17s and C-130Js are in the pipeline. USAF will buy no tankers for the foreseeable future.

then, isn't likely to veer too far off its current course. The fighter, bomber, airlift, space, and "people" programs now on the books will largely remain intact, assuming no technical glitches. Indeed, as Gen. Joseph W. Ralston, scheduled to take over as head of Air Combat Command (ACC) this summer, said at an Air Force Association symposium last fall, "we know what the force will look like in 2010 because we are buying it now."

Air Force Chief of Staff Gen. Ronald R. Fogleman said he tries "not to get too excited" about talk of increases in the Air Force budget because of "the realities" of the federal government's fiscal situation.

But, he added, "the good thing about all this . . . is that when people are talking about [increases] in defense, you're less likely to have deeper cuts, from an absolute standpoint. So, from that perspective, I feel encouraged."

After several years of sounding the alarm about—and taking steps to protect—readiness, both the services and members of Congress are beginning to notice that modernization accounts have suffered badly in the drawdown, and the number of replacement systems on the books has dwindled to a handful. When asked to comment on where the greatest attention should now be placed, General Fogleman doesn't hesitate to point to system replacement and enhancement.

"That's really where we need some work," he said.

The clear trend within the Air Force is to "neck down" to fewer and fewer types of fighters. The Air Force's Fiscal 1996 budget request sounded the retirement chime for the F-111 and F-4G, which will both be phased out of the inventory by 1997. When they depart, only four types of fighters—half as many as in the mid-1980s and a quarter as many as in the 1970s—will be left in service: F-15s, F-16s, F-117s, and A/OA-10s. The next new fighter to join the stable, the F-22, won't reach operational status for a decade.

Where the Money Would Go

Air Force leaders told Congress this spring that should more money somehow be found—either from increased Pentagon budgets or reductions in other defense programs—their priorities would be to restore funding cuts in the F-22 program, purchase twenty to forty more F-15Es, buy up to 120 more F-16s, upgrade the B-1B and B-2 with conventional capabilities, and acquire more E-8 Joint Surveillance and Target Attack Radar System (Joint STARS) aircraft.

Maj. Gen. John W. Handy, USAF's director of Programs and Evaluation, told attendees at AFA's Dayton symposium in May that USAF-wide aircraft replacement rates have varied widely over the last quarter century—the shortest turnover cycle being seventeen years and the longest being thirty-one years.

Recently, however, things have gotten geometrically worse. "We've been living off our inventory," said General Handy. "We can't keep doing that forever."

Under existing plans, he explained, "we're now on a 560-year replacement schedule" for aircraft. "This," he dryly observed, "is not a sustainable aircraft replacement rate."

General Handy added that, in terms of fixing airplanes and keeping them going, "we're good, but we're not that good."

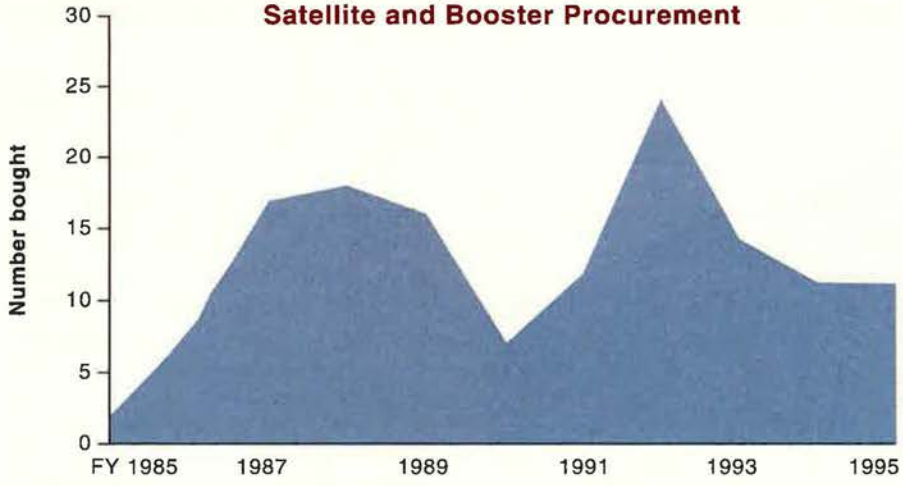
Noting that the Air Force's aircraft procurement accounts have been slashed by seventy-one percent from their high of a decade ago—and the number of new aircraft purchased has declined by ninety percent—General Handy said the "investment decline is a wake-up call" to the service and the nation.

More B-2 bombers appeared nowhere on the service leadership's list of priorities. While some key lawmakers—notably House National Security Committee Chairman Rep. Floyd D. Spence (R–S. C.)—want to increase the B-2 fleet by ten to twenty planes, the Air Force is content for now with a planned force of twenty of the stealthy aircraft. Senior Air Force officials, defending the service's budget request on Capitol Hill this spring, all testified that while more B-2s would be good to have, augmenting the fighter force must take precedence.

Of the two aircraft that make up the bulk of the Air Force's inventory—the F-15 and F-16—the latter is the top priority for replacements, Maj. Gen. David J. McCloud, the Air Staff's director of Operational Requirements, told Congress. Without more Fighting Falcons, the Air Force could, through unavoidable attrition and retirements, shrink by up to 1.6 wings by the time the F-16's planned replacement comes on board in 2010, he reported.

That new aircraft will be born out of the Joint Advanced Strike Technology (JAST) program, which is charged with translating existing or near-term aerospace technologies into a fleet of affordable, highly effective aircraft for all three services that operate jet fighters. The JAST program is also to come up with a plane the US can sell to its allies as a dedicated "export fighter," which will keep costs down by keeping production higher than it otherwise would be.

To broaden the production base further, the US has signed a letter of intent with the UK to pool resources



Recognition of the importance of the "high ground" has kept investment in space hardware on a healthier course. As in other areas, affordability is a concern.

and work together on a common lightweight fighter. The project is to yield an advanced short takeoff, vertical landing plane for the Marines and Royal Air Force and a conventional takeoff variant for USAF, likely to be in the same size and weight class as the F-16. A later variant may replace the F/A-18 in the Navy. The JAST program is being structured so that other allies may participate, as development partners or simply as subcontractors.

2,000 Fighters Needed

Eventually, the Air Force may need as many as 2,000 aircraft to replace the F-16, under a program known as the Next-Generation Fighter.

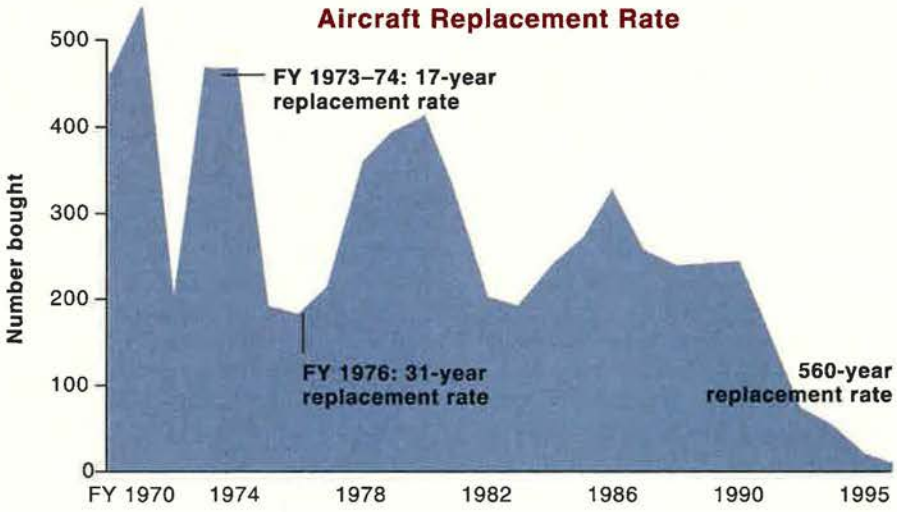
ACC is developing a Fighter Roadmap, which will spell out in detail the number and types of fighters it expects to need over the next thirty years. The Fighter Roadmap is classified for now, but service officials say it will describe ways to replace the F-15E and the F-117, possibly with a two-seat attack version of the F-22. To do that, the Air Force will have to yet again recast what General Fogleman describes as the "tightly orchestrated" chain of project funding under which one program "ramps up" while another winds down. Under such funding plans already briefed to Congress, there are no holes in that chain where new aircraft could be plugged in.

For the immediate future, though, the F-16 force, after dipping to 396 this year, will come back up to 444 aircraft in the next two fiscal years, and, barring any future buys, will remain at that level. Similarly, the F-15C/D and F-15E inventories are already fixed at 252 and 138 aircraft, respectively, not counting attrition. (These numbers do not include test, training, or reconstitution reserve aircraft.) The F-111s that retire will be replaced by F-16s in squadron service, but there won't be an extra buy of F-16s to replace them; the Fighting Falcons will be drawn from other units converting to nonfighter aircraft.

Only one new tactical project has entered the Air Force program, and that is simply a replacement for one that fell out. The new Joint Air-to-Surface Standoff Missile (JASSM) will substitute for the Triservice Standoff Attack Missile (TSSAM), which was canceled last fall. General Fogleman has expressed a wish that the JASSM will build on the work begun in TSSAM but at a more affordable unit cost. Competition for the JASSM was to begin in late spring.

The Air Force's budget request for Fiscal 1996 is $72.9 billion, down 6.3 percent in real terms from the previous year. For Fiscal 1997, the USAF budget increases slightly to $73.2 billion, but this figure still doesn't keep up with inflation; it represents a further drop of 2.5 percent in real terms from Fiscal 1996.

The budget request preserves readiness accounts, such as flying hours, spares, and pay, but buys that readiness "with increased risk in modernization—tomorrow's readiness," Maj. Gen. Allen D. Bunger, deputy assistant secretary of the Air Force (Budget), said in presenting the USAF budget to the press. The operations and maintenance account request stands at $22.5 billion and $22.6 billion for the next two fiscal years, respectively.

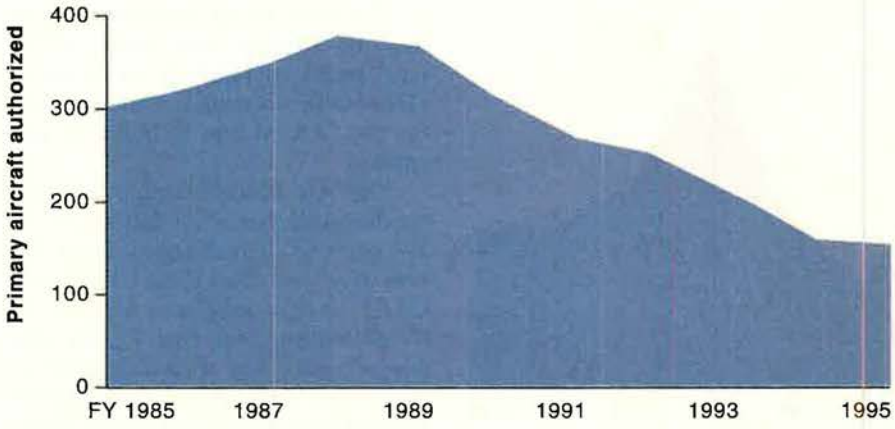


New aircraft buys have dropped so sharply that, at the 1995 rate, it would take 560 years to replace the force. The rate improves somewhat when the F-22 starts to enter service: to 128 years.

Money for Pay, Housing

Although the Air Force request for military pay dips slightly from Fiscal 1996 to Fiscal 1997, the reduction results from the continuing reduction in personnel. Pay is actually funded for an increase of 2.3 percent in Fiscal 1996 and 3.1 percent in Fiscal 1997.

Fewer Bombers



With half as many bombers as it had just six years ago, the Air Force is emphasizing quality over quantity, pushing for greater conventional capability and accuracy upgrades.

Family housing and military construction each would receive about $1 billion a year over the next two years under the requested budget. Air Force procurement funding would drop by a half-billion dollars to $16.6 billion in Fiscal 1996 and only come back by $1.3 billion to $17.9 billion in Fiscal 1997.

By mission areas within the budget, power-projection forces take yet another hit; global mobility and materiel programs remain flat; and space, nuclear, and command-and-control functions, as well as personnel, would increase.

"Nearly seventy percent of the Air Force's TOA [total obligational authority] is for operations and support," General Handy said at the Dayton symposium. "That leaves just thirty percent for everything else," such as research, science and technology, and procurement. The largest item in the procurement budget is the C-17, of which eight were requested in the Fiscal 1996 budget at $2.4 billion. In the Fiscal 1997 budget, the line-item nomenclature shifts to "strategic airlift," which will either fund additional C-17s, or a new Nondevelopmental Airlift Aircraft (NDAA), at $2.6 billion. A decision will be made this fall as to whether one or the other—or both—will be funded with this line item.

Early word on results of the Mobility Requirements Study/Bottom-Up Review Update analysis indicated that the Air Force doesn't have—and won't have—enough strategic airlift to take care of two nearly simultaneous major regional conflicts, even with a full procurement of 120 C-17s or C-17 "equivalent" aircraft. Preliminary results suggest a shortfall of up to six million ton-miles per day in airlift, which strategists say would be crucial in halting an aggression in a second conflict while a first was under way. If the results are accepted, the C-17/NDAA program may be substantially revised this fall.

The second-largest item in the procurement budget is the E-8 Joint STARS, at about $500 million per year. It would buy two aircraft each year. While the Joint STARS program is currently planned to yield twenty planes, former Deputy Defense Secretary (now CIA chief) John M. Deutch said last fall that "as many as forty or more" may be needed. Mr. Deutch said he sees "no end" in the foreseeable future to requirements for Joint STARS, and NATO is in the process of defining a plane similar to Joint STARS.

The rest of the procurement budget is focused on buying the first two C-130J tactical transports and the Joint Primary Aircraft Training System aircraft, of which three are planned in Fiscal 1996 and twelve in Fiscal 1997. A long-deferred decision on the initial shape of the JPATS program and selection of the winning contractor is expected next month.

Focus on the F-22

There are no new fighters in the Air Force budget until the F-22, which successfully passed its Critical Design Review in the spring. Lingering worries over weight growth and cost, however, keep the F-22 a high-visibility, highly threatened program in Congress.

The research, development, test and evaluation budget, after a slight increase in Fiscal 1996 to $12.6 billion, would decline to $11.7 billion in Fiscal 1997. The F-22, at $2.1 billion and $1.9 billion, respectively, is by far the largest RDT&E program, followed by the Milstar project, at $649.7 million and $745 million over the two-year request, and then by the B-2, slated for $623.6 million and $446.2 million.

The Air Force will launch two Milstar satellites this year, and development on the subsequent four satellites continues. While early stages in the B-2 production line are starting to shut down and nearly half the planned inventory is almost finished, stealth research related to the plane and flight testing continue.

Other major RDT&E initiatives include the Spacebased Infrared (SBIR) architecture and Brilliant Eyes program, the successor to the Follow-On Early Warning System (FEWS) project.

Air Force leaders are cautiously optimistic about SBIR and say the service finally has "its act together" on the program, which has evolved from the Boost Surveillance and Tracking System, FEWS, and Alert, Locate, and Report Missiles system over the last decade. By using existing technology and a leaner approach to the project, USAF hopes to fashion a more affordable—and hence more attainable—program.

The Air National Guard, deeply engaged in nearly every contingency involving the Air Force, will shrink considerably over the next two fiscal years, losing 140 and eleven planes, respectively. The losses are mainly among air defense F-15s and F-16s and the phasing-out of RF-4Cs and F-4Gs. However, the Guard picks up two B-1Bs in both years, as well as a dozen each of A-10s and C-130s.

Operations and maintenance spending for the Guard, after dipping in Fiscal 1996, ticks back up to around $2.7 billion in Fiscal 1997, about where it was in Fiscal 1995. Although the Guard is smaller, the increase just about keeps pace with inflation, for a net flatness in O&M accounts.

The Air Force Reserve sees a boost in O&M spending for Fiscal 1996 and 1997, to about $1.5 billion. The

Reserve will gain twelve KC-135s and five C-17s in its Associate program, though it will lose twelve C-141Bs and fifteen F-16C/Ds and convert twelve A-10s to the OA-10 mission.

"Seamless" Integration

General Fogleman said the Associate program has worked so well for so long that the Air Force alone among the services enjoys "seamless" integration between active-duty and Reserve forces. The addition of the two new types to the Associate program will be the first of what he expects to be similar programs in "many types" of aircraft, including fighters.

The Guard is acquiring B-1B bombers partly because it can operate the type at somewhat lower cost than can the active-duty units. Given the shift in mission of the B-1B from nuclear penetration to strictly conventional attack, the move is "an appropriate one," ACC Commander Gen. John Michael Loh said. General Loh said he sees the B-1B—assuming it gets its high-priority conventional upgrades—as the heir apparent to long-range interdiction missions previously dominated by the F-111. The money saved by moving some B-1Bs to the Guard and to "flyable reserve" status will help fund the conventional upgrade.

The B-2 Spirit will maintain its nuclear mission with nuclear gravity bombs, but it, too, will acquire a near-term conventional weapons capability with the Global Positioning System–Advanced Targeting System/GPS-Aided Munition (GATS/GAM) project, which will provide enough precision weapons for each B-2 to make one pass at an enemy's forces by the end of 1997. More "robust" conventional capabilities will be added in the Block 20 and Block 30 B-2s. They will also be stealthier than the current Block 10 models. Eventually, all B-2s will be upgraded to Block 30 configuration.

The venerable B-52H Stratofortress will retain its already thirty-two-year-old nuclear role under the Air Force program, carrying the stealthy AGM-129A Advanced Cruise Missile. This spring's congressionally mandated Heavy Bomber Force Study did not consider an inventory without the B-52H—though it did consider a fleet with none of the twenty-year-younger B-1Bs—because the Strategic Arms Reduction Treaty permits only the B-52H and B-2A to carry nuclear weapons.

The initial portion of the Heavy Bomber Force Study, completed in May, determined that while further buys of B-2s would certainly make the prosecution of two nearly simultaneous major regional conflicts easier, it would be "far more cost-effective" to put a much smaller investment into B-1B and B-2 conventional upgrades and a "significantly higher" number of precision standoff munitions, Under Secretary of Defense for Acquisition and Technology Paul Kaminski said in unveiling the study's results. Not only do standoff weapons radically improve the effectiveness of existing bombers, he said, but they can also be carried by tactical aircraft and improve their effectiveness as well.

Secretary Kaminski also said that the Pentagon plans to retain the B-52 into the 2030s.

General Handy said that the Air Force program must chart "a balance [among] strategy, force structure, and budget." If the strategy is an ironclad requirement, but the force lacks enough tools to do the job, then resources "must be increased," he said. If the resources are fixed, as they appear to be today, then "you have to change the strategy," he said.

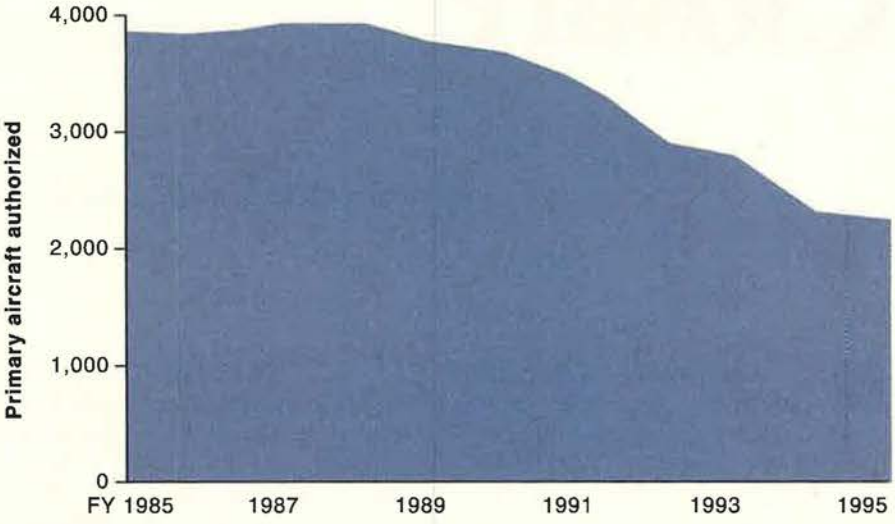
The very term "Air Force program" may be quickly obsolescing. General Fogleman has made it well known that he considers the "programmatic approach" to planning to be too oriented toward "measuring what's behind you, not what's ahead." And, he argues, it leaves too little room for the bold, imaginative steps he feels will be needed to keep up with the rest of the world.

Because technology has shifted into warp speed—computers doubling in power less than every eighteen months, for example—General Fogleman wants Air Force planners to take a new view that "looks back from the future." Such a method would assume certain capabilities will be available—or necessary—in thirty years and "builds backward" toward doing today what must be done to make those technologies possible.

Air Force planning must shift toward generating radical ideas, exploring their merit, and integrating them quickly into the force to remain on the cutting edge of technology that's already razor sharp in what General Fogleman calls a "Revolutionary Planning Process."

It won't be, he said, "a one-time process. . . . As we approach one waypoint, we'll shift focus to a new point, further along our route. . . . This is a journey that will never be finished." But it must happen, he added, because if the Air Force is to remain relevant after the Cold War, "we need to break the Cold War molds of how we do business." ■

Shrinking Fighter Fleet



The fighter fleet has shrunk to match the near-halving of the fighter wing force structure. The Air Force is "necking down" to just a few types of fighters: F-15s, F-16s, A/OA-10s, and F-117s.

Communities that take the right steps often come out ahead in jobs.

The Economic Impact of Base Closure

By Suzann Chapman, Associate Editor

News reports from around the country give heavy play to attempts by local communities to save their defense installations from closure. However, the dire economic consequences they often predict may not accurately reflect tomorrow's reality. In fact, from 1961 to 1993, as the Defense Department tracked about 100 military base closures, it found that communities created nearly twice as many civilian jobs as had been lost.

In these areas, the services eliminated 90,000 jobs, but more than 170,000 civilian jobs sprang up in their place.

Even so, there is no doubt that shutting down military installations initially can be devastating—so much so that, in the latest round of base realignment and closure (BRAC) actions, the Defense Department created a Joint Cross Service Group on Economic Impact. The group met for a year, according to the 1995 DoD Base Closure and Realignment Report, to review methods for economic analysis and establish common measures and approaches.

Each service, in its study of possible base closure actions, applied the same economic impact analysis and, under the direction of the Defense Department, also reviewed the cumulative economic impact of the past and present BRAC actions. Defense Secretary William J. Perry emphasized in a press briefing discussing the 1995 recommendations that the Pentagon went one step further and compared the impact across the services "to be sure that the cumulative effect is not necessarily disruptive in any one region."

Secretary Perry stated, for example, that California had lost a total of 26,000 civilian jobs as a result of previous BRAC actions, while in the 1995 recommendations it will lose about 3,900. "So it's still a significant impact but much smaller than in previous years," Secretary Perry said. "By contrast, Texas, which [felt] an almost negligible effect of closures from previous years [losing a total of 100 jobs], will lose 6,600 civilian jobs this year."

The Defense Department actually has been in the business of helping communities restructure their economies for more than thirty years, working principally through its Office of Economic Adjustment (OEA). However, only within the past two years has DoD's base disposal and reuse process been greatly streamlined.

During the 1988 BRAC round, two major stumbling blocks slowed the property disposal process and handicapped communities struggling to revitalize their economies.

First, the Defense Department still operated under the Federal Property and Administrative Services Act of 1949. Under the act's provisions, DoD could make free or heavily discounted transfers of property to communities or institutions, but only for such public-use activities as aviation and recreation. There was no provision for communities to use military facilities for commercial activity and job creation. The disposal process was long and often led to disputes over the fair market value of the property.

The other problem was the Stewart B. McKinney Act, named for the late Connecticut congressman. It gave homeless persons the highest priority in the use of excess federal property, without consideration of the value of possible reuse by the surrounding communities.

Simplified Process

These two federal acts, when com-

Photo by Nate Leong

Where aircraft once pulled up to this hangar at the former Chanute AFB, Ill., cars now park, and a C-133 Cargomaster is relegated to the background. Chanute has made a successful transition to civilian use and now has tenants that include a printer, an auto dealership, an auto parts manufacturer, and a university.

bined with existing environmental regulations, created a ponderous closure process that dragged out for nearly five years for bases on the 1988 BRAC list. However, under new legislation and guidelines, the Defense Department has reduced the closure time for bases on the 1993 list to approximately two years.

This streamlining was first embodied in a five-part program for revitalizing "base-closure communities." The program, developed by the Clinton Administration and issued July 2, 1993, introduced job-centered property disposal, faster environmental cleanup, base transition coordinators, coordinated federal redevelopment help, and larger economic-planning and adjustment grants.

The first measure was the job-centered property disposal process, which became law with passage of an amendment to the Fiscal Year 1994 Defense Authorization Act. Sen. David Pryor (D-Ark.) sponsored the amendment with assistance from the National Economic Council, the Defense Department, and affected communities. The amendment "allows the military to convey property, buildings, and equipment to the communities at less than fair market value and, when appropriate, for free to help create jobs," noted a December 1993 Pentagon statement.

Included in this measure was the authority to let communities use federal property even before it is ready for sale or transfer. Even as the government proceeds with environmental cleanup or other closure actions, a community may lease all or part of the property to encourage rapid economic development.

The second part of the program, faster environmental cleanup, entailed creation of base cleanup teams that include members from the Defense Department and the Environmental Protection Agency and state experts who work together at each closing installation. "No one would ever say the process of cleanup is quick or easy, but what we're trying to do is do it faster and better," said Joshua Gotbaum, the Pentagon's assistant secretary for Economic Security at a March press briefing that featured mayors from two communities working on closure actions. "We're making some progress."

The third element of the program was the establishment of base transi-

tion coordinators who work directly with the community and today number about seventy—one for each major closing installation. Mr. Gotbaum said that these coordinators act as ombudsmen between the community and all levels of government. He predicted that another thirty to forty coordinators will be added as a result of the 1995 BRAC decisions.

The fourth and fifth elements of the program, coordinated federal assistance and larger grants, are interrelated. Federal assistance for most communities starts with the Defense Department's OEA but may also include the Department of Commerce's Economic Development Administration, the Department of Labor, the Federal Aviation Administration, and possibly other federal agencies.

OEA assigns project managers to each community to help develop economic adjustment strategies and detailed base reuse plans. The office also awards planning grants. Secretary Perry told the US Conference of Mayors in February that the grants have nearly tripled in three years and that, last year, the average grant was "just more than $400,000 [per year]." The 1995 Defense Department report states that the average grant is now $1 million per community over five years, and it takes only about two weeks to process.

The Department of Commerce and Defense Department also joined forces to establish the Office of Economic Conversion Information, which serves as a clearinghouse on all federal transition assistance programs. The office has both an Internet connection, ecix.doc.gov, and a toll-free number, (800) 345-1222. The Labor Department and the Defense Department also send a team to each community facing a major base closure to describe job training programs and help set up local job referral services.

Local Control

In addition to these five measures, President Clinton signed the Base Closure Community Redevelopment and Homeless Assistance Act of 1994 last October. The new act exempts newly closed or closing base property from the McKinney Act and transfers responsibility for screening and examining the local needs of the homeless to local communities.

According to a Pentagon statement announcing the act, the old process "caused major problems, delays, and conflicts between economic development and homeless needs at closing bases." Under the new act, local homeless providers submit their proposals to the community reuse planning group instead of the federal government, which now limits its participation to a review of the process by the Department of Housing and Urban Development.

With the combined effects of these streamlining measures and simply learning the business, both the Defense Department and the affected communities have decreased the wait between active military presence and active redevelopment. Testifying before Congress in late February, Mr. Gotbaum said that in BRAC 1988, the average community took nearly two and a half years to create a reuse plan; in the last round (BRAC 1993) that time dropped to only a year.

"Faster reuse benefits the department as well as base closure communities, because only when a community begins to take responsibility for base property can DoD cease its security and maintenance expenses," he added. Estimates for those costs run from $2 million to $3 million per year for a closed base and to more than $10 million for large industrial facilities, such as shipyards.

The Defense Department has already counted some 8,000 new jobs and more than 200 tenant businesses from community redevelopment efforts since the BRAC process began in 1988. Mr. Gotbaum said that, on average, the Pentagon finds that a year after formal closing about sixty percent of the civilian jobs lost at the installation have been replaced.

"This process is not easy. It is not quick, and it is certainly not smooth," Mr. Gotbaum said. "Some communities have a tough time attracting new businesses, and sometimes doing so takes considerable time, but it does happen."

Life After Closure

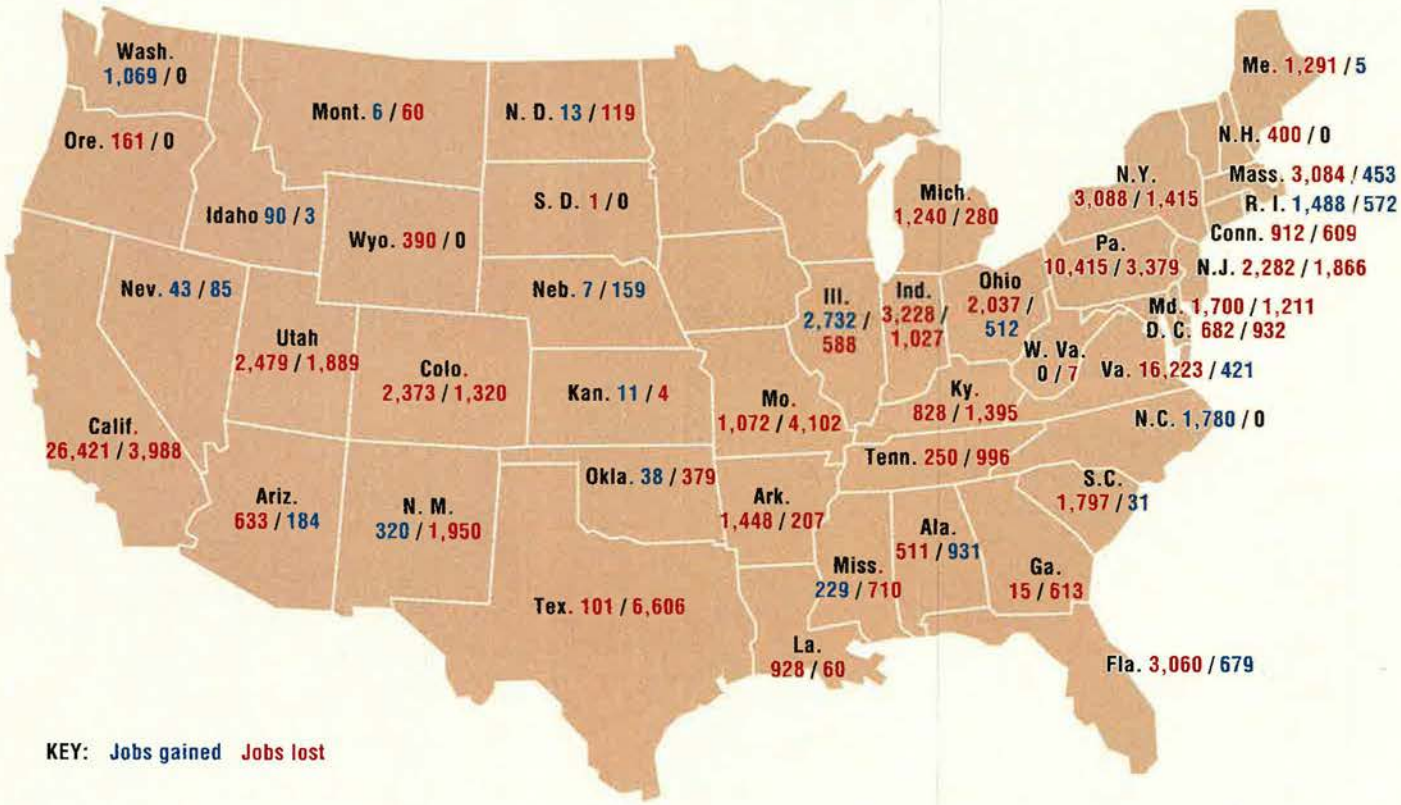
In fact, representatives from two communities came to the Pentagon shortly after the Defense Department's announcement of proposed 1995 closures to explain to reporters that, although the process is not easy, it is possible to turn a potential catastrophe into good fortune. They emphasized that it pays to start planning now for a future without military presence.

Mayor Edward Randolph, Jr., of Alexandria, La., who has been working redevelopment issues since his city was faced with the closure of England AFB in BRAC 1991, said that when the base closed in 1992, it had 800 civilian jobs. The community has attracted more than 800 new jobs and still is looking for new businesses.

England AFB now is home to a commercial airport, a trucking company, and retail stores. A state hospital is using the former base hospital, and an elementary school occupies the base school. "We thought by this time [March 1995] we'd have six leases," said Mayor Randolph. "We have thirteen leases already."

Questioned about the impact of the lost military jobs—not just civilian jobs that have been reclaimed—he added that they had been worried that their sales tax base might crumble because the Air Force's $70 million payroll had been supplanted with only a $13 million payroll so far. However, he said, "Our sales tax [revenue], instead of going down by ten percent, . . . has actually increased steadily since the base was closed."

Net Effect of Base Realignments and Closures on DoD Civilian Jobs (Previous BRACs / BRAC 1995)



He attributed this increase to the fact that much of the military payroll remained on base and was spent at the exchange and commissary.

On March 28, when the Pentagon signed a long-term lease with the England Authority (a joint program between Alexandria and nearby Pineville), DoD essentially transferred an entire base intact for the first time to a local community. USAF must continue its environmental cleanup, ninety percent of which is expected to be completed next year, but the base now belongs to the communities.

Another success story came from Katy Roberts Podagrosi, mayor of Rantoul, Ill., home of Chanute AFB. When Chanute went on the block in 1988, she said, Rantoul stood to lose more than half its municipal income. Instead, the city is years ahead of its long-range financial and job-development projections.

The base had employed 2,600 civilians, but since December 1988, Rantoul has added some 2,500 jobs. The base now houses forty-five industrial and commercial tenants, who generate $1.2 million in annual leasing revenues. Tenants include a printing firm, auto dealerships, an auto parts manufacturing firm, and the University of Illinois.

Some 300 families reside in former base housing, with developers continuing to bring in about forty per month. To support those families, Rantoul runs a youth center, a hospital, schools, and recreation areas—all former base facilities.

Both mayors emphasized the need for communities just entering the closure battle to develop their reuse plans at the same time they begin appealing the closure recommendation. Mayor Randolph said, "You still have to fight for your facility. You owe that to your people to fight for their jobs. But you also owe it to your community to find ways to reuse the base if your appeal fails."

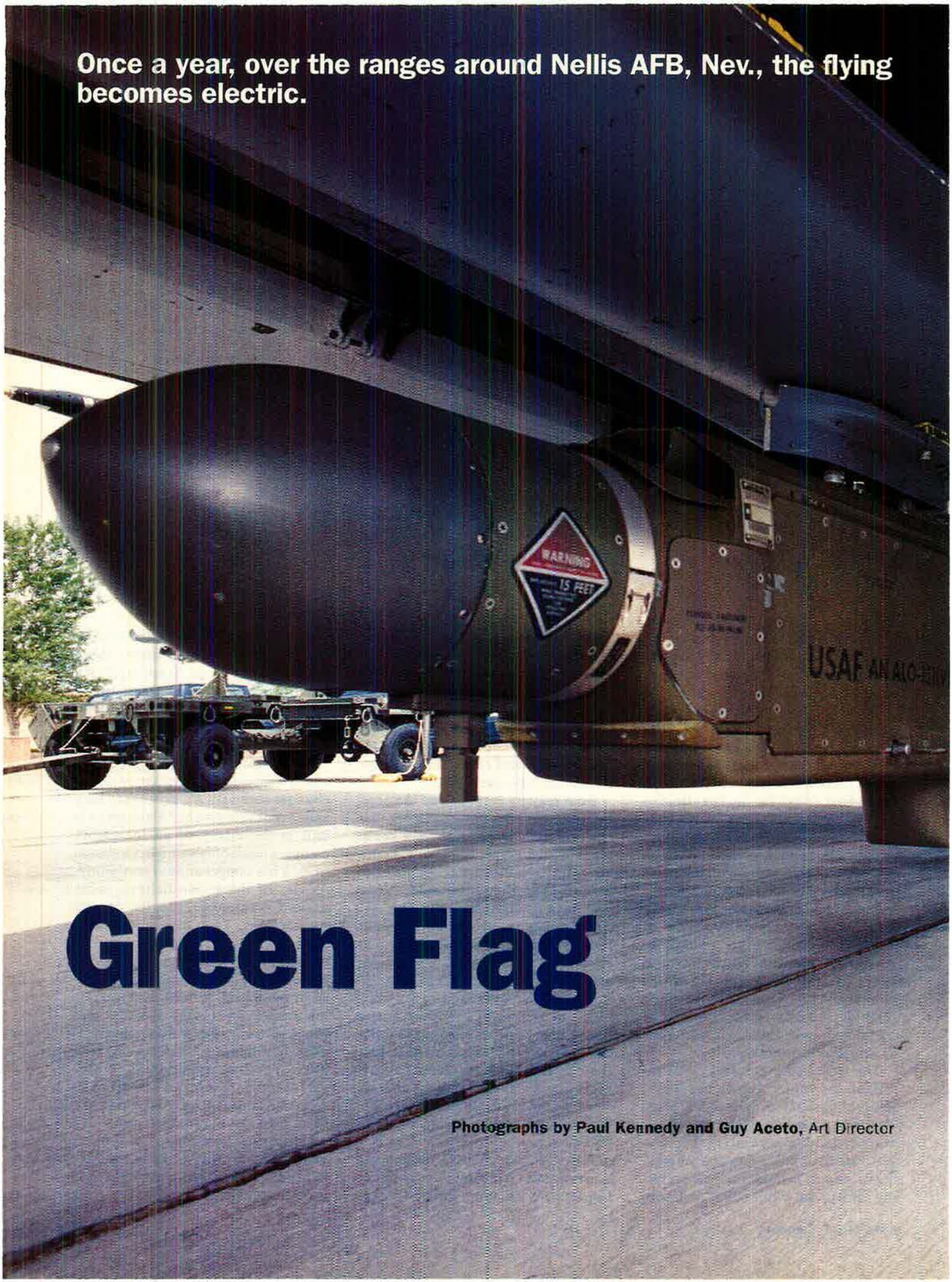
Appeals have worked in the past. Previous Defense Base Closure and Realignment Commissions have made changes to DoD recommendations, such as the 1993 reversal that left McGuire AFB, N. J., intact and instead closed Plattsburgh AFB, N. Y., which was to have gained some McGuire units.

However, the chances for appeals to work today are slim. The Defense Department has not yet pared its infrastructure down to its reduced force-structure level—which means more facilities must close. Secretary Perry has already said that he wants to ask for another closure round in three to four years *[see "More Base Closings in the Works," June 1995, p. 54].*

Meanwhile, DoD officials readily admit that they still want to make changes to the BRAC process to help speed redevelopment. "Base reuse is still at the mercy of an incredibly complex maze of laws," Mr. Gotbaum said in his congressional testimony. "Many of those, we believe, were drafted in a simpler time, for simpler transactions. They were not created to deal with the challenges of property transfer on this grand scale."

He added, however, that most consider the BRAC process an unparalleled success. Under BRAC, said Mr. Gotbaum, the Defense Department has already taken actions that have "resulted in hundreds of closures and realignments within the United States, seventy of which are identified as major closures." By comparison, he added, "in the ten years prior to BRAC 1988, the department was able to close only four major facilities." ■

Once a year, over the ranges around Nellis AFB, Nev., the flying becomes electric.



Green Flag

Photographs by **Paul Kennedy and Guy Aceto,** Art Director

Electronic Combat is the focus of Green Flag, the annual Air Combat Command exercise at Nellis AFB, Nev. In preparing for a mission during the largest composite-force, live-flying exercise in the world, F-111 crew chief SrA. Michael Klaubo, from the 27th Fighter Wing at Cannon AFB, N. M., checks over an ALQ-131 countermeasures pod.

Photo by Guy Aceto

Once a year, more than 900 aircrews from the Air Force, as well as Navy and Marine air units and more than 1,400 support personnel, gather at the ranges near Nellis for an experience some have called Red Flag's "graduate-level course." During six weeks in March and April at Green Flag, crews receive highly realistic training in Electronic Combat (EC) operations at a level of sophistication greater than at any other exercise. Live flying provides aircrews and ground crews with the challenge of handling a real-world combat operations tempo of as many as 100 sorties daily. At left, an F-111F from the 27th FW waits for its crew, while an EC-130H taxis out for its next sortie.

Photo by Paul Kennedy

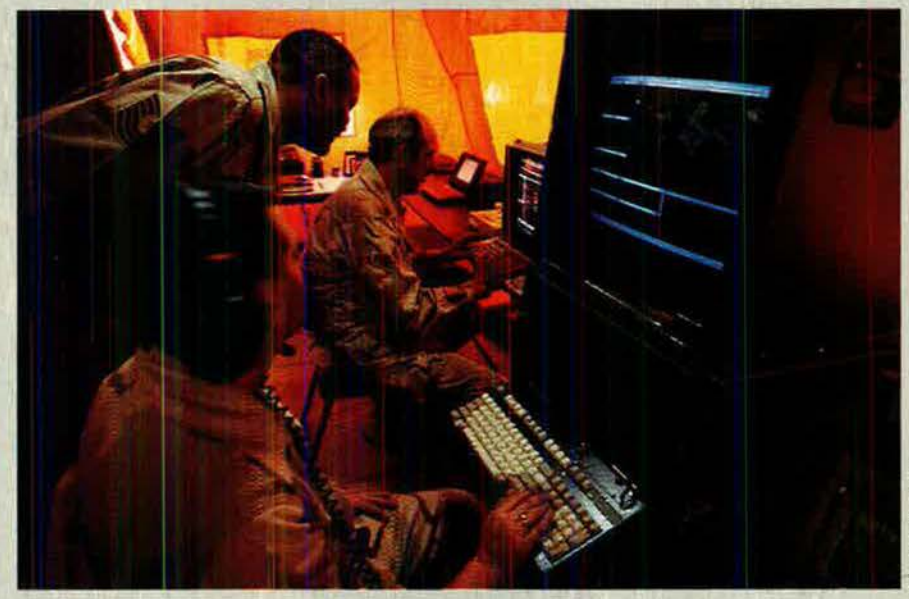


Photo by Guy Aceto

Photo by Guy Aceto

Electronic Combat begins where the mission begins, in the planning and preparation of intelligence that will form the Air Tasking Order (ATO), a daily set of missions to be sent to each squadron. At Green Flag, personnel from the 609th Air Intelligence Squadron, Shaw AFB, S. C., set up a representative command, control, communications, computers, and intelligence architecture. Their limited Air Operations Center was much like the famous "Black Hole" at Riyadh, Saudi Arabia, the center of air combat planning during the Persian Gulf War. At left, TSgt. Teresa L. Bosch prepares post-strike imagery, beginning the process that will produce the next day's ATO. The information is worked into a comprehensive scenario, complete with a fictitious country with a history going back to the fifteenth century.

Photos by Guy Aceto

After briefings that included all players, the Blue Force sets out on the day's missions. Above, an F-15C from the 71st Fighter Squadron, 1st Fighter Wing, Langley AFB, Va., tucks up its gear as the pilot flies off to provide top cover for the strikers. Even the Air Warfare Center's testing units get into the act (at left). This year's Green Flag saw the introduction of F-16s with the new AN/ASQ-213 High-Speed Antiradiation Missile Targeting System, giving the aircraft the ability to find and target surface-to-air threats independently with the versatile AGM-88 HARM. Other "HARM shooters," such as F/A-18s and EA-6Bs, also were involved in the important Suppression of Enemy Air Defenses mission.

The Red Force had a plan as well. Below, "home team" F-16Cs from the 57th Wing at Nellis AFB launch for their part in the day's "war." Combat packages in each force can consist of ten to fourteen interdiction aircraft supported by twenty-six to thirty counterair, EC, reconnaissance, tanker, and command-and-control aircraft.

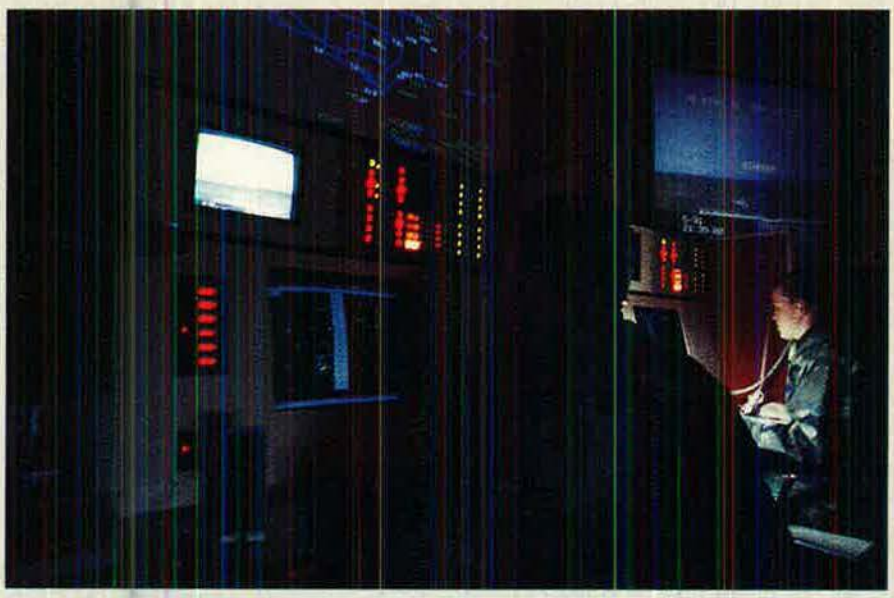


Photo by Guy Aceto

Ground controllers play a vital role in monitoring the huge range complex at Nellis, which encompasses more than 12,000 square miles. At left, inside the Red Force's Air Operations Center, keeping the airspace safe is a priority for controllers. They are also key to the Red side's plan of attack, controlling groundbased communications and radar jammers, surface-to-air missile sites, antiaircraft artillery, and a host of other realistic threats that turn the desert range into an electronic battlefield. Range instrumentation also records all the action, so at the end of the day, the players can learn from their successes and mistakes and prepare for the next sortie. This detailed and timely feedback is at the heart of Green Flag.

In a highly realistic touch, this year's exercise introduced crews to what one possible threat really looks like and how it flies. At right and below, a Marine aircrew takes a close look at one of two Russian-built Mi-24 "Hind" attack helicopters that served on the Red Force during Green Flag. The Hinds performed several different missions during the exercise. Along with an Antonov An-2 "Colt" that took part in the previous week's scenarios, the Hinds belong to the US Army's Operational Test and Evaluation Command's Threat Support Activity, from Fort Bliss, Tex. At their Green Flag debut, they were the center of attention wherever they showed up. Crews on both sides look forward to meeting the Hinds again next year.

Photo by Guy Aceto

Photo by Paul Kennedy

Photo by Paul Kennedy

Photos by Guy Aceto

For aircraft like this EC-130H "Compass Call" from the 43d Electronic Combat Squadron at Davis-Monthan AFB, Ariz., Green Flag is the place to be. It is the only exercise that can approximate the combat environment in which they expect to operate. At right, a Compass Call crew receives a briefing before a mission. Above, the aircraft, loaded with antennas, taxis out for the sortie. Other electronic assets, such as EF-111s, EC-135s and RC-135s, and even Navy and Marine EA-6Bs, get much more of an electronic "work out" at Green Flag than at any other exercise.

Planning for the composite-force training exercise starts a year ahead of time and is complex because it involves so many types of aircraft and the assets of other services. The "war" is coordinated through the Air Warfare Center, Eglin AFB, Fla., and the USAF Weapons and Tactics Center at Nellis AFB. Nellis becomes the host, offering the use of its extensive Red Flag facilities, state-of-the-art range instrumentation, and support for visiting personnel and aircraft.

Photo by Guy Aceto

Though Green Flag is an Air Force exercise, jointness is the key. As other services pick up electronic missions, the exercise reflects this cross-service training. "What you see now is the perfect opportunity to work with sister services, both the platforms and the crews," said Capt. Barry MacNeill, chief of assessments at Green Flag. This year, Marine and Naval aviators worked with Air Force units that they will undoubtedly meet again on a real-world deployment. At left, two F-14s from VF-84 "Jolly Rogers" take off for a bombing mission, a new requirement for a unit traditionally tasked with air intercept. Below, an EA-6B from VAQ-129 at NAS Whidbey Island, Wash., sits ready for its next chance to "jam."

Photo by Paul Kennedy

Photo by Guy Aceto

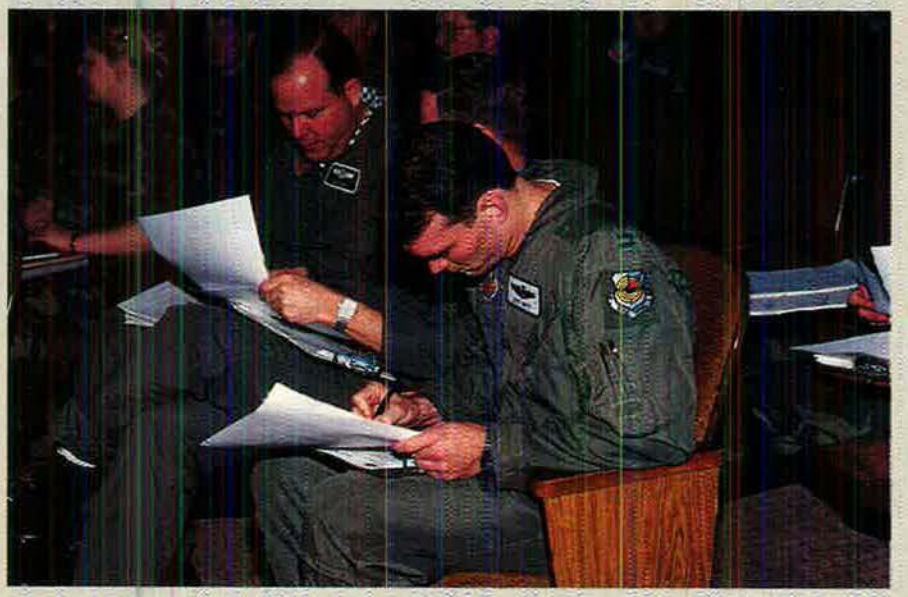


Photo by Paul Kennedy

Feedback is as important as the actual flying at Green Flag. White Forces look at the results of each mission, right down to the level of individual aircrews. Daily briefings give everyone a chance to take notes on what worked, what didn't, and why. The Air Warfare Center brings almost 100 people to Nellis solely to provide evaluation and feedback at Green Flag. Aircrews take this information with them, and the lessons learned become part of training scenarios used by their own units. Mass debriefings are sometimes spirited because crews are encouraged to be forthcoming. Everyone who flew the day's missions is able to voice thoughts on the day's results, good or bad.

Photos by Guy Aceto

When the debrief is over and the participants have reviewed their notes, it's time to take off and do it again. Above, a pilot from the 71st FS straps on an F-15D, ready to fly top cover for the Blue Force strikers. At left, a Blue Force E-3 Airborne Warning and Control System aircraft prepares to take up position to control its part of the war. Below, an EF-111 takes off to block for a Blue Force strike package.

Today's battlefield is an "electric" place. Electronic pods, sensors, and weapon platforms are part of air forces all over the world, including Third World countries. Even a friendly system could some day become a threat, so in-depth knowledge of how systems work could be the difference between getting a bomb on target or never getting off the runway. Green Flag brings together a wide variety of strike, EC, and support aircraft along with command-and-control assets and intelligence systems of almost every type. By the end of the six weeks, the view among participants is universal: You train how you fight, and this is the toughest training anywhere. ■

The Air Force has worked hard to fix the problems the Gulf War revealed about the Civil Reserve Air Fleet.

The Comeback of CRAF

By Peter Grier

Not all US strategic airlifters sport standard Air Force military paint jobs. Some bear the colors of Federal Express—or World Airways, American Airlines, or any of the other civilian carriers that participate in the US Air Force's Civil Reserve Air Fleet (CRAF) program. They play a more critical role than ever before.

Under CRAF, airlines commit passenger and cargo aircraft to be available for military call-up during major contingencies. In return, these commercial carriers get a guaranteed slice of day-to-day US government transportation business.

CRAF provides a sizable part of the nation's strategic mobility, so much so that Air Force officials say they are totally committed to fixing problems in the program revealed in the aftermath of Operation Desert Storm. That means, among other things, continuing to work on incentives for the airlines to increase the level of their CRAF participation. It means bolstering CRAF insurance protection. It means making sure civilian aircrews receive the same chemical weapons protection gear as their military counterparts.

Overall, claim Air Force officials, CRAF is in pretty good shape—a significant improvement, they say, over the situation of only one year ago. In the wake of Desert Storm, the program developed a number of cracks that needed to be repaired. As recently as July 1993, World Airways Chief Executive T. Coleman Andrews and other airline executives were warning that CRAF's future was in doubt. That is not the case today.

Commercial aircraft promised under CRAF make up more than ninety percent of the Air Force's long-range passenger-carrying capability and thirty percent of its cargo-hauling capability. If the Air Force lost this capability, replacing it with purely military assets "would bankrupt the Treasury," warned Gen. Robert L. Rutherford, commander in chief of US Transportation Command and commander of USAF's Air Mobility Command. "I must keep CRAF viable," he said.

Korean War Buildup

The CRAF program has its roots in the military's Korean War buildup in 1950 and 1951. The sudden surge

Third Army troops arrived in Saudi Arabia in January 1991 on this unmarked 747, courtesy of a civilian carrier participating in the Civil Reserve Air Fleet program. During the Persian Gulf War, more than sixty percent of troops and twenty-five percent of cargo airlifted into the Kuwait theater of operations traveled by CRAF carriers.

Photo © Randy Jolly / Arms Communications

in troops and equipment to the Korean theater strained the US military's airlift arm, which could spare only 100 aircraft for the effort.

In response, President Harry S. Truman issued an executive order in early 1951 that led to the founding of a Civil Reserve Air Fleet. Patterned after World War II experience, the new program enlisted the US airline industry to help create a contingency airlift capability for the nation. It has been operating ever since.

Airlines that want to take part in CRAF offer a list of militarily useful aircraft that they are willing to commit to the government. Nowadays, "militarily useful" particularly applies to long-range 747 jumbo aircraft, outfitted to carry either passengers or cargo. The airline and the federal government then sign a contract (currently, one year in length) entitling AMC to mobilize the aircraft and their crews in case of a national requirement.

Airplanes are assigned to a particular task, such as short-range cargo hauling or long-range passenger carriage. They are also placed in one of the CRAF stages (Stages I, II, or III), which are designed to enable US officials to tailor their call-up to the needs of a particular emergency.

Stage I can be set in motion by the head of US Transportation Command. It uses just a few aircraft from any one carrier and is supposed to result in minimal impact on normal civilian business. Stage II can be activated only at the level of the Secretary of Defense. Its impact is necessarily more serious, though airlines should still be able to maintain normal operations. Stage III must be authorized by an emergency declaration from the President or Congress and would likely put a serious dent in US civilian transportation schedules.

In return for enlisting their aircraft in the reserves, airlines receive peacetime US government contracts for hauling people or goods. The amount of business received is in proportion to the number of aircraft offered for CRAF commitment. This is no small incentive in a profit-hungry industry; the Pentagon estimates that CRAF contracts in Fiscal 1995 will exceed more than $500 million. In Fiscal 1994, which saw an unusual level of overseas US deployments and airlifts as well as the temporary stand-down of much of the C-141 fleet, CRAF contracts generated some $650 million in revenue.

As of this April, 536 commercial aircraft were committed to the CRAF program. That represents a significant increase over 1994's 408. Total capacity of these airplanes is almost twenty million ton-miles a day. To see how important the program is to US national security, consider that all US airlift assets, CRAF included, can carry about forty-eight million ton-miles a day.

All major US carriers are now represented in CRAF, helping fulfill a broad Air Force management goal. "We want to spread the risk and impact of everything that we do across all the carriers," said Col. Murrell D. Porter, assistant for Civil Air in the directorate for Operations at AMC, Scott AFB, Ill.

The Top Requirement

At AMC headquarters, CRAF officials say they are close to meeting their most important requirement—aircraft committed to long-range international routes. In this category,

the Air Force seeks commitments for the equivalent of 136 wide-body 747 jets for passengers and 120 for cargo. So far, they have received commitments sufficient for 133 passenger 747 equivalents and 110 cargo 747 equivalents.

The Air Force recently eliminated part of its shortage of long-range CRAF airlifters by redefining its requirement for passenger-carrying capability. The old figure was 210 747 jumbo jet equivalents, but the Mobility Requirements Study/Bottom-Up Review Update analysis determined that this figure had been based on outdated Europe-based scenarios. Accordingly, the figure was lowered to 136.

It is in the area of aeromedical evacuation aircraft that CRAF continues to experience its largest shortfall. Right now, Air Force kits that convert aircraft into these flying hospitals fit only Boeing 767s. Airlines are reluctant to commit these new and popular airplanes to CRAF for fear of losing passengers. A redesign of the kits, allowing them to fit in other aircraft, is one prospective solution.

"We need forty-four of those aeromedical aircraft," said Colonel Porter. "We only have nineteen right now."

As Air Force officials tell it, the CRAF program reached a major milestone during the Persian Gulf War because it exposed some latent problems. Not that the CRAF team performed poorly during the Gulf War. From a military point of view, it did very well. Eventually activated to the level of Stage II, CRAF produced more than 5,000 missions between August 1990 and May 1991. More than sixty percent of troops and twenty-five percent of cargo airlifted into the Kuwait theater of operations traveled via CRAF assets.

"Perhaps the single most important lesson learned from [the Gulf War] is that CRAF works," concluded a RAND Corp. study of the program's experience. "But . . . some changes are necessary to ensure a robust CRAF for the future."

For one thing, CRAF's Desert Storm activation—its first ever—showed problems with such basic issues as insurance. CRAF carriers were eligible for government-sponsored liability coverage to replace commercial policies that did not cover wartime situations, but it was not clear whether some routes, such as short hops within the US itself, were covered. Nor could the government entirely replace aircrew life insurance canceled because of the Desert Storm call-up.

CRAF Gets Bigger

	Stage I	Stage II	Stage III
Fiscal 1994	72	271	408
Fiscal 1995	80	272	536
Difference	+8	+1	+128

After experiencing problems for a few years, the CRAF fleet has begun to grow again. Figures are cumulative, representing the total number of long-haul commercial airliners committed to the CRAF mission at each of the call-up stages. Compared to last year, the Air Force in 1995 would have access to 128 more airliners during a full-scale CRAF activation.

Closing the Gaps

Recently, CRAF officials obtained US government approval to close the gaps in its liability and aircrew insurance coverage. The Pentagon has authorized the use of defense business operating funds to pay for any large CRAF insurance loss—a big issue for carriers worried that Congress would haggle for months over payment of the $100 million or more needed to cover the replacement cost of a wide-body aircraft.

"We're better prepared to implement this program more quickly now," said Colonel Porter.

Operational friction was another glitch that appeared during the activation of CRAF. Existing communications systems did not always identify the type or owner of a CRAF aircraft before its arrival, too often resulting in rebuilding of pallets or difficulties in the transport of hazardous materials. Lack of the proper ground equipment slowed loading and unloading, adding to airfield congestion.

The civilian CRAF crews sometimes felt that they lacked adequate information about possible threats at destinations. Many also felt they were not receiving the same level of protection needed to withstand a chemical weapon attack as the troops they were transporting received.

Since 1991, the Air Force has upgraded communications systems sufficiently to permit adequate tracking of CRAF missions, claim Air Force officials. The Air Force now can place encryption devices aboard CRAF aircraft, permitting USAF personnel to transmit threat information to an airplane en route to a war zone. CRAF officials hope to obtain a secure data link with their carriers. A new 60K loader will soon be rolling off production lines, greatly increasing the ability of Air Force ground crews to service commercial aircraft.

Chemical suit ensembles are also in storage, ready for deployment to CRAF crews in a call-up. "Those are just to give some protection to those crews should they be caught on the ground in a situation we had not predicted," said Colonel Porter. "They are not meant to give us the capability to operate commercial carriers into areas where there are known chemical operations or attacks. We would divert airplanes in that case."

The Gulf War buildup confronted airline executives with the sudden realization that a CRAF call-up might really occur and that mobilization could affect their civilian business. A number of airlines felt that during the CRAF activation, they lost market share to competitors who did not participate, or did not participate as actively, in the program. Meanwhile, in the wake of the war, airlines saw

the US military sharply declining in size. That meant the traditional incentive of government business would likely get smaller as well, at the very moment the hardships of CRAF participation had become apparent.

Shocking Realization

The upshot was that, to harried airline executives, CRAF no longer seemed a risk-free way to lock in Pentagon contracts. In the early 1990s, participation in the program began to fall off. "One of [the] biggest challenges concerning the CRAF is how to develop alternative incentives to encourage reluctant airlines to make a real commitment of assets to the program," concluded RAND in its assessment of the CRAF war effort.

One method CRAF officials used to fight this trend was to look for every opportunity they could to bolster their peacetime business base. US military airlifters must fly a certain amount to maintain training. There are some unique cargoes, such as heavy weapons or munitions, that the military is just more prepared to carry. Beyond that, "we try to contract commercially for the rest of our requirements," said Colonel Porter.

The advanced age of the C-141 has paradoxically aided CRAF's quest. Dogged by airframe cracks and other problems, the C-141 fleet flew fewer hours in Fiscal 1994, providing a windfall of business for CRAF civilian carriers.

Heavy use of the Air Force for contingencies around the world also bolstered business. On a volunteer basis, airlines in the CRAF stable contracted to fly into Haiti, Saudi Arabia, Rwanda, and other trouble spots. "All those civil carriers were right there supporting us," said Colonel Porter.

CRAF carriers now get preferential treatment when applying for nondefense government business as well. The Pentagon worked with the General Services Administration to link the government's civilian flying business to CRAF participation. This step alone induced two major airlines to reenter CRAF after a year-long absence, according to General Rutherford.

Given the shrinking size of military forces and dwindling defense budget, one might conclude that there might still be less CRAF business than before to go around. In fact, that is not the case, according to Colonel Porter. "The bottom line is that we have not really seen a decline in that business base," he said.

CRAF management continues to look for Pentagon and other federal government business that can be added to their incentive structure. They are also working on a number of other creative initiatives to make CRAF participation attractive.

For one thing, they have received legislative approval for a program that will allow carriers to conduct commercial operations from military bases. Procedures should be coordinated before the year is out. Airlines will pay for this privilege, but it could prove a bargain in areas where they have inadequate access to airports or where the existing commercial transportation infrastructure is saturated.

CRAF carriers already have won broader approval to designate military bases as preplanned weather alternates and for unplanned technical stops. The ability to list these on flight plans sometimes allows aircraft to carry less fuel to meet FAA emergency requirements. "The savings can be significant," said Colonel Porter.

The CRAF program is also looking at something urged by several of its carriers—the flexibility to mix military cargo in with the civilian package stream in times of mobilization. Such a wartime overnight-delivery effort might reduce congestion at military transportation hubs while speeding delivery of lower-priority military items.

Overall, CRAF appears to have recovered from a brief period of troubles in the wake of the Gulf War. "We had some concerns, and the military has satisfied them," said Armand Schneider, a spokesman for Federal Express, a CRAF participant.

If the CRAF program continues to receive the support of the rest of the Pentagon and the government in its effort to protect its peacetime business base, the program should be in good shape, concludes the RAND study's author, analyst Mary Chenoweth.

She points out that all the military services are moving more and more to rapid civilian delivery systems for their logistics, even for wartime operations. Thus, CRAF peacetime business may continue to expand. Despite grumbling, she said, airlines are generally supportive of the CRAF program. During and immediately after Desert Storm "they complained bitterly, but they felt good about what they did," said Ms. Chenoweth. ■

CRAF's Growing Cargo Capacity

(millions of ton-miles per day)

	Stage I	Stage II	Stage III
January 1990	2.95	4.87	17.51
January 1995	5.08	12.80	19.74

New contract calls for more airlift in the first two CRAF stages and allows USAF access to the aeromedical evacuation aircraft in Stage II.

Peter Grier, the Washington bureau chief of the Christian Science Monitor, *is a longtime defense correspondent and regular contributor to* Air Force Magazine. *His most recent article, "Snapshots of a Force on the Move," appeared in the June 1995 issue.*

Toward a Thin Missile Defense

The Pentagon contemplates a system to shoot down warheads by the dozen, not by the thousand.

By Bill Gertz

THE CLINTON Administration has always rejected plans to develop strategic defenses extensive enough to stop a large missile attack on the United States. Instead, the Pentagon recently embraced a related concept. It is working on the technologies that would be needed for a "thin" missile defense that could stop a handful of warheads launched by a rogue nation or renegade officer.

Washington wants to acquire the option of deploying a limited defensive system by 2002. Such a system, being worked on by the Ballistic Missile Defense Organization (BMDO), would provide an effective shield in the event that North Korea, Libya, Iran, or Iraq acquired the means to strike the US with nuclear, biological, or chemical weapons.

The effectiveness of the projected defense system against such an attack could approach ninety percent, BMDO officials said. By this, they mean that the chance there would be zero leakage would be nearly ninety percent.

No one believes that the United States is about to launch a crash program to develop antimissile defenses. Under President Clinton, the Pentagon's national missile defense effort has been transformed into a "technology readiness" program, and the Administration has made no firm commitment to deploy even a limited national shield.

Still, Secretary of Defense William J. Perry has given the program new emphasis. "We are concerned about a national threat [to US territory] emerging sometime early in the next century," the Secretary said, "and therefore we believe it is important to be moving toward a national missile defense." He added, "The threat . . . we conceive is not the threat that was conceived during the Cold War—a mass of thousands of warheads directed at the United States. It's a small-scale, rather unsophisticated threat. We're talking about twenty warheads, not thousands."

No Major Barriers

The Pentagon chief said he could see no major technical or diplomatic impediments to erecting such a defense, adding that it would conform to requirements of the 1972 Antiballistic Missile (ABM) Treaty. "It is my belief," he noted, "that the present technology allows us to defend against that threat with a system . . . compliant with the ABM Treaty."

The 1972 US-Soviet ABM Treaty, as amended in 1974, limits Moscow and Washington to 100 missile interceptors at a single site. The Russian system is deployed around Moscow. The US developed radars and interceptors but decided not to fully deploy or maintain such a system in

operation. A perimeter acquisition radar is deployed at Grand Forks AFB, N. D.

According to Defense Department estimates, a workable network of groundbased interceptors and spacebased sensors in a thin antimissile system could be deployed within five years and cost about $5 billion. Moreover, DoD is developing the capability for an emergency response system that would be built should a major new threat appear suddenly. According to BMDO's leaders, the system could be deployed in four years.

The Pentagon's missile defense budget for Fiscal 1996 comes to $2.9 billion. The bulk of the money is reserved for work on theater missile defenses (TMDs) needed to protect US forces deployed abroad. The amount earmarked for development of a homeland defense is small—only $371 million. Republicans in Congress hope to force the Pentagon to push ahead with plans for a cheap national missile defense (NMD) system. They claim that even a limited defense is better than having nothing at all to counter an attack.

"Back in the Reagan years, the plan was to develop a massive nationwide system to counter an all-out Soviet attack," said Rep. Curt P. Weldon of Pennsylvania, Republican chairman of the House National Security Committee's Subcommittee on Military Research and Development and a staunch advocate of defense. "No one is talking about that today. What we're saying is the technology is available now to give us some limited protection."

Representative Weldon believes Congress would approve such a system. "We're talking about tested technology, $5 billion, two years research and development, two years to deploy," he said.

The Pentagon agrees that technology for a limited system is at hand. Following the Republican victory in the November congressional elections, Secretary Perry set up a special "tiger team" of missile defense experts and charged them with taking a hard new look at the national missile defense issue. Their report, released by Representative Weldon, concluded that a limited homeland defense operated from Grand Forks AFB would be ninety percent effective against a limited strike by Russian SS-25 single-warhead ICBMs or similar weapons.

The team looked at the baseline NMD technology readiness program, reviewed and evaluated the threat, proposed a structure for emergency deployment options, and developed and evaluated program strategy alternatives.

The threat scenarios ranged from relatively simple attacks by four to twenty warheads launched by rogue nations to the accidental or unauthorized launch of a handful of more advanced Russian weapons. The team analyzed the difficulty of defending against an attack by one to three Russian weapons, one to three Chinese CSS-4 ICBMs, and one to three North Korean Tae-Po Dong 2 missiles, a type that US intelligence believes will be similar to the Chinese ICBM.

The team also looked at probabilities in light of the fact that the incoming warheads would have UHF-jamming capabilities.

Three-Part System

The tiger team's initial architecture for the emergency deployment option included three major elements:

- Interceptors—About twenty kill vehicles on Minuteman IIIs based in silos at Grand Forks AFB. The velocity of the interceptors would exceed seven kilometers per second.
- Supporting sensors—Defense Support Program satellites, upgraded early warning radar, links with existing radar such as Millstone/Haystack, Cobra Judy, Have Stare, and the Navy's AEGIS Spy-1. It would also include groundbased radar and the space missile and tracking system (SMTS).
- Battle Management/Command, Control, and Communications (BM/C^3)—Existing equipment and facilities linking US Space Command and North American Aerospace Defense Command with radar sites and with Grand Forks.

Deputy Defense Secretary (now CIA Director) John M. Deutch responded with a memorandum of his own, circulated within the Pentagon, outlining the logic of all ballistic missile defense work for the armed services and other defense entities.

Secretary Deutch stated that, for the near to medium term, attacks on the continental United States could be launched only by Russian ICBMs and submarine-launched ballistic missiles (SLBMs) and Chinese CSS-4 ICBMs. "No other national ballistic missile threat is expected before around 2010 at the earliest," he stated in the memo.

Future threats, noted Secretary Deutch, could include a host of new proliferators, such as North Korea and Iran.

The bottom line for Secretary Deutch was that effective defense of the continental US "against a determined Russian attack" with several thousand warheads atop hundreds of ICBMs would be "problematic" but that "defense against accidental or small attack"—fewer than fifty warheads—is "possible."

Secretary Deutch, like Secretary Perry, did not see a conflict between the new program and the ABM Treaty. He said that the treaty permits fielding a limited defense system of up to 100 high-speed interceptors at Grand Forks, where ICBMs are deployed. The permissible ABM system could include sophisticated groundbased radar and spacebased sensor adjuncts.

"Other NMD configurations or TMD systems that do not meet the logical interpretations of the treaty but are comparable to the 'thin' system—for example, the emergency response system—should be permitted," Secretary Deutch said.

Use of Minuteman

The national missile defense concept getting the strongest consideration in the Pentagon centers on the use of a basic ICBM (either Minuteman II or Minuteman III with warheads removed) mated to a high-technology kill vehicle on top. Once launched, the ICBM would carry its payload into space, where it would be released and guided to its target. The concept is not new. It dates to the Kennedy Administration.

Today, however, given the continued advances in technology and miniaturization of kill-vehicle technology in particular, the ICBM interceptor idea has grown in popularity. During its last two years, the now-defunct Strategic Defense Initiative program produced several studies on how to put NMD on a deployment track. The Clinton Administration, under Defense Secretary Les Aspin, reduced SDI to a research project, and work was limited to development of kill-

vehicle technologies. The US scrapped all plans for a new groundbased booster and infrastructure to support an NMD system.

In its study, the tiger team stated that twenty first-generation kill vehicles on boosters based at Grand Forks, plus existing radar and early warning systems, would provide "good defense of the entire United States against limited threats." The system would not be very effective against a threat that is growing in numbers or sophistication or against existing Russian ICBM forces. It would require more elements to deal with these threats.

The status of Grand Forks is a complicating factor. On May 10, the Defense Base Closure and Realignment Commission added the nuclear missile base to its list of bases that may be marked for closure. Grand Forks still has 150 Minuteman IIIs. The commission voted 7-0 to add the missile base to its list after the Defense Department approved the move. The commission will recommend which bases should actually be closed or cut. The Pentagon could decide to keep the base open if it were needed for missile defense purposes.

The tiger team study found that the motivating factors for early deployment of an NMD system include the threat from Tae-Po Dong 2s as early as 2000 and possible transfer of the technology for a longer-range capability by 2008. Iran, Iraq, and Libya are not projected to have an indigenous ICBM capability before 2015, according to the study. When it comes to the Russian SS-25 ICBM, defense officials worry not only about its possible use by Russia or individuals acting without authority but also about the danger that it could be sold as a space-launch vehicle and diverted to military use. A CSS-4 threat could emerge outside of China as the result of a sale by Beijing to a Third World customer.

Kinetic Kill

The BMDO's most recent annual report to Congress emphasizes that an NMD system's Groundbased Interceptor (GBI) will use nonnuclear "hit-to-kill" vehicles to intercept ICBM or SLBM warheads in midcourse of their trajectory. Such sensors as the groundbased radar and SMTS constellation and early warning radar will acquire, track, and transmit threat data to the battle management system.

"Using on-board sensors and data from SMTS and [groundbased radar], the interceptors will acquire the threat cluster, select the enemy reentry vehicle, and, through body-to-body impact [kinetic kill], destroy it," the report states.

The GBI project takes advantage of prior BMDO interceptor work and seeks to complete development of a system and fly the exoatmospheric kinetic-kill vehicle (EKV) part of the interceptor in the next few years. The emphasis is on demonstrating intercept of high-speed, long-range ballistic missiles. EKV seeker flyby tests are planned for Fiscal 1997. The Pentagon wants $126.6 million for the GBI program in the upcoming fiscal year.

For groundbased radar, the NMD Radar Technology Demonstrator effort is putting together a test-bed radar to resolve critical technology issues associated with development of an NMD groundbased radar and to provide the primary fire-control sensor to support system testing at the US Army Kwajalein Atoll Missile Test Range. Program officers are dealing with the problems of target discrimination, kill assessment, and the like. The Pentagon plans to spend $37.7 million in Fiscal 1996 on this effort.

The Pentagon's work on BM/C^3 has centered on developing a system that can adapt to various threats, architectures, contingencies, and operational requirements. It will consume $34.6 million this year. At the same time, the new Spacebased Infrared System, the proposed successor to the Defense Support Program satellite system, is expected to play a key role in both theater and national missile defenses.

Not everyone agrees that the tiger team's proposals are correct. Army Lt. Gen. Jay M. Garner, commander of the US Army Space and Strategic Defense Command, attacked the tiger team's launcher proposal, claiming that the use of Minuteman IIIs would constitute a major violation of both the ABM Treaty and the Strategic Arms Reduction Treaty (START I).

Air Force officials maintain that the START I accord does permit use of existing missiles and the creation of new types through modification. Russia already is using its SS-25s as space launchers by removing the last stage and putting on payloads, for example. However, General Garner argues that if a Minuteman III is used as a groundbased NMD interceptor, all Minuteman IIIs must be considered interceptors. He claimed that the missile's motor would have to be modified and software would have to be changed to move it from the ICBM mode to the ABM mode. "At the end of all that, operationally, we didn't think it was a good booster," he said.

Other officials say the use of Minuteman IIIs is a minor issue that can be worked out so as not to violate treaties. In essence, the missile's warheads would be removed and it could be dubbed the Minuteman IV—a new type of missile.

General Garner is offering a different solution. He wants the US to develop and field an entirely new booster for the NMD interceptor. With the money already invested in a new GBI, he said, "we think we could produce the optimum groundbased interceptor cheaper than you could do all these things to Minuteman III."

For General Garner, the key question about national missile defenses is this: Will the United States have adequate warning time to field an NMD system if it needs to?

Foreign ICBM development is "observable" and US intelligence would detect it, he argues, though he adds that movement of entire weapon systems from one country to another is difficult to spot and transfer of components and technology "is almost impossible to detect." The amount of warning about an emerging threat also will vary from region to region, according to General Garner.

"So there can be an endless debate on whether or not there is a threat," he said. "It comes down to the question, 'Do you want to deploy an NMD system in this country as an insurance policy against the vagaries of our knowledge of the threat?' And that's a question that has to be answered." ■

Bill Gertz covers national security affairs for The Washington Times. *His most recent* Air Force *Magazine article, "The New Nuclear Policy: Lead but Hedge," appeared in the January 1995 issue.*

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LOCKHEED MARTIN

It's short on money, airplanes, flying hours, and much else. Recovery is going to take a while.

Hard Times for the Russian Air Force

By Benjamin S. Lambeth

IN THE immediate wake of the USSR's collapse in December 1991, what once had been the Soviet Air Force plunged from 20,000 pilots and 13,000 aircraft to 13,000 pilots and only 5,000 aircraft.

Today the Russian Air Force (VVS) remains in the throes of a painful metamorphosis. It is unmistakably embarked on a course of post-Soviet reform, yet it remains uncertain of its future as it strives to enter the new century as a renewed institution.

Why should anyone care about an air force that is not only no longer a threat to Western security, but also one that finds itself operating in virtually a survival mode? For the US, the answer lies in the fact that, whatever difficulties the VVS is experiencing today, Russia will eventually emerge from the collapse of Communism as a strong nation.

Few doubt that when that day comes, the VVS will provide an important part of Moscow's power.

From the looks of things, however, its recovery is going to take a while. The end of the Cold War left the VVS with no obvious threat and no clear mission beyond homeland defense. The Warsaw Pact Air Operation plan, for which Soviet pilots and commanders had purportedly planned and trained for years, had become moot almost overnight.

The head of the Russian Air Force, Gen. Col. Peter S. Deynekin, faces some truly daunting challenges. Upon assumption of command, he inherited a near-total inversion of the priorities that typically concern a peacetime military aviation establishment. That is still true today. Matters such as force modernization, training and tactics, and similar mission-related preoccupations have taken a back seat to the demands of housing and caring for badly deprived personnel.

Photo © Hans Halberstadt / Arms Communications

General Deynekin also must deal with a severely curtailed procurement and operations budget, a fuel shortage of crisis dimensions, a bloated pilot-to-aircraft ratio further aggravating the insufficiency of available flying hours for Russian aircrews, widespread maintenance problems caused by a dearth of spare parts and the failure of the conscription system, a rising aircraft accident rate as a result of these negative influences, and a precipitous drop in the former prestige and respectability of air force service, with potentially grave implications for future officer recruitment.

Collapse of Financing

During the final days of its existence in late 1991, the Soviet Defense Ministry reported that outlays for weapons and associated procurement had fallen by twenty-three percent compared with the 1990 level. It anticipated that a comparable reduction would occur in 1992, meaning that defense production would be effectively halved from the baseline 1989 level.

In the end, the VVS received only fifteen percent of the allocations for research and development and procurement that it was expecting in 1992. This forced it to buy equipment at the barest minimum required to ensure that Russia's aircraft industry would not become completely moribund. Even such elementary provisions as flight suits and helmets are in critically short supply.

Shortly before his appointment as First Deputy Minister of Defense, Andrei Kokoshin predicted that Russia's defense industry would receive virtually no production orders in 1992 because all available funds had to be used to clothe and house military personnel. By late 1993, promised allotments from the Ministry of Finance had fallen so far behind, complained Dr. Kokoshin, that the Defense Ministry was a full one trillion rubles in arrears to the defense industry for goods and services already delivered.

The inertia of the old Soviet system, which routinely favored strategic missiles and armor, still grips the procurement process. In 1992, according to General Deynekin, aviation equipment accounted for only twelve to fifteen percent of Russia's arms purchases, in contrast to about twenty-five to thirty percent in the United States.

Since then, the VVS has been forced to cancel any further purchases of the MiG-29 fighter and has had to defer production of several improved variants of the Su-27, which have been designated by the VVS as the intended mainstays of Russia's fighter inventory for at least the remainder of this century. Galloping inflation since the elimination of price controls in January 1992 has driven up the cost of current-generation aircraft astronomically. Research, development, test, and evaluation on new aircraft has largely been frozen, and the financing of several promising prototype programs has slowed.

The Growing Pilot Surplus

The VVS's pilot-to-aircraft ratio has more than doubled since the collapse of the USSR. General Deynekin has said that it had risen to three pilots for each flyable aircraft because of force reductions and accelerated unit withdrawals from eastern Europe and the former Baltic republics. He later remarked that, in some units, the ratio had become as severe as five pilots per aircraft.

Photo © Hans Halberstadt / Arms Communications

Shortages of fuel and spare parts and a failing conscription system have bloated the Russian Air Force's pilot-to-aircraft ratio—as high as five to one in some units—grounding many VVS pilots.

This pilot glut is concentrated in fighter and ground-attack units. One approach to grappling with the problem has been to encourage fighter pilots who wish to remain on flight status to volunteer for other aviation branches or to accept navigator assignments. As a triage technique for managing its aircrew reduction plans, the VVS is treating those pilots who have served three to four years in a given assignment as a "reserve" pool for potential selection to higher positions. Others with five or more years in the same posting who are considered poor prospects for promotion will most likely end up being released into the reserve.

The VVS is striving to reduce its pilot contingent to a stabilized norm of three pilots for every two aircraft. In the meantime, the pilot surplus is imposing a perceptible burden on day-to-day continuation training in operational squadrons. A case in point was the instance of a senior lieutenant who described taxiing out for a long-awaited range mission to reestablish his mission currency, only to experience an avionics system failure immediately before takeoff. The result was a noneffective sortie. The lieutenant later remarked: "The aircraft situation here is really like a free-for-all. You should see how emotions flare up when we are preparing our little 'plan.' Each pilot and flight commander thinks that his problems are the most important. What happens is that everyone keeps pulling the blanket over to his side. . . . All these gyrations are prompted by the growing number of pilots arriving from VVS units undergoing reductions and, for other reasons, from various areas of the former USSR. The aircraft pool remains the same."

A Crisis in Flying Hours

Following President Boris Yeltsin's lifting of price controls in January 1992, fuel costs escalated 2,000 percent within twelve months. The first deputy head of the Defense Ministry's Main Budget and Finance Directorate reported that, because of reduced appropriations for fuel, pilots were typically getting less than a third of their annual flying norm.

In 1993, General Deynekin confirmed that, largely because of this fuel shortage, VVS fighter pilots were averaging only forty hours of flying per year, bomber pilots eighty hours a year, and Military Transport Aviation (VTA) pilots 150 hours per year—the differences reflecting variations in mission type, with Long-Range Aviation (LRA) and transport crews flying fewer sorties of longer duration. Today most of those few fighter pilots still on operational flight status are down to no more than twenty-five hours a year.

General Deynekin further reported that the VVS has roughly two assigned pilots for each single-seat aircraft because several thousand fighter pilots stationed in the former republics had returned home following the USSR's collapse. The fuel shortage has required regimental commanders to stop their headquarters staff officers from flying altogether to ensure the most rational distribution of meager fuel allotments to the neediest line pilots.

Sorties have been apportioned at the regimental commander's discretion such that those pilots representing the VVS's core talent pool are given the greatest amount of time. Other Band-Aid fixes have included reducing average duration of sorties, eliminating repeat passes at the weapons range, combining multiple mission events on a single sortie, curtailing afterburner use and flight into marginal weather to save fuel, and greater use of flight simulators, even though Russia's defense industry has radically curtailed their manufacture and technical support.

A military reporter provided an arresting account of VVS flight activity during a typical twenty-four-hour day in the fall of 1993. On the day in question, Gen. Maj. Alexander Slukhai, senior duty officer in the central command post at VVS headquarters in Moscow, said that VVS flight schools and fighter aviation recorded 845 sorties that day for a total of 459 flying hours, LRA flew 183 sorties for 115 hours, and VTA 117 sorties for fifty-eight hours. The average sortie length (including LRA and VTA) was around thirty minutes.

The upshot was made clear in General Slukhai's words: "Some days the flying time for the entire VVS adds up to the number of hours the regiment I previously commanded would have flown in a twenty-four-hour period."

Declining Maintenance and Safety

Aircraft maintenance in all services has suffered notably as a result of the failed conscription system in post-Soviet Russia. This has occasioned a drop in noncommissioned manning to fifty percent or below in many VVS and Troops of Air Defense (VPVO) units.

"This is an alarming indicator," said the VPVO's commander in chief, Gen. Col. Victor Prudnikov, "because it was always felt that a unit was not operationally ready if it fell

below seventy percent. We have now crossed that line."

Even before the Soviet collapse, the VVS's deputy commander for Logistics complained that the VVS was able to provide only some sixty percent of its needed rear service support for training and readiness.

Cannibalization of parts from some aircraft to keep others flying has become common in many fighter units, though it is in direct violation of safety rules. Such reliance on so-called "donor aircraft" (a polite term for "hangar queens") was bound to happen because of the declining availability of assemblies and spare parts.

The impetus for this flouting of published rules and of good judgment has been the desperate need to keep the greatest number of aircraft flyable at any cost because flying hours are meted out according to the number of serviceable aircraft in a given unit. Even with cannibalization, considerable flight time has been lost as a result of delays in the delivery of tires; petroleum, oil, and lubricants; and other consumables.

These measures have had a predictable impact on the VVS's flight safety situation. A report in June 1992 declared that "the aircraft accident rate is threatening to shift from isolated instances to a landslide." It noted that there were twenty-six major mishaps in VVS operating units in 1991 and eight mishaps recorded during the first three months of 1992.

The report added that, in some regiments, pilots were not even getting a minimal allocation of forty flying hours a year and that it was precisely in those units where the accident rate was most disturbingly on the rise. It implored the VVS to take a hard look at proven foreign aviation safety practices in search of a better way to reduce the incidence of flight mishaps.

It also stated that in 1968, the Soviet Air Force roughly matched the US Air Force in the number of accidents per 100,000 hours. Now the VVS exceeds USAF's number by a factor of two, even with "many times" fewer flying hours.

Waning Quality of Life

Commanders have long attacked the inadequate provision of housing and social amenities for families of VVS officers. Some of this has been blamed on the return of Soviet units from eastern Europe at an unexpectedly rapid rate. However, officers claim that part of the responsibility for the VVS's housing problem lies with local civilian councils that failed to make good on their pledges to provide housing for the VVS.

To take up at least part of the slack, the VVS in 1991 committed eighty percent of its capital construction funds to a family housing construction project. It also established a Main Engineering Administration to accelerate the resolution of the housing squeeze. In recent years, though, more than 22,000 VVS families remained without living quarters. More than 3,500 of these were families of pilots.

Even for VVS families blessed with adequate living space, all too often their daily existence is bleak. Shortly before the August 1991 coup, the VVS's chief political officer noted that around half of all officers' wives possessed special work qualifications, yet lacked any realistic chance of finding gainful employment in the often remote parts of the country where their husbands were stationed. Such deprivation has had a predictable impact on morale.

At the time of the 1991 coup, a Moscow bus driver typically got paid more than a trained Soviet fighter pilot. Since then, Russia's economy has deteriorated to a state where pilots have to work the fields on weekends to help bring in the crop. Officers are being forced to harvest their own agricultural produce. Base commanders must cultivate plots and maintain subsidiary farms on their airfields. Even at prestigious Kubinka AB, fighter pilots often spend their spring and summer weekends weeding and hoeing.

The former commander of the VVS's Su-27 flight demonstration team, Col. Vladimir Basov, said that "all of us are forced to tend our kitchen gardens because we don't have any other source of food." He added, "It's a shame our pilots get lower pay than a plumber or a mechanic." General Deynekin has himself pointed out that some cadets live in such austere conditions that they are forced to use parachutes as blankets during winter.

Russia's pilots are watching their professional pride slowly leach away as a result of these pernicious influences. Smoking is said to be the rule among them, and drinking to excess has become more and more commonplace. "The whole country drinks, after all, and do they ever!" wrote one disgusted pilot. "Why should aviation be any better?"

It is reported that only a small fraction of the officer ranks takes part in regular physical exercise, and many work out only enough to get ready to pass their semiannual evaluation if it is given. Even these tests are typically a charade because of the widespread prevalence of cheating.

MiG-25s and other front-line aircraft must wait indefinitely for basic maintenance. Spare parts often come from cannibalization of other aircraft—a "necessary" violation of safety standards that has contributed to soaring accident rates.

Photo © Hans Halberstadt / Arms Communications

Is the sun sinking on the Russian Air Force? Despite daunting problems, the VVS's leaders express cautious optimism and insist they know what must be done to return it to health.

Faltering Service Prestige

During the banner years of the Soviet Union, appeals to patriotism and the romance of high-performance flight were nearly all it took to entice the best of Soviet youth to seek a VVS career. Today, squalid living conditions and rapidly dwindling opportunities to fly have become increasing barriers to VVS recruitment.

Consistently low pay for officers and the badly tarnished image of a military career in post-Soviet Russia, set against the precipitous decline in the quality of service life, have resulted in a virtual disappearance of competition for pilot training slots in both the VVS and VPVO. Even before the USSR's collapse, one commandant reported that "the influx of young people into flight schools has recently fallen drastically." He noted that 790 applicants were accepted by his school in 1989, whereas only 312 cadets entered the program in 1990. "There was practically no competition after the medical board's findings," he added.

During the early 1970s, six to eight applicants typically vied for each available pilot training slot nationwide. Today the VVS is forced "to accept adolescents who have shown only fair knowledge on the entrance exams. The criterion for their enrollment is just good health—and even that with certain allowances."

One colonel complained that "there is essentially no weeding out after psychological testing. There is no one to choose from!"

Many junior officers have simply quit out of disillusionment. In July 1992, for example, all forty-eight graduates of one pilot-training school declined to honor their service commitments because of "no prestige and no prospects." Upon being awarded commissions and aeronautical ratings, they were immediately released into the reserves.

It remains too early to predict outcomes beyond the broadest of generalizations. With respect to modernization, General Deynekin and other VVS leaders have stated their near-term intentions and goals through 2000. These are not unreasonable for the sort of VVS that seems appropriate for post-Soviet Russia, given its likely future operational challenges. Yet because of the budget crisis, it is hard to see how the VVS can take more than the first steps in this direction when it is having enough trouble just providing its pilots with enough monthly flying time to keep them from killing themselves.

Much the same can be said about training and tactics development. Without question, the VVS has been freed of the organizational choke hold that limited its capacity to innovate under Communist rule. In principle, it can now cast aside its old ways and develop a new repertoire aimed at extracting fullest leverage from its highly capable equipment. Yet, a shoestring operations and maintenance budget forces unit commanders to bend every effort simply to maintain their pilots' basic aircraft-handling proficiency. How can they conduct anything remotely like the graduated and structured training required to bring pilots up to Western mission-readiness standards?

Finally, the VVS has discarded its canonical Warsaw Pact Air Operation plan and now confronts a need to develop new strategies consistent with the emerging mission requirements of post-Soviet Russia. However, Russia has yet to develop a coherent and fully articulated foreign policy or, for that matter, even an agreed-on set of national interests.

Sunrise? Sunset?

In view of such daunting problems and the continued uncertainty about long-term prospects for political and economic change in Russia, one might fairly ask whether the sun is rising or setting on General Deynekin's Russian Air Force. General Deynekin would almost certainly answer with cautious optimism born of conviction. He has repeatedly declared that the VVS has the needed talent, an appreciation of its past failings under Communist rule, a vision of what needs to be done to correct them, and an abiding determination that in due course, Russian aviation will recover to full health.

The hard reality, of course, is that the main factors that will determine the fate of the VVS lie largely beyond General Deynekin's control. At bottom, the fate of the VVS, like that of the military establishment as a whole, is inseparably tied up with the fate of post-Soviet Russia. ■

Benjamin S. Lambeth is a senior staff member of the RAND Corp., with principal interests and background in the Russian military field. In December 1989, he became the first US citizen to fly the Soviet MiG-29 fighter and the first Westerner invited to fly combat aircraft of any type in Soviet airspace since the end of World War II. He has since piloted the Su-27, MiG-23, and MiG-21 fighters in Russia. His most recent article for Air Force *Magazine, "Pilot Report: MiG-29," appeared in the April 1990 issue.*

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Keesha and I are having a great time driving around California. What a neat place—mountains, beaches, cities. Of course, I think the most fun is the Dodge Neon we rented from Dollar. It's so... cute!

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We've done some great shopping. You're going to love what I bought you (think silk, Mom). Plus I got a custom-made suit, tailored just for me, for less than I would have paid for a suit off the rack back home!

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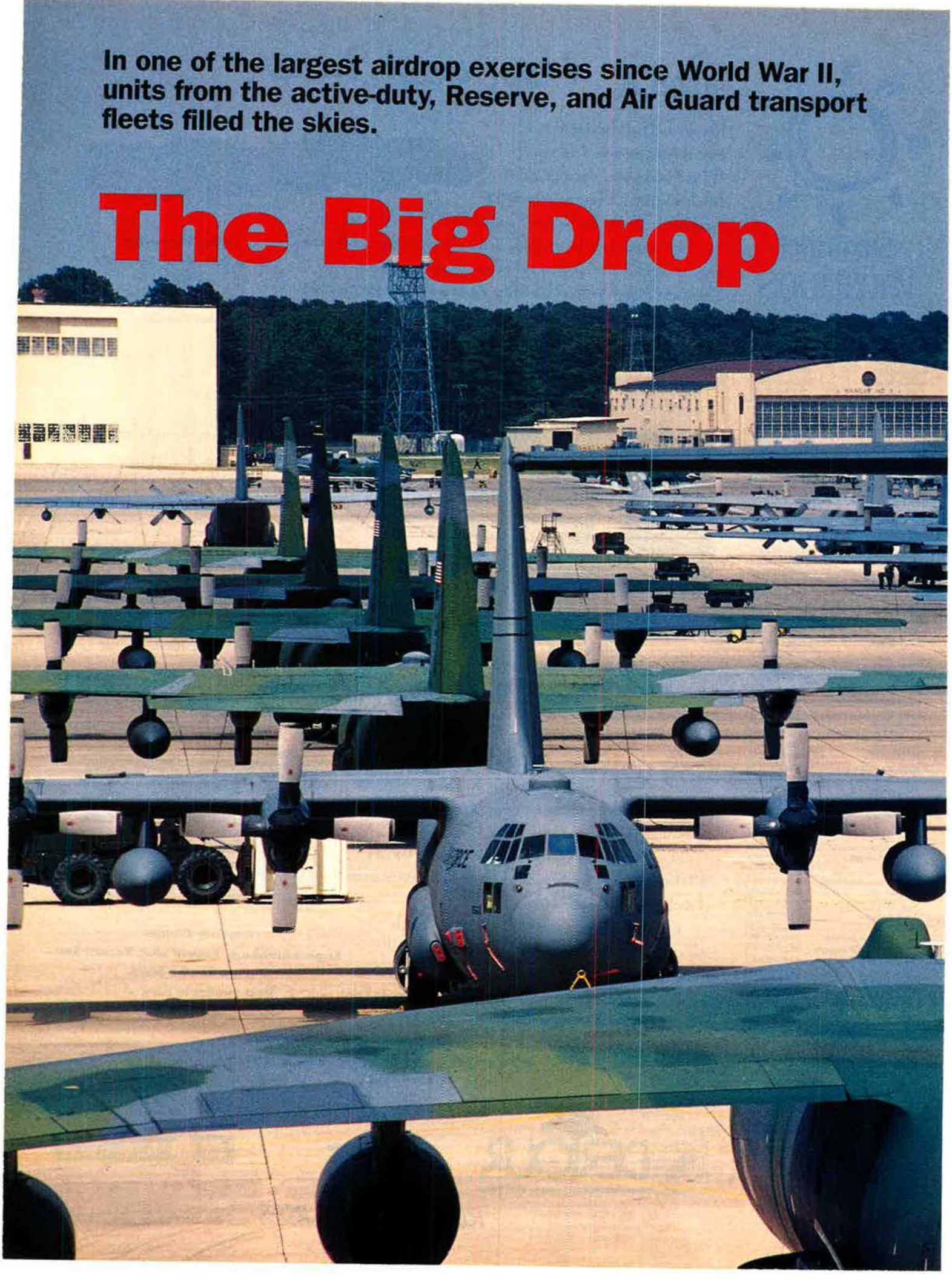
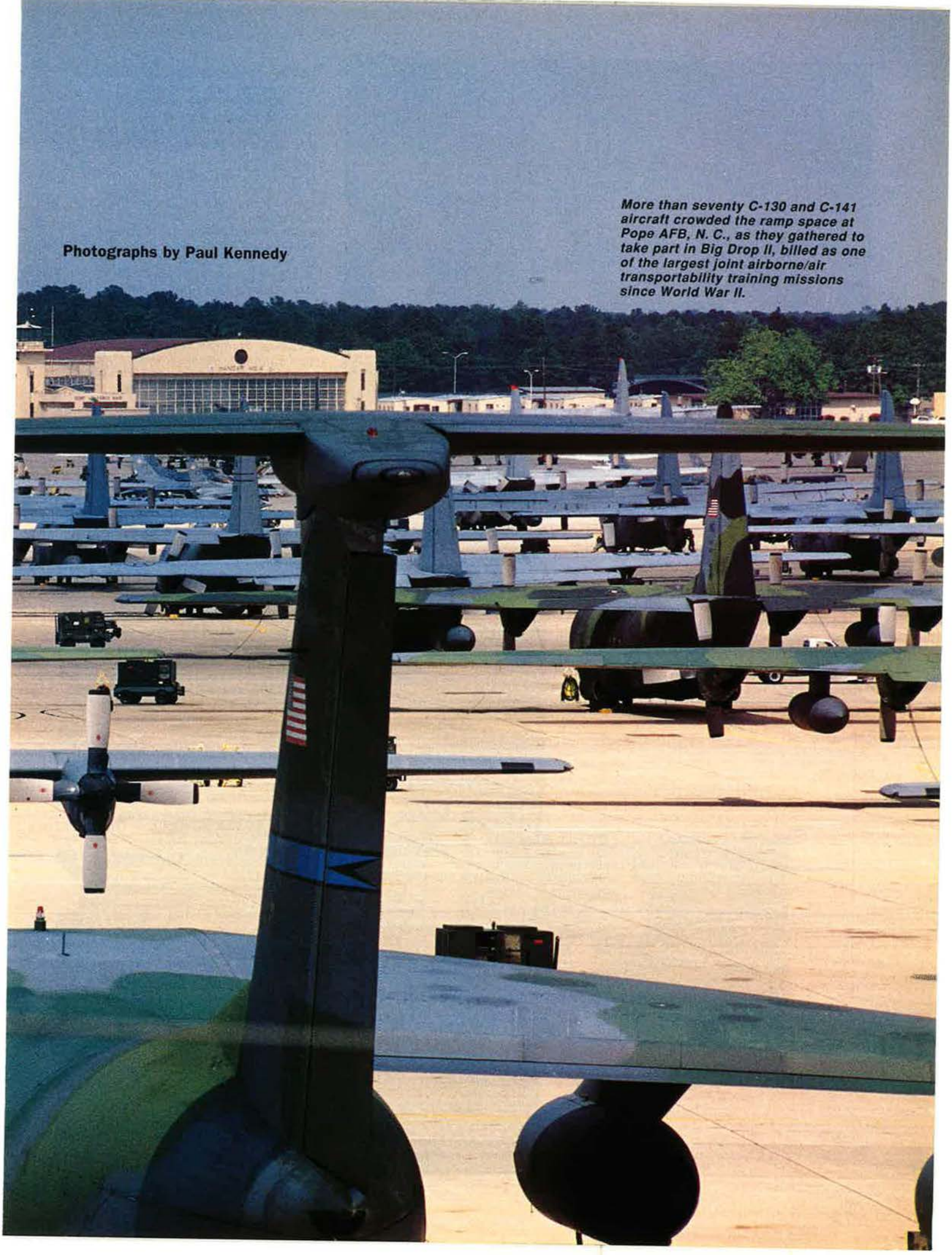
In one of the largest airdrop exercises since World War II, units from the active-duty, Reserve, and Air Guard transport fleets filled the skies.

The Big Drop



Photographs by Paul Kennedy

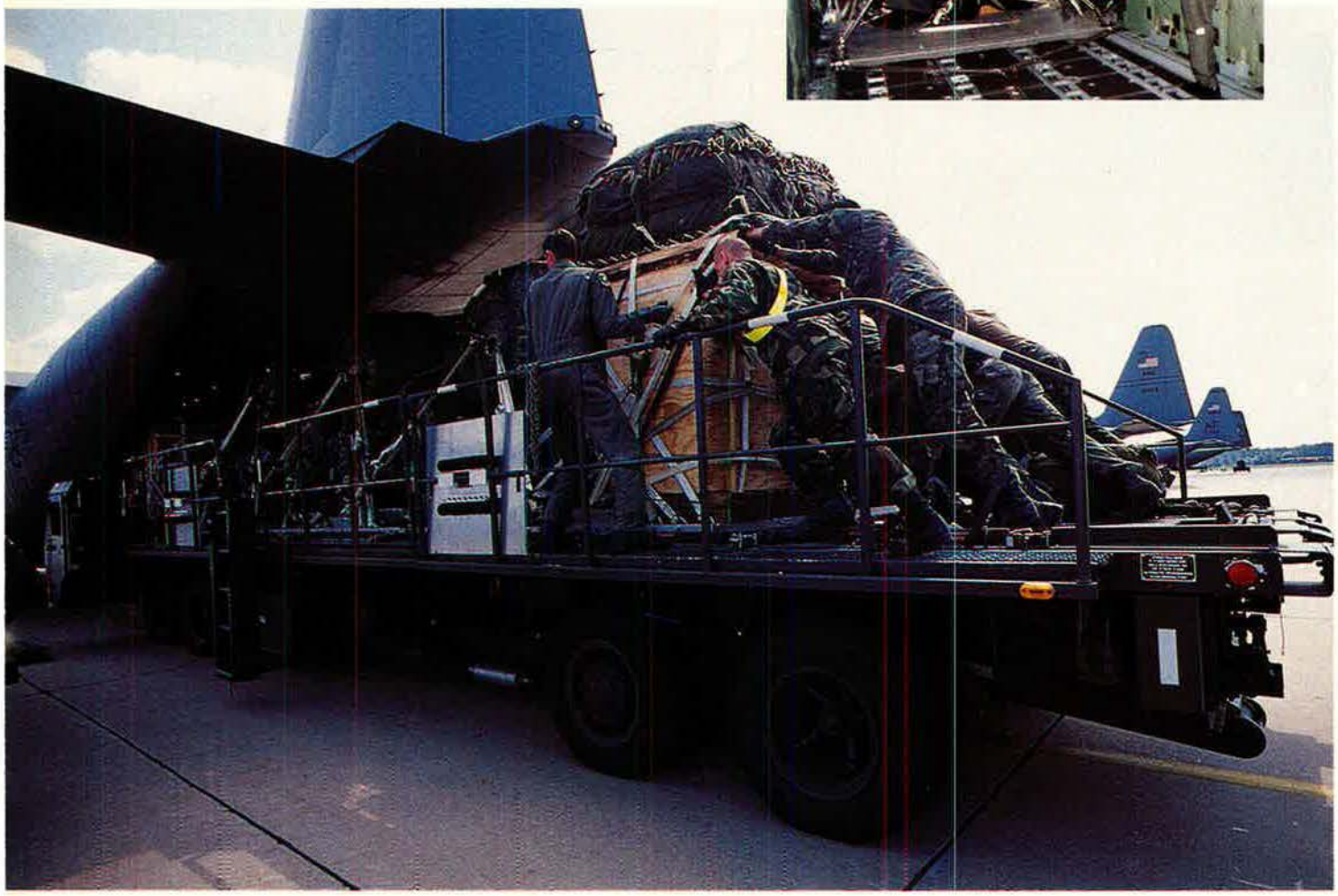


More than seventy C-130 and C-141 aircraft crowded the ramp space at Pope AFB, N. C., as they gathered to take part in Big Drop II, billed as one of the largest joint airborne/air transportability training missions since World War II.

The joint training exercise in May simulated a massive night invasion, filling the skies over Pope with more than 2,500 paratroopers from the US Army's 82d Airborne Division from Fort Bragg, N. C. Most of the C-130 force in Big Drop II came from Air Force Reserve and Air National Guard units, some flying in from as far away as California. At left, as the exercise begins, members of the drop force listen intently during a mass briefing. The 314th Airlift Wing at Little Rock AFB, Ark., began planning for the exercise's seventy-aircraft gathering last November. "This is certainly the largest formation I've ever planned or participated in," said Maj. Richard Smith, Big Drop II project officer and chief of the 314th's Tactics Division.

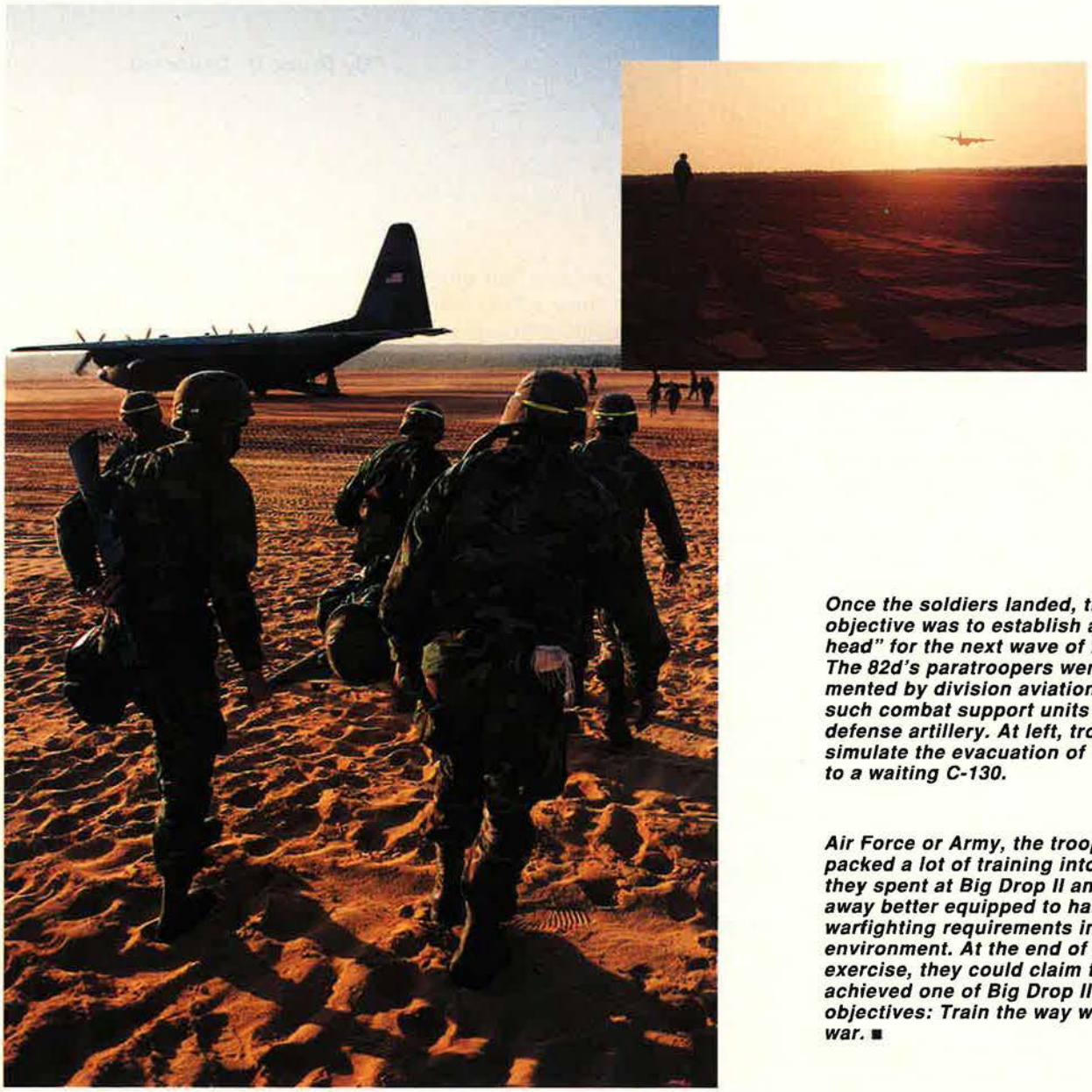
Keeping in formation with just one other airplane can be demanding. Add forty or fifty more airplanes and fly the mission at night, and you have a situation in which the crews must call on all their training. Below, pilot Lt. Col. Dave Rein and copilot 1st Lt. Rodney Byrd (right) from the Maryland ANG's 135th Airlift Group keep a sharp eye on the situation en route to Pope AFB.

Big Drop II gave the services a chance to apply the lessons learned from recent deployments to Haiti, conduct a total force airdrop, and practice large-formation procedures and techniques. Top and at right, 82d Airborne paratroopers, the division's fighting arm, spend the better part of the day preparing for the night drop, checking equipment, and putting on a "war face." Above, as the troops board the aircraft, crew members assemble and receive last-minute instructions before they fly. "H-hour" was 11:59 p.m.



Not only troops but everything that a force this size would use was included in the training exercise. This total force airdrop also involved the specialized equipment the 82d takes into battle. In the top photo, an M155 Sheridan armored reconnaissance vehicle is eased into a C-130. In the center photo and at left, a crew from the 145th Airlift Group, Charlotte, N. C., moves more heavy equipment into place in preparation for the midnight airdrop. Army Maj. Ray Valle, the 82d Airborne Division's air operations officer, said, "We're building on the lessons learned in Operation Uphold Democracy [in Haiti]. The 82d Airborne Division needed to exercise all the mechanisms that come into play when you conduct a forcible entry on a large scale."

The four-day exercise also offered a chance to practice other mission requirements, such as assault-style landings on the unimproved airstrips around Pope AFB and at nearby Fort Bragg. These operations involved a wide variety of personnel and heavy equipment delivery. At right, a C-130 kicks up dust at one of the landing sites.



Once the soldiers landed, their first objective was to establish an "air head" for the next wave of forces. The 82d's paratroopers were augmented by division aviation and such combat support units as air defense artillery. At left, troopers simulate the evacuation of wounded to a waiting C-130.

Air Force or Army, the troops all packed a lot of training into the time they spent at Big Drop II and went away better equipped to handle warfighting requirements in a joint environment. At the end of the exercise, they could claim to have achieved one of Big Drop II's main objectives: Train the way we go to war. ■

Officers rate it bottom rung, and the evaluation from enlisted people is not much higher. The Air Force has promised to try again.

A New Shot at the Promotion System

By Bruce D. Callander

DESIGNING a military promotion program that will please everybody is, by its nature, an impossible dream, Air Force officials admit. During any given promotion round, there never are enough vacancies to advance all those eligible. Many well-qualified candidates will not be picked, and some will find their careers shortened as a result.

The best that the Air Force can hope for is that members will understand the system and have realistic expectations about their own chances. Given that most people tend to take credit for their successes and blame "The System" for their failures, even that may be a tough sell.

Periodically, however, the Air Force takes a new look at the system to see where it can be improved. Late last year, Air Force Chief of Staff Gen. Ronald R. Fogleman ordered such a review in the officer area. In February 1995, a parallel study began probing the enlisted area. The focus in both cases was on the evaluation systems, but both groups necessarily explored the promotion process as well.

On the officer side, service members can expect some changes to standardize ratings reviews and eliminate actions that some officers consider to be undue influence by lower echelon commanders. Enlisted changes probably will be limited to "fine tuning" the evaluation process. Both studies reportedly concluded that the rating systems themselves are fundamentally sound. Not surprisingly, the Air Force also has concluded that the overall promotion process is working well and that most of the fault members find with it is more perceived than real.

With no major changes pending, officials say, USAF will concentrate on improving such perceptions by making the selection process more visible. Members can expect what officials term a "media blitz" designed to convince them that, win or lose, they have had a fair shake.

Most Dissatisfying

Some in uniform may be hard to convince. In recent opinion surveys, officers have listed promotion opportunity as the most dissatisfying feature of Air Force life. Enlisted members have ranked it as the third biggest dissatisfier, just below pay and recognition of one's efforts.

The system rarely has scored high on service members' lists of favorite things. Recently, however, with large numbers of USAF members leaving the service, the Air Force has received an unusual number of congressional complaints, calls for correction of records, and even lawsuits involving promotion policies. It was, in part, these complaints that sparked the latest review of the system.

The criticism centers less on the mechanics of selection than on the evaluation process that precedes it. The concern is understandable. Officer Performance Reports and promotion recommendation forms are among the records weighed by selection boards. Enlisted Performance Reports are a major factor in the Weighted Airman Promotion System (WAPS), which is used for all NCO grades, and are reviewed by E-8 and E-9 boards.

Critics have charged that the evaluation process gives lower levels of command too much influence. The field is allowed to "rank order" officers, they say, to show whom they consider most deserving of promotion.

In the past, the Air Force has neither encouraged nor barred the use of such stratification, and officials say studies show it has little effect on selections. Because some officers perceive it as unfair, however, USAF banned the practice beginning with the June round of selections for major.

Another change strives to eliminate flowery language by dispensing with the narrative sections of performance ratings and requiring comments in a "bullet" format. This, officials say, should answer the complaint that the rater's writing ability sometimes carries more weight than does the candidate's performance.

New safeguards also are being added to ensure that raters have formal feedback sessions with the officers they rate. This already is required for lieutenants and captains, but USAF will add new checks to make sure it happens. It is studying whether to extend such feedback to colonels and below.

Another change, to take effect in October 1995, will let senior raters consider "whole person" factors, such as professional military education and advanced degrees in the rating process.

While the Air Force agrees that performance should be the prime consideration, a USAF official says, "this change recognizes that senior raters have knowledge of their officers' accomplishments and should be allowed to factor that knowledge into their evaluations of potential."

That development may further irritate critics who charge that raters already consider factors other than performance in making recommendations, but, as one official put it, "We believe that if an officer earns it, he or she should get credit for it."

The Air Force has concluded that the overall promotion process is working well and that most of the fault members find with it is more perceived than real.

Top Box Inflation

Another fault some enlisted members see in the evaluation systems is inflation. Knowing the role ratings play in promotions, raters are tempted to give service members the highest marks they can. If enough do so, most candidates enter the race with similar "top box" scores, and other selection factors gain importance. Under the WAPS, for example, as rating scores become more similar, test scores carry added weight.

Officials say that inflation no longer is a major problem in the officer area because the Air Force has created effective safeguards against it. They concede that inflation in the airman system was one of the things looked at by the review group, and it may recommend some changes.

One problem in the airman area has been caused by the lengthy drawdown, and officials say it may not be solved for some time. "The reality," one said, "is that as we downsized, we kept the best people and concentrated on quality. Now, we face a situation in which we have more exceptional performers, nearly all eligible and deserving of immediate promotion, than we can promote."

In short, the drawdown itself has functioned as a prescreening process and left the service with more good people than it has vacancies. The Air Force managed to create some vacancies by cutting the career force as well as by reducing accessions and trimming the lower ranks. Otherwise even some outstanding members would not be picked. Even so, the cuts have had an impact.

The Air Force has been able to promote to the field-officer grades at the minimum levels required under the Defense Officer Personnel Management Act, officials say, but not at the rates it once did. In 1992, the opportunity to rise to major dropped from eighty percent to seventy-eight percent. The opportunity for promotion to lieutenant colonel fell from seventy-five percent to seventy percent and for colonel from fifty-five to fifty percent.

Among airmen, USAF targeted for early outs skill and year groups with overages but resisted reductions in force and selective retirement boards for NCOs. As a result, promotion opportunities to most grades remained normal, but hikes to senior master sergeant and chief master sergeant slowed. The top ranks are thinning now, and officials project traditional E-8 and E-9 opportunities for coming cycles.

For some critics of the system, however, the complaint is less about how many vacancies USAF has than

about the way it fills them. Some charge that the selection system itself is unfair.

It is a charge that officials have battled for decades. In USAF's early years, for example, promotions were made largely against unit vacancies, and local commanders had considerable power to influence selections, particularly in the case of airmen. Members then complained that being promoted depended less on performance than on being in the right place at the right time and knowing the right people.

With time, USAF developed a centralized selection process, pooled USAF-wide vacancies, and adopted an "equal promotion opportunity" philosophy. Now, all line officers compete against all others, and all airmen compete within their grades, regardless of their specialties.

Irritating Exceptions

There still are a few exceptions to the rule, however, and these continue to draw fire. In the enlisted ranks, for example, fourteen Air Force Specialty Codes are earmarked as Chronic Critical Shortage (CCS) skills and promotions in these areas are at 1.2 times the overall rate.

A percentage of airman promotions also is set aside each year for the Stripes for Exceptional Performers (STEP) program. This approach, begun in 1982, lets commanders advance NCOs of their choice to staff sergeant, tech sergeant, or master sergeant. This year, more than 400 promotions will go to the STEP program.

Despite criticism from some airmen that CCS breaks with the equal-opportunity rule and that STEP invites favoritism, officials say USAF has no plans to abandon either approach soon.

The mechanics of the WAPS also have drawn fire. Some airmen complain, for example, that the point system gives too much weight to skill and promotion tests. Combined, they account for up to 200 points in a maximum WAPS score of 460 and make the difference when candidates have similar seniority and ratings. This, some argue, is unfair to members who are good performers but test poorly.

That complaint is a perennial one, and the Air Force has rejected it consistently. Officials argue that test scores are valid predictors of success in higher skills and grades and rightly carry much weight in the selection process. The Air Force has made numerous efforts to help airmen do better on the tests, however, including providing study guides. In the past, enlisted personnel had to check such guides out of libraries, but USAF now provides a personal copy to every airman eligible for a coming test cycle.

Other airmen complain that the WAPS allows them up to twenty-five points for decorations. In a tight race, they say, this gives an unfair advantage to those in aircrew specialties and other skills where the bulk of the awards are made. Those in personnel, administration, and other support specialties rarely are in a position to win medals.

Personnel officials say that such concerns were passed to the review group looking at the airman system, but they contend that most such complaints come from a relatively small number of airmen. It is impossible to design a formula that will satisfy some 300,000 members, they say, and most seem to approve of the current one.

While it has its critics, the WAPS also has its fans. Some have suggested that the point-and-board system for top NCO grades be extended to some officer selections.

More Visibility

What both the officer and enlisted review panels have called for, however, is greater visibility in the evaluation and selection systems.

Personnel officials have already begun to crank out information sheets, press releases, and even television spots to bring more of the process into the daylight. The Air Force Military Personnel Center plans to publish statistical results to show how much weight boards gave to various factors, such as professional education and advanced schooling. The Board Secretariat at AFMPC will produce a video to walk viewers through the whole board process. Field visits will spread the word to bases, and education programs will stress the need for supervisor counseling on promotions.

USAF also has begun to lift the veil on the operation of promotion boards. Historically, the Air Force has refused even to identify board members for fear that candidates would try to influence them beforehand or that nonselectees would blame the board for their failure. Traditionally, it has assured members that the boards use the "whole-person" approach to selections but has supplied few details about the actual mechanics of the process.

Now, the Air Force plans to explain more of the nuts and bolts of board operation. It will name board members, tell what instructions are given to them by the Secretary of the Air Force, and explain how promotion lists are processed. It also will reveal what selection records include and how they are scored.

In the past, the Air Force has been wary even of suggesting that boards use a scoring system for fear it would make selections sound too mechanical. Nor would it talk much about the instructions given to the board, lest members think the system was influenced too much by the Pentagon.

Ironically, such secrecy has tended to confirm the suspicion among some members that the system is rigged against them. Considering the number of candidates and the time limits on most boards, it was easy to imagine that the panels could give each individual's records no more than a few minutes' attention. This fed the belief that many of those promoted were preselected by lower echelons, chosen by some formula imposed by USAF itself, or picked by some sort of dart-board process.

The process is far less mysterious and sinister. Air Force officials do advise boards but only on the mechanics of selection. The purpose is to speed the process, ensure that the whole-person approach is used, and maintain some uniformity in the way candidates are considered.

As for the time constraints on the board, they are real but not so stringent that the board can only afford a quick glance at each competitor and must make a series of split-second judgments. Veterans of the board system and USAF itself already have revealed some of the techniques used to keep selection from becoming that mechanical.

Dividing Up the Work

One safeguard is to begin the process with a dry run of records picked at random to give members a feel for

the overall quality of the candidates. Another is to break the board into several panels and give each a set of records to study in detail. This ensures that eligibles receive more than the cursory look they would receive if every board member had to review every record personally.

These preliminary steps make the selection job simpler. Often, say those close to the process, the least qualified and clearly outstanding candidates are identified early, giving the board more time for the hard work of choosing among those in the middle.

Officials say they plan to reveal not only how the board works but what weights they give various factors in an officer's records. Under the WAPS, the scoring process is already more visible, and the Air Force gives each airman a personal report card showing where he or she stood in the competition.

It remains to be seen, however, whether the Air Force will go so far as to tell both selectees and nonselectees exactly where they stand in the pecking order. Some nonselectees wish it would. If they knew how close they came to promotion, they say, they could make better career decisions. If they were close, they could sweat out another round or two and hope for the best. If they were at the bottom of the pile, they could quit and try another line of work.

Others would rather not know. As one senior officer put it, "There may be somebody in the Pentagon who knows for certain that I'll never make full colonel, but I don't want him to tell me. I'd rather plug away and hope for the best than know I was wasting my time."

The Air Force may be reluctant to reveal such details for other reasons. One is that it could lose some good people by doing so. More important is that such rank-order lists are not good long-range guides. They are little more than snapshots of one person's standing in a given cycle. In a new round, with a new group of contenders, he or she might rank significantly higher or lower. Even a succession of such reports would not predict how the service members would do next time.

Unfortunately, officials say, such predictions are difficult in the best of times and particularly hard during turbulent times, such as the current drawdown. Whatever the mechanics of selection, the promotion pace is ruled less by the quality of the contenders than by Air Force requirements—and requirements have changed during the long period of force cutting.

Longer Waits

In the officer area, for example, some unusually large year groups (1979 and 1980) are moving through the system. As officers from these groups are selected, they are waiting longer to pin on their new ranks. This delay also pushes back the board timing for some follow-on year groups. As the drawdown ends, pin-on times and promotion opportunities may improve, but it will take time.

Airman promotions have been less affected by the drawdown, and officials say they believe that enlisted hikes for the next five years will at least equal those for the last five. Again, some well-qualified airmen will not move up quickly simply because requirements are limited in higher grades.

"We have a dilemma," an official says. "On one hand, we have quality people throughout the Air Force who are highly motivated high achievers. On the other hand, in an up-or-out system based on requirements that are constrained by grade ceilings, we can't promote everyone to his or her full potential. Somehow, we have to balance these contradictions by making sure our people understand the system and have realistic expectations."

USAF's new publicity blitz may improve understanding of the system and convince more Air Force people that it is fair and equitable. Creating more realistic expectations may be tougher.

The reality is that only a fraction of any given officer group will make colonel and only a small percentage of airmen will reach the supergrades. En route, some will drop out and others will be forced to leave by the up-or-out policy. It is these losses, voluntary and otherwise, that fuel the movement of the rest through the grades.

The Air Force hopes to improve understanding of the promotion system, but creating more realistic expectations in the ranks may be tougher.

Where an individual should place himself in this real world is harder to say. In a sense, it was easier in the days of unit vacancies and local promotions. Service members knew at least that when someone in the unit left, someone else would move up, and the competition was local and highly visible.

In part, it has been the Air Force's efforts to make promotions fairer that has made the process more complicated and confused perceptions of it. The trick now will be to demystify the system and create more realistic expectations without robbing service members of the hope that next time they will make it. ■

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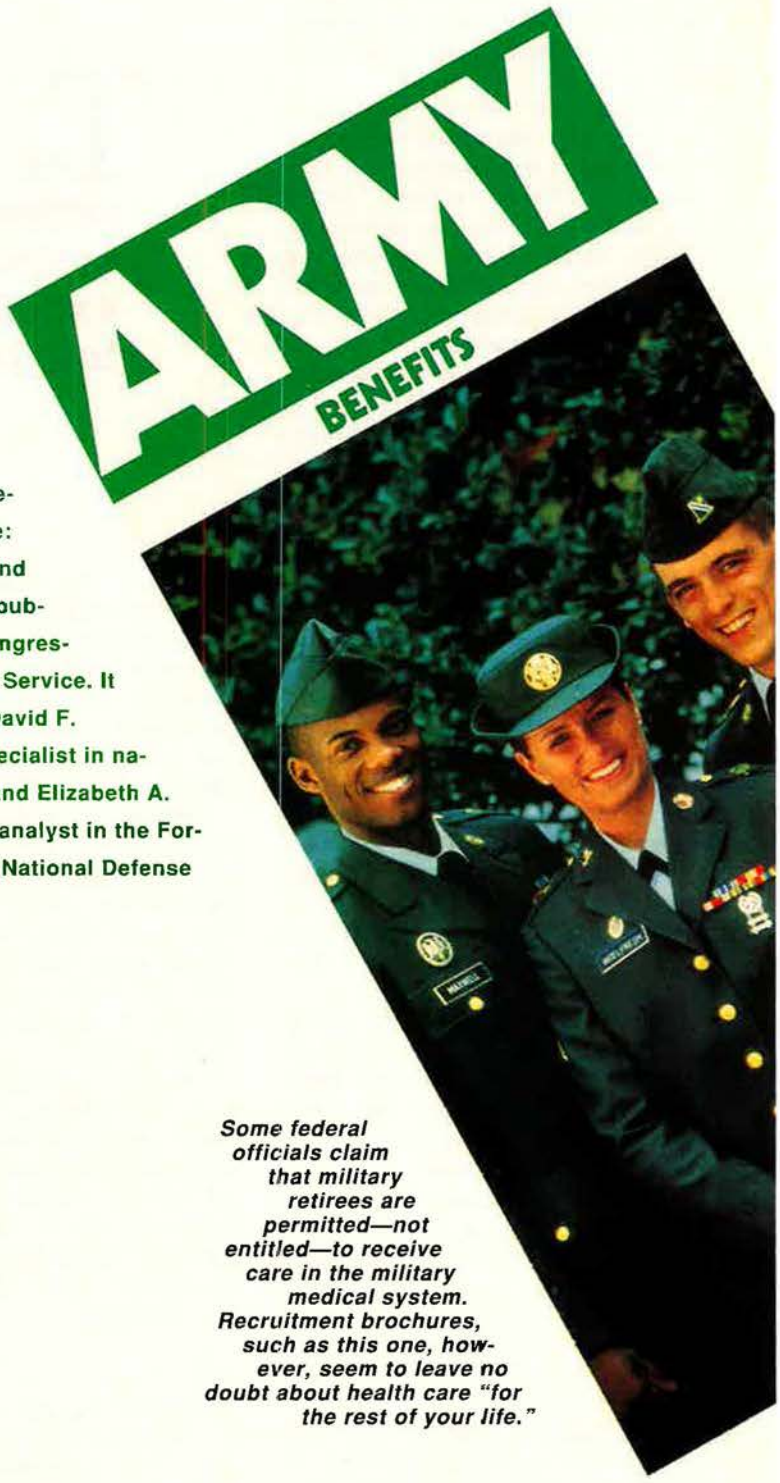
A special report for Congress—condensed here—holds that, for military retirees and their dependents, health care is not an entitlement.

Base Closure and Retiree Health Care



Some federal officials claim that military retirees are permitted—not entitled—to receive care in the military medical system. Recruitment brochures, such as this one, however, seem to leave no doubt about health care "for the rest of your life."

This article was adapted from "Military Retiree Health Care: Base Closures and Realignments," published by the Congressional Research Service. It was written by David F. Burrelli, CRS specialist in national defense, and Elizabeth A. Dunstan, a CRS analyst in the Foreign Affairs and National Defense Division.

As a result of decreases in the defense budget, a significant number of domestic and foreign US defense facilities have been, are being, or will be closed or realigned. Closing these facilities, particularly in the United States, means the loss of access to on-base health care for thousands of military retirees and their dependents.

This report describes the availability of health-care services for military retirees, presents data on the approximate number of retirees affected by base closures and realignments, describes the need for and types of existing or proposed health benefits for retirees affected by base actions, and analyzes the financial considerations of the various benefit options.

Health Care Availability

The military health-care system provides medical care to active-duty military personnel, eligible military retirees, and eligible dependents of both groups. According to DoD, the purpose of providing medical care is as follows:

"To make medical care available to members of the uniformed ser-

vices and their dependents in order to help ensure the availability of physically acceptable and experienced personnel in time of national emergency; to provide incentives for armed forces personnel to undertake military service and remain in that service for a full career; and to provide military physicians and dentists exposure to the total spectrum of demographically diverse morbidity necessary to support professional training programs and ensure professional satisfaction for a medical service career."

Thus, the *primary* mission of the military medical care system is to maintain the health of military personnel so they can carry out their missions and to be prepared to deliver health care during time of war. These duties include testing and screening of recruits, emergency medical care for those involved in hostilities, and maintenance of physical standards of those serving in the armed services.

In support of those in uniform, the military medical system also provides, *where and when available,* health-care service to active-duty dependents, retirees, and the retirees' dependents.

Thus, under current law, active-duty personnel are *entitled* to receive health care at military medical facilities. Likewise, the eligible dependents of active-duty personnel are *entitled* to receive health care at these facilities on a space-available basis. Conversely, military retirees and their dependents are *not entitled* to receive health services at military medical facilities. Instead, retirees and their dependents *may* receive health care on a space- or service-available basis.

Photo by Paul Kennedy

No statutory entitlement to health care has ever existed for retirees. However, prior to the mid-1960s, the availability of such care was almost assured. A relatively small number of active-duty personnel and their dependents, plus a small number of retirees and their dependents, allowed virtually all retirees access to such facilities without constraint. Because such access was available, many erroneously held the belief that such care represented a legal "promise."

With the expansion of the number of active-duty dependents since the mid-1960s, as well as the expansion of the number of retirees and their dependents, access to such facilities has become progressively limited. Congress began to realize that:

- Many military retirees had no access to a military health-care facility because of space limitations, lack of available services, or travel considerations.
- Some personnel had retired at an age long before they would become eligible for Medicare.
- Personnel were at a comparative disadvantage in terms of available health care relative to federal civilian workers.

As a result, Congress created the Civilian Health and Medical Program of the Uniformed Services. CHAMPUS is the military equivalent of a health-insurance plan, run by the Department of Defense, for active-duty dependents, retirees, the dependents of retirees, and survivors of deceased military members.

CHAMPUS does not require premiums. Although a beneficiary may receive care at military medical facilities, such care may not be available. If such care cannot be provided, CHAMPUS coverage may be used on a cost-sharing basis (*i.e.*, CHAMPUS and the beneficiary will share the cost of civilian care provided).

Effect of Base Closures

Under federal laws, commissions were established in 1988, 1991, 1993, and 1995 to consider and recommend installations for closure or realignment. The 1988 commission recommended, the Secretary of Defense approved, and Congress failed to oppose the closure of eighty-six bases, partial closure of five, and the realignment of fifty-four. This first round of closures and realignments is to be completed by September 30, 1995.

As a result of action by the 1991 commission, eighty-two additional facilities were designated for closure or realignment. According to the 1993 base closure commission report, 130 bases were recommended to be closed and another forty-five realigned.

On February 28, 1995, Secretary of Defense William J. Perry released the Defense Department's list of bases recommended for closure or realignment. This fourth list included 146 facilities. According to Secretary Perry, fifteen of these are "large bases."

With the closure and proposed closure of these facilities and others in the future, availability of military health-care services for certain military retirees may become more limited.

It is difficult to estimate the number of retirees affected by base closures, for several reasons.

- Many retirees begin second careers. These second careers frequently provide health-care benefits. Although many retirees remain eligible for military health-care benefits, they opt to use health insurance available through their civilian employers.
- Retirees frequently move to areas of the country that make access to military health-care facilities difficult because of time or distance factors.
- Many military retirees are eligible to receive benefits from the Department of Veterans Affairs.
- Availability of health care at military facilities may be limited. A retiree who lives near a military facility and finds access limited may seek health care through CHAMPUS.
- Military members have paid social security taxes since 1958. Such payments have entitled retirees—generally those age 65 and older—to Medicare benefits.
- Benefits may be used in a concurrent manner. Health care may be received through a private health insurer, with CHAMPUS as the second payer and with prescriptions picked up at the base.

This report attempts to gauge the number of retirees living near bases that have been scheduled for closure or realignment by identifying the ZIP code for each facility with DoD data on retirees by the ZIP code of residence.

The tables on these pages contain the number of active-duty Air Force personnel, dependents, and retirees residing in the same three-digit ZIP code as the base, at or near the time the base was placed on the closure and realignment list. The tables also describe, where available, the existing health-care facilities of each base.

Although the tables do not provide a precise measure of the number of retirees who use military medical facilities, they do give an indication of the number of retirees who live in the general vicinity of each facility. In addition, one also gains an appreciation of the availability of facilities to the retirees.

It should be noted that a realignment that reduces the number of active-duty personnel on a military installation, while keeping the installation and its health-care facility open, may actually increase the availability of health care for retirees.

Conversely, a realignment that increases the number of active-duty personnel and their dependents without a commensurate increase in health-care services may adversely affect retiree access.

The majority of the installations listed in the tables have few, if any, medical services available. Thus, the closure or realignment of these facilities should be of little consequence as far as medical services to the retirees are concerned. In a number of cases, these facilities are satellite installations. As such, their closure should mean a reduction in demand at regional military hospitals and may therefore serve to increase the availability of access to retirees.

In some instances, large-scale medical facilities have been slated to close or have already closed. The closure of the Presidio of San Francisco, Calif., Fort Devens, Mass., Fort Ord, Calif., March AFB, Calif., Long Beach Naval Hospital, Calif., and Naval Hospital Philadelphia, Pa., would represent a loss of medical facilities capable of handling a large number of patients, including retired military persons.

With the reduction in basing facilities in the United States, the closure of forward bases, or US military facilities overseas, will mean the return of troops to those remaining facilities in the United States. The consolidation, therefore, will likely mean an increase in active-duty personnel at the remaining facilities. This could further serve to limit retiree access to military medical care.

Limits on Downsizing

The Fiscal 1991 National Defense Authorization Act placed limitations on the ability of service secretaries to downsize any military treatment

BRAC 1988

Facility	Status	Active Duty	Active Dependents	Retired	Medical Facilities/Comment
Chanute AFB, Ill.	Close	4,211	3,287	1,637	15-bed hospital. Commission notes that the quality of life at Chanute is affected by a "shortage of . . . medical and dental facilities."
George AFB, Calif.	Close	4,346	8,945	11,760	25-bed hospital.
Mather AFB, Calif.	Close	1,955	3,500	12,919	45-bed hospital. Most general medical services including dental. Commission notes that the base requires additional medical and dental facilities. Closure will save these construction costs. (The 1991 Commission will keep this medical facility open.)
Norton AFB, Calif.	Close	5,500	6,700	1,950	Clinic only (hospital at March AFB—22 miles away—is used). Commission notes inadequate medical, dental, and recreational facilities.
Pease AFB, N. H.	Close	3,714	5,529	3,174	70-bed hospital.

BRAC 1991

Facility	Status	Active Duty	Active Dependents	Retired	Medical Facilities/Comment
Beale AFB, Calif.	Realign	3,587	4,233	3,987	20-bed hospital and health services unaffected.
Bergstrom AFB, Tex.	Part Close/ Realign	4,205	7,085	7,170	30-bed hospital with primary care, pediatrics, obstetrics/gynecology, family practice, and flight medicine.
Carswell AFB, Tex.	Realign	5,129	13,494	7,491	70-bed (former 140-bed) hospital now under control of US Bureau of Prisons.
Castle AFB, Calif.	Redirect/ Realign	4,700	9,750	5,040	93d Medical Group 9-bed hospital.
Eaker AFB, Ark.	Close	2,800	2,000	1,043	9-bed hospital. Obstetrics/gynecology, pediatrics, flight medical, family practice, internal medicine, optometry, mental and environmental health, bioenvironmental services, emergency, pharmacy, radiology, and dentistry.
England AFB, La.	Close	2,933	4,403	1,995	15-bed hospital.
Goodfellow AFB, Tex.	Realign	1,988	2,804	1,637	Clinic during duty hours. Main care at Lackland AFB, Tex.
Grissom AFB, Ind.	Close	2,365	3,608	1,460	Extended-care clinic. Main health care provided under CHAMPUS in the community. Nearest military hospital at Wright-Patterson AFB, Ohio.
Loring AFB, Me.	Close	3,300	4,780	650	15-bed hospital with pediatrics, family practice, internal medicine, general surgery, and mental health.
Lowry AFB, Colo.	Close	6,177	N/A	4,759	Medical and dental clinic for active duty only. Hospital care at Fitzsimons Army Medical Center.
MacDill AFB, Fla.	Realign	6,757	13,654	6,961	50-bed hospital. Retain Joint Communication Support Element as long as airfield is non-DoD operated.
March AFB, Calif.	Close	3,484	5,129	3,494	90-bed hospital with clinics for ear, nose, and throat, dermatology, cardiopulmonary, optometry, family practice, mental health, obstetrics/gynecology, orthopedics, pediatrics, and dental.
Mather AFB, Calif.	Redirect	1,955	3,500	12,219	45-bed hospital. Most general medical services, including dental, to stay open.
Moody AFB, Ga.	Open	3,200	4,400	1,721	25-bed hospital, dental clinic, and satellite medical clinic.
Mountain Home AFB, Idaho	Realign	3,500	4,900	2,093	31-bed hospital.
Myrtle Beach AFB, S. C.	Close	3,341	7,795	4,120	10-bed hospital with general surgery, internal medicine, gynecology, primary care optometry, mental health, emergency, physical therapy, and aerospace medicine.
Williams AFB, Ariz.	Close	1,985	N/A	7,480	25-bed facility.
Wurtsmith AFB, Mich.	Close	3,062	4,212	1,090	15-bed hospital with family practice, obstetrics/ gynecology, and dental clinic.

facility except in the case of a base closure.

Congress provided no similar provisions for those military medical facilities that are shut down as a result of a base closure. The service secretary must file a report to Congress when a medical facility is downsized as a result of a realignment—*i.e.*, a reduction in the operational scope and population of the base (whether or not such a realignment is part of those suggested by a commission on base closing and realignments).

From this language, it appears that it was the intent of Congress that medical facilities that are part of a base scheduled for closure should receive no special consideration. Instead, such a facility should be allowed to close with the installation.

On May 21, 1992, the executive summary of the Senate Democratic Task Force on Defense Conversion was released. This task force was asked to evaluate and provide recommendations involving the defense drawdown. Concerning the loss of access to health care at closed military facilities, the task force stated:

"Defense cuts also pose a significant problem for military retirees

who live in communities where bases are scheduled to close. Retirees and their families lose a major benefit—access to local base hospitals, clinics, and pharmacies. Consequently, they will be forced to turn to CHAMPUS or Medicare, both of which require cost-sharing. To deal with the urgent, immediate needs of those impacted by defense cuts, Congress should consider encouraging the Department of Defense to provide military retirees in base closure areas with alternative health-care options which are both accessible and affordable."

In April 1994, DoD submitted a study of the military medical-care system. DoD stated that a peacetime reduction in the number of military treatment facilities (MTFs) would imply an expansion of CHAMPUS. It was also noted that care provided at these MTFs is less expensive on a per-case basis than when health care is purchased through CHAMPUS.

However, DoD also noted that expanding the MTFs, arguably, would include the reduction of active-duty competition for space or services and would result in an increase in demand on these facilities. DoD stated that for every ten cases attracted away from CHAMPUS, nine additional cases would be brought into the military health-care system. In other words, DoD could shift ten cases from CHAMPUS to an MTF, but in so doing, it would attract nine additional individuals into the military health-service system who were not using these services before. This increase in work load would offset any savings generated by attracting more individuals from CHAMPUS into the MTFs.

In the 103d Congress, national health-care reform legislation was introduced. The Administration's proposal had significant provisions affecting military health care, but it died without being enacted.

The most recent legislation affecting health care and the base closure process was the Fiscal 1995 DoD Appropriations Act. The Air Force was instructed, through contract or otherwise, to continue to provide health care in the base hospital at Plattsburgh AFB, N. Y., to persons *entitled* to health care at this facility.

Technically, this language does not require the Air Force to provide health care to retirees and others not so entitled. However, given existing "space-available" considerations, it is likely that retirees may continue to have access. In fact, with a reduction in entitled beneficiaries (active-duty and their dependents), it is quite possible that a few more retirees could have greater access. Nevertheless, the very limited size of the Plattsburgh MTF (a five-bed hospital and dental clinic) serves as the main curb to increased retiree use.

Financial Considerations

The main reasons for base closures and realignments are to bring the US base structure and force structure into alignment and to achieve substantial cost savings in the long term. Closing medical facilities may increase costs substantially. Providing health care through a military hospital is usually less expensive than providing care through CHAMPUS.

With the closure of a base, including the base hospital, those retirees who had access to the base may be forced to turn to CHAMPUS, which could prove costly to both the retiree and the services.

Under CHAMPUS, both the re-

Another View of the Obligation

The Air Force Association and other groups in the Military Coalition are engaged in a counterattack on the issue of health care for retirees.

They vigorously dispute congressional and Pentagon claims that military retirees are not *entitled*, but merely *permitted*, to receive free or low-cost health care in the $15 billion per year Defense Department medical system.

Far from viewing retiree medical care as a privilege that can be limited or restricted, the Military Coalition declares it to be a right for life—a right the government must honor even as it shuts unneeded bases and struggles to control costs.

Coalition statements, position papers, and testimony base this claim not on a specific provision of law but rather on long-standing tradition, promises, service, and fairness.

■ **Tradition.** The coalition cites evidence that retirees and dependents unofficially and officially have used the military medical system since 1861 at least and perhaps longer.

According to a 1991 DoD study, this practice gained administrative authority during World War I—when the government declared that "supernumeraries" might receive care under certain conditions—and limited legislative authority in 1956.

These actions did not grant retirees a legal right, but in practice they had little problem receiving health care in the system until the mid-1960s, when the number of retirees grew rapidly and space in the military medical system became scarce.

■ **Promises.** Many military personnel and retirees assert that armed services recruiters promised them and their dependents "free medical care for life" at the time they entered service and used this pledge as a key recruiting and retention tool.

Few seriously contest this assertion. The Congressional Research Service, in a recent paper, concedes that "such promises have in fact been made by military recruiters and in recruiting brochures" *[see photo on p. 75]*. Chuck Partridge, an official of the National Association for Uniformed Services, stated that a recent Gallup poll found that eighty-seven percent of retirees thought that they had been promised health benefits for life.

Said one coalition position paper: "Such promises seemed reasonable when noncommissioned officers, first sergeants, and commanders promised them to potential recruits and candidates for reenlistment."

Some congressional analysts say that such pledges, though made by members of the armed forces, are not binding, in that they were not based on law or regulation. This position cuts little ice with retirees, to put it mildly.

■ **Service.** Coalition members maintain that the government owes generous benefits to the military retiree in recognition of years of arduous and sometimes dangerous work in service to the nation. Depriving retirees of access to health care as a result of base closings strikes them as being doubly unjust. They claim that the bases are closing because the US won the Cold War and the "reward" for the retiree is an erosion of benefits.

■ **Fairness.** Military retirees contend that they have earned health care as a result of services already performed and that it is therefore unfair for Washington to change the rules now that the service has been performed.

The coalition also points out that military retirees have used the assumption of free health care as the basis for many key decisions—where to retire, what kind of second career to pursue, and how to shape personal financial and retirement plans. Its members claim it is unfair to force retirees to adjust to changes in benefit availability during retirement, when they find it most difficult to shift course.

tiree and the Department of Defense pay for health care provided. The retiree's share is paid by deductibles and a percentage of allowable charges. Costs in excess of the allowable coverage are also paid by the retiree. Out-of-pocket expenses to the retiree are capped at $7,500 per year. In addition, CHAMPUS benefits are usually terminated at age sixty-five. Thus, the closing of a military medical facility would force those retirees older than sixty-four to use the less-generous Medicare program.

Ultimately, as those living near a closed facility reach sixty-five, the burden of providing health care will be shifted from DoD (CHAMPUS) to Medicare.

In order to maintain a continuity of care at or near these facilities, a number of proposals have been made. One is simply to keep a military base open. Care provided at a military medical facility can be less expensive to both the military and the retiree. The cost of providing CHAMPUS can be less for those retirees who may require minor medical attention only once or twice a year because the cost to CHAMPUS is unlikely to exceed the retiree's deductible. Were such care to be provided in a military medical facility, there would be a direct cost to the government. However, the cost of providing CHAMPUS is certainly less than the cost of keeping an entire installation open.

Maintaining a medical facility when a base is closed represents an alternative to shifting retirees to CHAMPUS. Under this alternative, though the installation is closed, the medical facility would continue to provide health care to retirees living near the facility. In fact, it appears likely that a larger number of retirees would have access to such care because there would be no, or very little, competition from active-duty personnel or their dependents for the available space. However, DoD policy precludes the manning of a military hospital solely to meet the needs of retirees. In addition, the Congressional Budget Office (CBO) has noted that the increase in space available could put upward pressure on costs.

It has been proposed that DoD allow the medical facility to close and create alternative programs through contracting with private health-care providers. Proposed alternatives would direct eligible beneficiaries to contracted providers who agree to fixed rates or discounts. Such a program could minimize the costs to the retiree and continue to provide some level of protection from rising health-care costs. CBO predicts that such a program would create disparate benefits among retirees—certain retirees who live near a closed military facility would have access to an alternative benefit program that would not be available to other retirees in general. Creating these alternative benefits could become a permanent fixture. As such, these benefits may attract new retirees to specific areas, much in the same way the now-closed military base attracted these retirees in the first place.

Finally, there exists the proposal to turn facilities at closed bases into satellite facilities of a Uniformed Service Treatment Facility. Essentially, such a proposal would allow an existing DoD facility to become a community facility operated by DoD. Such a change would increase access for retirees and their beneficiaries because of a lack of competition for space once active-duty personnel and their dependents have been relocated. However, the increase in costs may be substantial.

BRAC 1993

Facility	Status	Active Duty	Active Dependents	Retired	Medical Facilities/Comment
Griffiss AFB, N. Y.	Realign	3,885	8,713	1,453	20-bed 416th Medical Group Hospital.
Homestead AFB, Fla.	Realign	4,954	5,941	4,999	70-bed hospital.
K. I. Sawyer AFB, Mich.	Close	2,800	4,000	1,340	15-bed hospital and dental clinics.
March AFB, Calif.	Realign	3,500	5,000	7,246	90-bed hospital and dental care. Base will convert to a reserve base.
McGuire AFB, N. J.	Open	4,340	7,120	858	Walson Army Community Hospital appointments made at clinic.
Plattsburgh AFB, N. Y.	Close	2,218	3,430	1,449	5-bed hospital, no obstetrics. Dental clinics.

The Future

Under the Administration's long-term defense spending plans, 5,600 civilian medical personnel will be cut from the Army over the next six years. The Navy and Air Force, together, are expected to be reduced by fewer than 2,000.

In addition, the drawdown of forces may also affect the availability of health care by reducing the number of health-care providers in uniform. According to press reports, a 1994 Pentagon study found that only half the current number of military doctors would be needed for any foreseeable military operation. Eliminating this surplus, however, may severely limit the availability of military health-care services to all but active-duty personnel and their dependents.

As Congress faces the need to reduce defense spending, preserve military readiness, provide for constituent interests at home, and address the growing health-care needs of the population, it is unlikely that a single or simple solution will be found. Instead, the needs of each constituent group may have to be compromised in order to reach a viable resolution. ■

Zenit was good enough for the Russians to identify types of cars in the Pentagon parking lot.

The First Soviet Spy Satellite

By James Oberg

Shrouded in secrecy throughout the Cold War, the recently unveiled Soviet spy satellite program "Zenit" conducted intelligence missions under the guise of "peaceful scientific research." Zenit-2 was the program's first special-purpose satellite to photograph the Earth.

FOR MANY decades, the Soviet military space program was tightly wrapped up in deceit and disinformation. In recent years, however, the world has seen a dramatic outpouring of data about the earliest years of Soviet space flight, and Western analysts have been treated to firsthand information of a kind that few ever expected to see.

One particularly good example concerns "Zenit," a Soviet military spy satellite of the early 1960s. This once supersecret program, which for so long had been covered up with world-class lies, has become something of a public showcase. In fact, the leading Russian spacecraft bureau, seeking Western commercial space contracts, boasts openly and in detail in its sales brochures about the successes of Zenit.

Zenit (Russian for "zenith") was the code name for the first Soviet spy satellites. The name had been used for some early antiaircraft rockets and later became the name for an advanced booster rocket. In 1961, however, the system that it signified was one of Moscow's most guarded secrets.

It had to be. Preserving the charade that it was engaged only in "peaceful scientific research" in space was critical to Moscow's effort to stay on top in the superpower propaganda war. Even as it prepared its Zenit spy satellites, the USSR endlessly flogged the propaganda line that all space spying activities were absolutely illegal and someone should make the Americans stop.

Even before Sputnik in 1957, Russia's chief space designer, Sergei Korolev, had launched a spy satellite program. His design team, called Experimental Design Bureau 1 (OKB-1 in Russian), was based in the Moscow suburb of Kaliningrad (formerly Podlipki). At the time, it was concentrating on the R-7 ICBM (what NATO later called the SS-6 "Sapwood"), the giant rocket that propelled the USSR to its early lead in the space race.

Heavy Secrecy

That rocket soon was augmented by a small upper stage able to send half-ton probes toward the moon and five-ton recoverable spacecraft into low-Earth orbit. These spacecraft were to become the spherical Vostok capsules that carried the first cosmonauts into space. So deep was the secrecy surrounding these projects that a decade passed before Moscow would release basic dimensions or photos of any kind.

Yuri Frumkin, a veteran Soviet design engineer who played a key role in the program, recently released detailed information. He said the initial Zenit spy satellite design consisted of a cylindrical camera module and a conical film return capsule. Film was wound on cassettes in the small recovery capsule, while the camera system would not be recovered. This design was developed independently of other OKB projects and bore an uncanny resemblance to those developed for the US Discoverer satellites.

In 1958, after the initial Sputnik

successes had sparked Kremlin approval of the Vostok manned space program, Korolev made a fundamental change in the thrust of the entire Zenit project. He abandoned the parallel design effort and adopted Vostok's spherical manned capsule design for the unmanned spy satellite as well.

"The variant was complex for camera installation," Frumkin later explained, with cautious understatement. "The decision greatly reduced the time of appearance of the Zenit and substantially increased its in-flight reliability, since there already existed the experience for a manned ship on which special, exceptionally high requirements on ensuring safety had been imposed," he continued.

In other words, all the development work for the Vostok manned vehicles could be speedily converted into the development of a spy satellite.

In 1961, as soon as the first manned Vostok flights were completed, the unmanned Zenit reconnaissance satellite program became Korolev's top priority. By the end of 1961, the first orbital flight vehicle was ready. It carried not a cosmonaut but film and canisters. Otherwise, its appearance was nearly identical to the Vostok. It used the same booster rocket and was launched from the same site at Tyuratam (the Baikonur Cosmodrome). It weighed about the same (five tons), looked nearly identical in external configuration, and followed the same orbital flight path in altitude and inclination to the equator.

The Russians recently released cutaway drawings of these Zenit vehicles. Comparisons with schematics of the Vostok manned vehicles underscore the relationship between the two vehicles. The spherical recovery modules were externally indistinguishable. Antennas sprouting from the equipment module looked the same, corroborating contemporary reports from civilian radio listeners that the two programs sounded very similar in terms of telemetry. Both had identical thermal control systems, an array of hinged louvers that could be raised or lowered to modulate the radiation of heat. Tanks of pressurized air and an array of small rocket nozzles gave both orientation control.

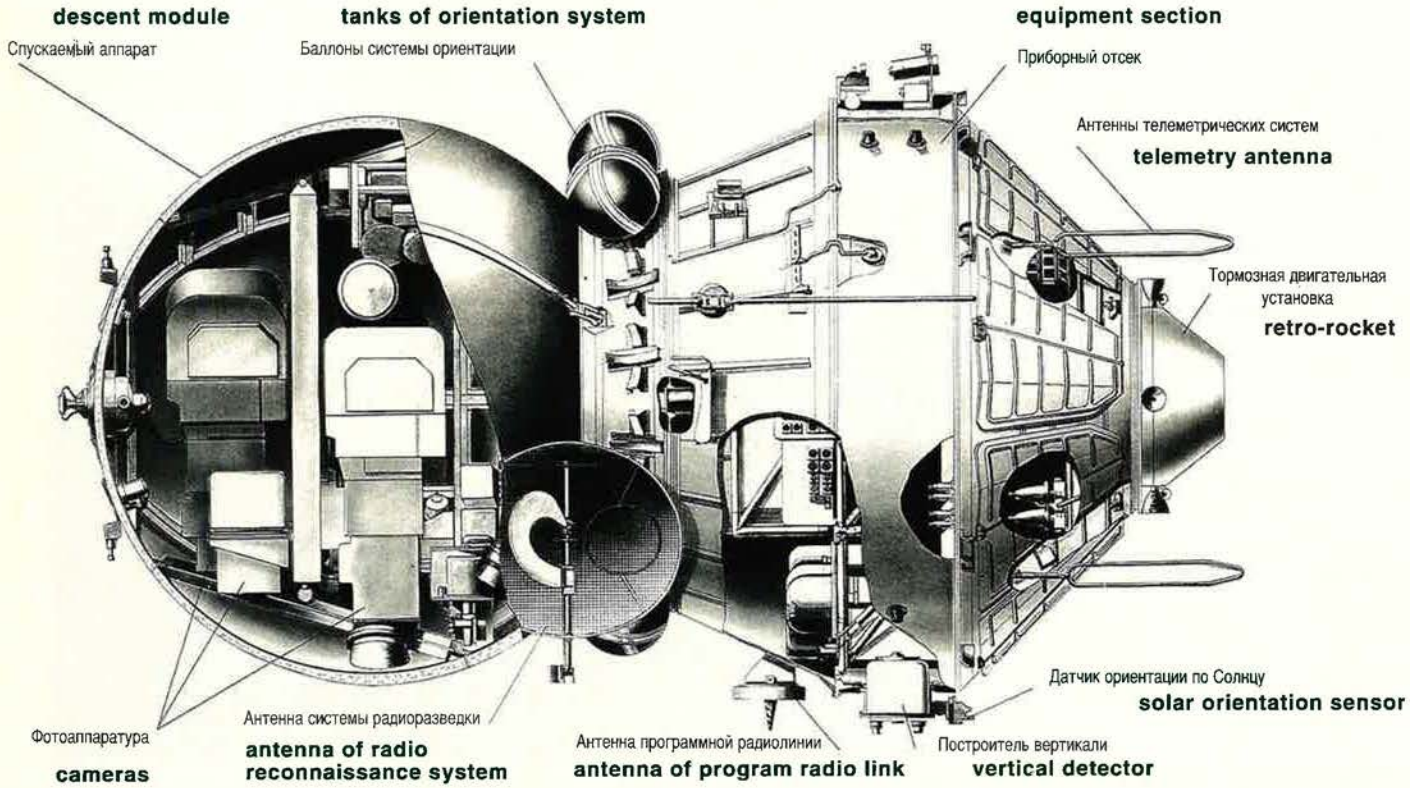
The first operational design, "Zenit-2," also contained a small dish that design sketches labeled "radio-reconnaissance antenna system." Two years later, Zenit's second-generation spacecraft, "Zenit-4," dropped that feature even as it acquired a more powerful and heavier upper stage.

Only two noticeable physical features differentiated the Vostok and Zenit designs. First, where Vostok had an ejection hatch for the cosmonaut, Zenit had a camera pack cover with multiple portholes. Second, where the aft service module of the Vostok consisted of two truncated cones mated wide end to wide end, the Zenit was stretched at the mating plane by the insertion of a short, wide cylinder containing control electronics.

Failure at First

The first launch attempt, on December 11, 1961, failed when the booster's third stage did not ignite. According to recently published excerpts from the private diary of Cosmonaut Training Director Gen. Nikolai Kamanin, the Zenit spacecraft fell back to Earth in the trackless taiga (*i.e.*, subarctic coniferous forests) somewhere between Novosibirsk and Yakutsk. It was never found.

Zenit-2 Satellite



During the same period, the Soviets began launching small scientific satellites. These were genuinely civilian research probes and usually were lofted from the military missile range at Kapustin Yar on the lower Volga. From the beginning, these were called "Kosmos" satellites. Their announced purpose, which was essentially true, was scientific exploration of outer space.

Conveniently for Soviet military planners, however, several of these civilian research satellites were placed in orbit before the first of the spy satellites made it into orbit. Thus, when a Zenit/Vostok finally achieved orbit, it could be easily camouflaged by claims that it was just another "Kosmos scientific spacecraft."

That is what happened. On March 16, 1962, the TASS news agency in Moscow released an announcement about the successful launch of "Kosmos-4." Its officially declared purpose was "to continue the study of outer space." When its recovery on Earth was announced three days later, Western speculation was that it had been on a research or checkout mission in preparation for a new manned flight.

Records from that time and even some of today's standard reference tables speculate that the spacecraft was engaged in "space radiation" measurements. According to NASA's annual report to Congress, "Astronautical and Aeronautical Events of 1962," the Soviet spacecraft was "presumably another of the recent series of scientific satellites."

With hindsight, analysts realize that the satellite was really part of a space reconnaissance system and had recoverable film. Frumkin's recent memoirs fill in the details of the vehicle, secretly called "Zenit-2 No. 2." (The first vehicle was the launch failure four months earlier.)

It turns out, said Frumkin, that there were several major mechanical failures in the spacecraft. The orientation system malfunctioned, as did the camera system, so no film was successfully exposed. The recovery went well, but the Soviets had already been achieving that with Vostok capsules for almost two years. The most successful part of the mission was the deception campaign.

Altitude Doesn't Matter

Without doubt, deception was a critical element of the program, and any breach of secrecy would have caused the Kremlin extreme embarrassment. For example, the Soviet Army daily, *Red Star,* was arguing about this time that "a spy is a spy regardless of what height he flies." That was true, by Moscow's lights, unless it was a "scientific research satellite."

Such diatribes had been going on for years. A Soviet functionary named Grigori Zhukov, writing in a 1960 issue of the Moscow magazine *International Affairs,* condemned US spy satellites. "American plans of space espionage are incompatible with the generally recognized principles and rules of international law designed to protect the security of states against encroachments from outside including outer space," he asserted. "From the viewpoint of the security of the state," he continued, "it makes absolutely no difference from what altitude espionage over the territory is conducted. A state will not feel any safer because military preparation[s] against it are carried out at a very high altitude."

Behind this cloud of propaganda, Korolev's Zenit program rolled on. The third test flight did much better than the first and second flights. By July 1962, the mission of Kosmos-7 (carrying "scientific equipment intended for continuing the space research," lied TASS on March 16, 1962) went as planned. Usable photographs were returned after a four-day flight, although no recovery was announced.

Over the next eighteen months, the Soviets carried out a test program covering ten flights. On-orbit duration increased to eight days, and new on-orbit control methods and recovery methods were developed. The tenth and last test flight, Kosmos-20, took place in October 1963.

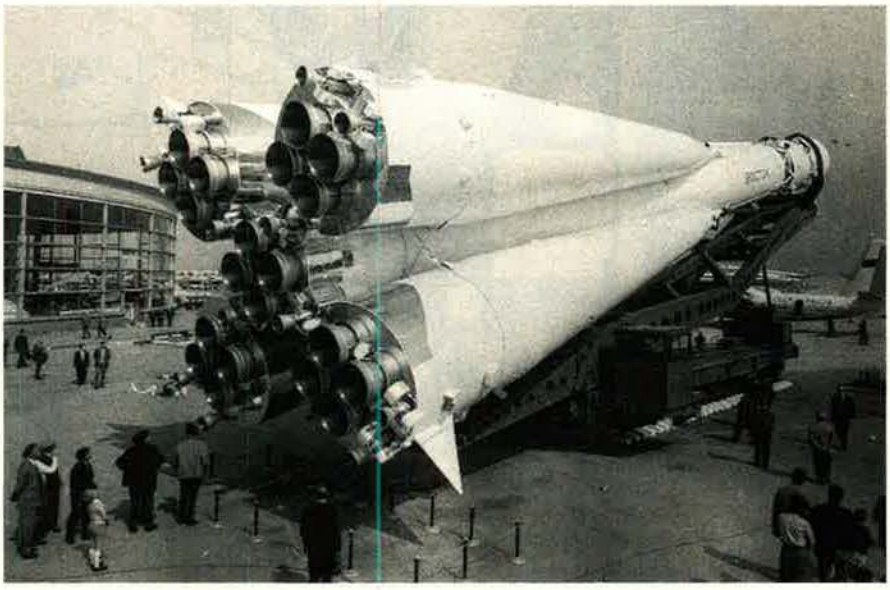
"The results exceeded even the most optimistic expectations of the client," according to Frumkin. The spacecraft ultimately became the first operational space vehicle delivered by Korolev's team to the Soviet Defense Ministry.

The basic initial reconnaissance package design, as Frumkin described it, carried four cameras. Three had focal lengths of about one meter. They could be directed toward specific targets within a survey band about 180 kilometers (112 miles) wide. Each camera had film for about 1,500 frames. Each mission brought back photography of Earth surface area of about ten million square kilometers (3.8 million square miles)—about the size of the United States.

The resolution initially was about ten to fifteen meters but soon became good enough for the cameras to capture the images of individual automobiles.

Cars at the Pentagon

Vasily Mishin, Korolev's deputy at the time, recently related that they were soon seeing photographs that allowed the Soviets to identify the type of automobiles in the Pentagon



The early Zenits were boosted into orbit by the "SL-3," the same type of rocket that gave the USSR its early lead in manned space flight.

parking lots. Not long ago, Mishin turned over two dozen volumes of his launch diaries and notebooks to a Western auction house for sale, and these handwritten records from those years are full of precise accounts of missions of the spacecraft he called the "Z-2"—the Zenit-2—and its successor, the "Z-4."

Frumkin boasted that "the reduction of the cartographic base of different continents to a unified system was of great importance for solving defense problems, as well as navigation problems." This was an oblique reference to improving ICBM targeting.

Many of Zenit's challenges were detailed in articles recently published by Frumkin and others. They discussed the problem of image motion compensation and the need to maintain the optics at a uniform temperature with less than one degree of temperature variation. The attitude control system had to maintain relative horizontal orientation to accuracies of better than one degree of arc. Fundamentally new telemetry systems and on-board computers were needed.

Though the Russians continued to officially maintain that such military missions were not occurring, they gradually muted their denunciations of US spy satellites. At one point in early 1964, Premier Nikita Khrushchev even boasted about Soviet satellites to a US official. Meeting with former Sen. W. H. Benton, then the US representative to UNESCO in Paris, Khrushchev said, "If you wish, I can show you photos of military bases taken from outer space."

It had always been Korolev's policy to initiate and implement various new space vehicles and then, once they became operational, pass them on to spin-off bureaus. He did this with various boosters (he created a rocket factory in Kuybyshev on the Volga, now Samara), he did it for the Molniya communications satellites (transferred to the new "Applied Mechanics" in Krasnoyarsk), and he would do it for other satellites and deep space probes as well.

By 1963, Korolev had begun the transfer of the Zenit-2 program to another spin-off bureau in Kuybyshev, headed by one of his former deputies, D. I. Kozlov.

His own team had just completed an improved version, Zenit-4, and flown the first model as "Kosmos-22" in November 1963. The spacecraft appeared nearly identical and still flew the standard eight-day mission, but it carried a lens with an objective focal length of substantially greater size.

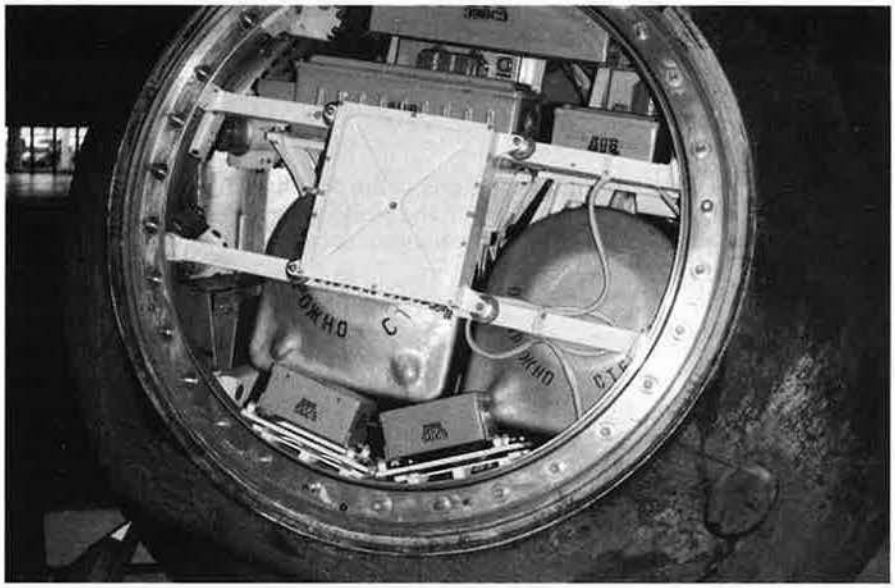


Photo by James Oberg

Now that the secret is out, Russia has cashed in by auctioning off these camera packs from its third-generation satellite, "Kosmos-2207," in Texas last year.

Two dozen more Zenit-2s were flown in the following few years, before being phased out as a third-generation variation appeared. By then Korolev was dead, and his design bureau was fully engaged with the challenges of manned lunar flight.

In the early 1960s, Western observers learned to tell the first two Zenit generations apart through subtle differences in telemetry. The first and most obvious difference, however, concerned the third-stage rocket that accompanied the payload into orbit. Zenit-2 used the same booster as the Vostok, designated "SL-3" by the Defense Intelligence Agency. Zenit-4, more than a ton heavier than Zenit-2, used the "SL-4," which differed mainly in that its new upper stage was three times the length of the old one. Records newly released in Moscow fully confirm this transition to the new generation at exactly the point Western observers had suspected.

Over the years, even newer generations of spy satellites were phased in, but they continued to use the same boosters and to conform to the basic Zenit design. Spin-off vehicles have carried terrain-mapping cameras or have left cameras behind and substituted biological specimens or materials-processing furnaces. Small subsatellites have been mounted on the front of the spherical capsules for independent flight.

By 1995, upward of 1,000 of these basic spacecraft had been launched in the three decades since Vostok and Zenit first appeared. Some of the more recent ones have carried commercial Western payloads, and the Russians recently shipped one obsolete spy satellite to America for auction to raise dollars to supplement their military space force's budget.

Korolev's design group has undergone a far-reaching bureaucratic evolution, becoming the "Energiya NPO" and recently privatizing as the "Energiya Rocket and Space Company." The company's slick, new commercial brochure featured many of these first-ever Zenit illustrations, as they bragged about "the first special-purpose unmanned satellite from which Earth surface photography was performed" and "the creation of national control aids using spacecraft." They are willing to perform similar services for anybody in the world—for a price. ■

James Oberg, a former Air Force captain, is a space engineer in Houston, Tex., and the author of many works on US and Soviet space and military topics. His most recent article for Air Force *Magazine, "It Really Was an Evil Empire," appeared in the February 1993 issue.*

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Valor

By John L. Frisbee, Contributing Editor

Death March

In April 1942, thousands of American and Filipino war prisoners of the Japanese suffered and died during an experience that has few parallels for calculated cruelty.

Some influential Japanese have called the American use of nuclear weapons at Hiroshima and Nagasaki a war crime of historic proportions for which this country should apologize. They ignore or deny Japan's disregard of international law and custom as it applied to both the military and conquered civilians during World War II. That aberration is epitomized by the Bataan Death March, described in *Return to Freedom* by retired Col. Samuel Grashio, a survivor of the march, and Bernard Norling.

Second Lieutenant Grashio arrived in the Philippines on November 20, 1941, assigned to the 24th Pursuit Group's 21st Pursuit Squadron, commanded by Lt. Ed Dyess *[see "Valor," May 1990, p. 182]*. Like flying school classmates who accompanied him, Sam Grashio had little time in first-line fighters and no gunnery training. Less than three weeks later when the Japanese struck on December 8, the group's seventy-two P-40s and eighteen obsolete P-35s would face an estimated 450 enemy aircraft flown by seasoned pilots. The outcome was predictable. By the end of December, the Americans were down to twelve P-40s and six P-35s. The remnants of the 24th Group moved to the Bataan Peninsula for a last-ditch defense of Luzon.

Vastly outnumbered and short of food and medical supplies, the Bataan defenders held out for three months. As the number of aircraft fell to four by April, most airmen fought alongside the infantry. Rations were cut to 1,000 calories a day. Malaria, dysentery, and tropical diseases were rampant. Grashio flew the last fighter mission from Bataan on April 8. The next day, the ill and exhausted defenders were forced to surrender, and there began one of the most disgraceful episodes in modern warfare—the Bataan Death March.

Estimates of the number of American and Filipino prisoners who started the march vary widely. There probably were about 75,000 US and Filipino service members and many displaced Filipino civilians. Colonel Grashio believes that some 10,000 died of disease and starvation or were killed by Japanese guards. No mercy was shown to those who had been hospital patients, even amputees. They were shot when they no longer could keep up, as were all stragglers. Enemy tank and truck drivers frequently swerved to crush prisoners who had fallen from exhaustion.

In the 95° heat and clouds of dust, thirst became maddening. Any prisoner who attempted to drink from one of the artesian wells along the road was shot in the back or clubbed back into line. The prisoners were allowed to drink only from filthy carabao (water buffalo) wallows. Those who did not already have dysentery soon contracted it. The men were given no food during the first three days of the march—and then only a small ball of rice on the fourth.

Near the end of the march, about 1,500 prisoners were jammed into a sheet-metal warehouse where the temperature was far above 100°. There was only one water tap in the building, where the men were locked up for two days. Some went mad. Many died.

Survivors of the ordeal finally reached Camp O'Donnell, a former Filipino Army cantonment north of Manila. There, living conditions and treatment by the Japanese were only marginally better than on the road. In two months, some 1,600 Americans and 16,000 Filipinos died of starvation, disease, and maltreatment by the guards. After two months at O'Donnell, Grashio and others were moved to a prison camp at Cabanatuan, where many more succumbed. These were only two of many Japanese prisons in which conditions rivaled those of Nazi extermination camps.

Four months later in October 1942, 1,000 prisoners, including Sam Grashio, who were judged able to work were sent to Davao on the southern island of Mindanao. There, in a former penal colony for long-term convicts, the prisoners were put to work farming, logging, and doing other manual labor. Their living conditions and general treatment were somewhat better than in the two previous prisons. Only fifteen Americans died in the five months Grashio was at Davao, but by April 1943, no more than half the prisoners were able to work regularly.

Allowed some freedom to move about the camp, a group of ten Americans—Grashio and Ed Dyess among them—and two Filipino convicts made a daring escape into the jungle, the only mass escape from a Japanese prison. After three months of careful planning, the men slipped out of the camp on a Sunday morning, guided through the jungle by one of the Filipino prisoners. They soon became lost and ended up slogging their way through the swamp for three days until they contacted a group of Filipino guerrillas. This group and others were coordinated by Wendell Fertig, an American who had lived in the Philippines since the 1930s. After several months with the guerrillas, gathering intelligence that they radiced to Australia, the former POWs were picked up, a few at a time, by submarines and carried to Australia.

Sam Grashio was among the first repatriated POWs of the Japanese to speak publicly about Japanese atrocities and to meet with families of POWs. He was awarded the Distinguished Service Cross and the Silver Star with cluster for heroism during the war. Colonel Grashio remained on active duty until 1965, when he became assistant to the president of Gonzaga University in Washington. Now retired, he lives in Spokane, Wash. ■

Sighted Sub, Bought Bonds

Photo courtesy Lockheed Martin via Jeffrey P. Rhodes

Japan's effort to deploy two-man midget submarines to increase damage to American warships during the attack on Pearl Harbor was largely a failure. Arguably, the US made better use of this captured sub, sending it on a nationwide tour to help sell war bonds. Here, a small crowd gathers in the Marietta, Ga., town square to get a close-up look at this enemy instrument of war. Such events helped sell the more than $100 billion in bonds purchased by Americans during the war, which was nearing its end fifty years ago.

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Books

Compiled by Frances McKenney, Assistant Managing Editor

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Makanna, Philip. *Ghosts of the Skies: Aviation in the Second World War.* Chronicle Books, 275 Fifth St., San Francisco, CA 94103. 1995. Including photos, 160 pages. $40.00.

Mark, Eduard. *Aerial Interdiction in Three Wars: Air Power and the Land Battle in Three American Wars.* Superintendent of Documents, P. O. Box 371 954, Pittsburgh, PA 15250-7954. 1994. Including maps, photos, bibliography, and index, 432 pages. $22.00.

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Summers, Col. Harry G., Jr., USA (Ret.). *Persian Gulf War Almanac.* Facts on File, Inc., 460 Park Ave. S., New York, NY 10016. 1995. Including photos, selected bibliography, and indexes, 301 pages. $35.00.

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Zimmerman, Jean. *Tailspin: Women at War in the Wake of Tailhook.* Bantam Doubleday Dell Publishing Group, Inc., 1540 Broadway, New York, NY 10036. 1995. Including photos, sources, and index, 349 pages. $24.95. ■

- **Opening ceremonies:** address by Hon. William J. Perry, Secretary of Defense
- **Aerospace Education Foundation Luncheon** featuring the 1995 AEF contest–winning AFJROTC unit; Doolittle, Eaker, and Goldwater Fellowships; awards for education excellence
- **Business sessions:** address by Hon. Jesse Brown, Secretary of Veterans Affairs
- **Membership awards:** national awards to Air Force, government, and AFA leaders
- **Annual Reception** in exhibit halls
- **Salute** to the twelve Outstanding Airmen of the Air Force; address by USAF Vice Chief of Staff Gen. Thomas S. Moorman, Jr.; Toastmaster: CMSAF David J. Campanale

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Air Force Association - Working for its National Membership. July 1995

National Report

AFA Testifies on *Enola Gay*

AFA President R. E. Smith testified before the Senate Committee on Rules and Administration on May 11, 1995. Smith presented the committee with background on AFA's role in the *Enola Gay* controversy, which was first ignited after the publication of the article, "War Stories at Air and Space," in the April 1994 issue of *Air Force* Magazine.

Sen. Ted Stevens (R-AK) opened the hearing by stating, "We are here today because the Smithsonian decided to present an interpretation of the history of the *Enola Gay*'s historic flight. The veterans in this country reacted strongly, for good reason, to the scripts that emerged from the Smithsonian. In the 50 years since World War II ended, and recently, there has been a constant erosion of the truth of what really happened during that war."

Stevens pointed out that the purpose of the hearing was to review what went wrong with the Smithsonian's process—"particularly, what led the Smithsonian to propose a view of the events that took place at the end of World War II that was contrary to those who lived through the war."

After recounting key milestones in the controversy, AFA President Smith said, "As we pointed out in our very first report on the *Enola Gay*, this is not the first flawed exhibit at the Air and Space Museum or within the Smithsonian complex. We believe that actions should be taken to ensure that curators in our national museums have the benefit of review and comment by a full range of recognized experts and that mechanisms be put into place to ensure that this happens."

The committee also heard testimony from the American Legion, The Retired Officers Association, the Veterans of Foreign Wars, and from Maj. Gen. Charles W. Sweeney, USAF (Ret.), who flew the instrument plane on the right wing of the *Enola Gay* on the Hiroshima mission and who commanded the atomic mission over Nagasaki three days later.

On May 18, the committee heard testimony from Smithsonian officials, including Secretary of the Smithsonian I. Michael Heyman and Dr. Tom Crouch of the National Air and Space Museum. He supervised the curators of the *Enola Gay* exhibit and drafted part of the script.

Heyman told the committee that, as a result of the controversy, he has initiated an independent management review of the National Air and Space Museum by the National Academy of Public Administration. AFA has briefed representatives from NAPA, and its report is due out in September. Heyman also revealed that he is in the process of developing policies for exhibitions across the entire Smithsonian complex.

(From left) Maj. Gen. Charles W. Sweeney, USAF (Ret.), who flew on both atomic missions, Sen. Ted Stevens (R-AK), who chairs the Senate Committee on Rules and Administration, and AFA President R. E. Smith pose after the hearing on the Smithsonian's Future Management Practices.

Heyman stated, "We are developing guidelines that will establish appropriate parameters within which museum directors and curators will collaborate on the choice and design of exhibitions; the processes for review and intervention, including a role for the Secretary's office; the extent to which historical exhibitions should speak within the context of the time; and ways to assure that our multiple audiences feel that their own ideas are being respected."

Heyman also said that the Smithsonian would be willing to lend the *Enola Gay* to another museum that has the space to display the full aircraft. The National Air and Space Museum will not be able to accommodate the full aircraft until the Dulles extension of the museum is completed.

In terms of the law governing the Smithsonian, Stevens said at one point in the hearing that he would introduce legislation to clarify the charter of the Smithsonian Institution so that congressional intent concerning the role of the National Air and Space Museum would not be subject to misinterpretation in the future.

As a result of the controversy, the director of the National Air and Space Museum, Dr. Martin Harwit, resigned on May 2. In their testimony, Smithsonian officials gave no timetable for naming a successor.

AFA Studies Available

The National Defense Issues Department recently published two white papers on issues of special interest to many AFA members. The first paper, "Medicare Subvention: The Facts and Figures," defines the issue and answers the most frequently asked questions about this reimbursement concept. Medicare subvention, if enacted, will affect the way in which Medicare-eligible retirees receive treatment at VA and military treatment facilities. AFA members should strongly support this pending legislation. The second paper "Quality of Life: People More Important Than Ever," focuses on the areas of housing, child care, compensation, and commissary and exchange facilities. Copies of both papers are available by calling at 1-800-727-3337, ext. 2020.

AFA/AEF Report

By Frances McKenney, Assistant Managing Editor

Iron Gate's Salute

The **Iron Gate (N. Y.) Chapter's** thirty-second annual National Air Force Salute continued its tradition of raising funds for USAF-related charities. The celebration also honored Air Mobility Command, a couple whose philanthropy touches all service members, and the Air Force's top leader.

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Air Force Secretary Sheila E. Widnall accepts the Iron Gate Chapter's highest honor, the Maxwell A. Kriendler Award, from Chapter President John T. Buck (left) and National Air Force Salute Foundation Chairman Robert H. Batta.

Air Force Secretary Sheila E. Widnall received the chapter's highest honor, the Maxwell A. Kriendler Award. Dr. Widnall was honored for her outstanding stewardship of the US Air Force, specifically for her commitment to "People First" quality-of-life programs.

The award citation noted that she has "strengthened the Air Force as a national resource and increased individual dignity and worth" through her strong advocacy of education and training enhancements, housing and health-care initiatives, and personnel readiness and sustainability.

Also at this black-tie event, Ira C. Eaker Fellowships were presented to Lt. Gen. John E. Jackson, Jr., USAF (Ret.), former vice commander of AMC; the Tanker Airlift Control Center, whose award was accepted by former commanders Maj. Gen. John W. Handy and Maj. Gen. John B. Sams, Jr.; and Brig. Gen. Thomas R. Mikolajcik, now the Air Force director of Transportation, but honored as the former commander of the 437th Airlift Wing, Charleston AFB, S. C. Each Eaker Fellowship represents a $1,000 donation to the Aerospace Education Foundation.

General Jackson was cited for furthering a different, more effective method of deploying air refueling assets and for directing more than 300 humanitarian missions.

The Tanker Airlift Control Center was saluted for its pioneering role in centralizing global employment functions previously spread across AMC staff, numbered air forces, and airlift divisions.

General Mikolajcik received recognition for a distinguished career in airlift planning. He was a member of the C-X Task Force, which in the 1980s defined the requirements for the C-17. In command of the 437th AW when it received its first C-17s, he led the unit to full operational status in record time.

Zachary and Elizabeth Fisher received a Jimmy Doolittle Fellowship, also denoting a $1,000 donation to AEF. Mr. Fisher, a retired real estate executive from New York, and his wife have donated more than $15 million for constructing nineteen temporary homes for families of hospitalized military personnel.

In a surprise ceremony, Dorothy Flanagan (retired longtime AFA staffer) was designated an AEF Barry Goldwater Fellow. A $5,000 donation from the chapter to AEF was given in recognition of Ms. Flanagan's "career of dedicated service to our nation and AFA." She has been a chapter volunteer for some thirty years and has served on the chapter's Executive Committee for ten years.

During the evening, the US Air Force Band of Liberty from Hanscom AFB, Mass., presented a stirring patriotic program.

Proceeds from the Salute go to the Air Force Assistance Fund, in addition to AEF.

—James A. McDonnell, Jr.

Sen. Rod Grams ((R-Minn.) prepares to don an AFA cap given to him by AFA National Vice President (North Central Region) Vic Seavers in appreciation for an address to the General E. W. Rawlings Chapter. Senator Grams serves on the Foreign Relations Committee.

An Ally in Congress

Speaking at the **General E. W. Rawlings (Minn.) Chapter** spring luncheon, Sen. Rod Grams (R-Minn.) said he will oppose attempts by Congress to reduce cost-of-living allowances that favor federal government employees and retirees over military members and retirees. Senator Grams, a member of the Senate Foreign Relations Committee, also cautioned against further defense cuts.

AFROTC cadets from the University of Minnesota and the University of Saint Thomas and local Civil Air Patrol units joined more than 100 chapter members to hear Senator Grams's address.

AFA National Vice President (North Central Region) Vic Seavers presented the senator with a plaque commemorating the dedication of the Rod Grams "Visions of Exploration" Classroom in Minnesota. AFA cosponsors the "Visions" program with *USA Today* to foster an interest in science and technology among young people.

Still Aces

Col. Francis S. Gabreski, USAF (Ret.), racked up 34.5 victories in World War II and the Korean War. He knocked them dead at the **Panama City (Fla.) Chapter** in April, too.

The top living USAF ace of World War II and Korea spoke at the chapter's quarterly luncheon at Tyndall AFB, Fla., describing aircraft and tactics that he used during his Air Force career. He also talked about his experiences on December 7, 1941, and impressed the audience with cockpit footage of several shootdowns.

Vietnam War ace AFRES Brig. Gen. Richard "Steve" Ritchie discussed "Leadership That Inspires Excellence" at the **Greater Seattle (Wash.) Chapter** meeting in April. The only American aircraft commander to down five Soviet MiG-21s, General Ritchie is the mobilization assistant to the commander, US Air Force Recruiting Service, at Randolph AFB, Tex. At the chapter meeting, he traded war stories with retired USAF Col. Don Hillman, a World War II fighter pilot and squadron commander, and Col. Stephen L. Bettinger, an ace with

Col. Geraldine May, USAF (Ret.), celebrated her 100th birthday in April in Menlo Park, Calif. AFA National Director Gerald Chapman presented the first director of Women in the Air Force with an AFA membership from the Tennessee Ernie Ford Chapter. Here, she accepts a photo of President Clinton from Col. Michael Hamel, commander of 750th Space Group, Onizuka AS, Calif.

Coming Events

July 7–8, **Arkansas State Convention,** Jacksonville, Ark.; July 7–9, **Washington/Oregon State Convention,** Tacoma, Wash.; July 14–15, **Georgia State Convention,** Robins AFB, Ga.; July 21–23, **Kansas State Convention,** Wichita, Kan.; July 21–23, **Pennsylvania State Convention,** Harrisburg, Pa.; July 21–23, **Texas State Convention,** Wichita Falls, Tex.; July 21–23, **Virginia State Convention,** Hampton, Va.; July 28–30, **Florida State Convention,** Tampa, Fla.; July 28–30, **Iowa State Convention,** Sioux City, Iowa; August 4–5, **New Mexico State Convention,** Alamogordo, N. M.; August 10–12, **California State Convention,** Santa Clara, Calif.; August 12, **North Carolina State Convention,** Greenville, N. C.; August 18–19, **Colorado State Convention,** Colorado Springs, Colo.; August 19, **Indiana State Convention,** Indianapolis, Ind.; August 25–27, **Michigan State Convention,** Petoskey, Mich.; September 18–20, **AFA National Convention and Aerospace Technology Exhibition,** Washington, D. C.

victories in both World War II and the Korean War.

Helping Build a Home

The **Austin (Tex.) Chapter** and the 924th Fighter Wing (AFRES) recently helped build a Habitat for Humanity home for a former Army soldier.

Andrea Simpson-Jones and her two daughters accepted the keys to their new home in a dedication ceremony in March. Ms. Simpson-Jones put in 250 hours at the construction site and also worked for the humanitarian organization for more than 100 hours.

Habitat for Humanity uses volunteer construction workers and donated supplies to build homes for the poor. The Austin Chapter became involved in this project through President Bob Larson, a board member of the Austin Habitat for Humanity.

Chapter News

The **Colorado Springs/Lance Sijan (Colo.) Chapter** awarded Eagle Grant Fellowships at a Community College of the Air Force graduation ceremony at Peterson AFB. Chapter Vice President Chuck Zimkas joined Col. (Brig. Gen. selectee) Gerald F. Perryman, Jr., 21st Space Wing commander, in presenting the awards to TSgt. John Botzenhart, TSgt. Kurt Ettrich, TSgt. Joseph L. Swinhart, SSgt. Gail Henderson, and SrA. Gregg A. Walsh.

In April, **Frank P. Lahm (Ohio) Chapter** members attended a military ball sponsored by the Ohio ANG's 179th Airlift Group. They presented the unit with a plaque and a commendation in recognition of the 179th's work on humanitarian missions to Bosnia-Hercegovina and Somalia. Chapter President Ralph Shadel reported that the 179th flew 657 hours in 232 sorties to deliver 1,371 tons of cargo to Bosnia.

University of Southern Mississippi AFROTC cadet John G. Burnett received an AFA Award from Col. Quentin C. Smith, president of the **John C. Stennis (Miss.) Chapter** at an April ceremony.

Fort Wayne (Ind.) Chapter President Ted Huff recently presented a Superior Performance Award to AFJROTC cadet Sgt. Jerry Griffith. Sergeant Griffith was honored for exceptional leadership and a ninety-two percent score on the AFJROTC test. Maj. Joseph Greenlee represented the ANG's 122d Fighter Wing, Fort Wayne IAP, at the award ceremony.

Former National Director John E. Kittelson presented an AFA Award to AFROTC cadet Reggie A. Christianson at AFROTC Det. 780's annual spring dining-out at South Dakota State University. Brig. Gen. (Maj. Gen. selectee) Kurt B. Anderson, commander of USAF Recruiting Service at Randolph AFB, Tex., and a 1967 graduate of the university, spoke at the event.

At the Panama City (Fla.) Chapter meeting, top living USAF ace of World War II and Korea, Col. Francis S. Gabreski, USAF (Ret.), impressed SSgt. Jason Strickland (left) and Col. George Peacock, USAF (Ret.), with descriptions of tactics and aircraft.

Air Combat Command recently named James Atkins to serve on the Commander's Airpower Support Group. Mr. Atkins is the **John W. DeMilly, Jr. (Fla.), Chapter** vice president and a former B-47 pilot. The ACC group is made up of civilian leaders who represent ACC's current and former bases. It builds and maintains ties between the command, its bases, and the civilian communities they serve.

Kalamazoo (Mich.) Chapter President William Monica took up hammer and nails to build a modest AFA display board. He takes the folding display on the road to publicize the Association at such events as the Kalamazoo Aviation Museum's "Aviation Day Spectacular." This annual celebration will be held in August this year, and Mr. Monica's AFA booth is sure to be among the aviation and space exhibits on display.

Chicagoland-O'Hare (Ill.) Chapter members held their April meeting at the Motorola Museum of Electronics in Schaumburg, Ill. Before receiving a guided tour of the museum, chapter members heard a presentation by Gordon J. Comerford, senior vice president of Motorola's Iridium Project, on the Iridium global satellite system.

Have AFA/AEF News?

Contributions to "AFA/AEF Report" should be sent to the Director of Volunteer and Regional Activities, AFA National Headquarters, 1501 Lee Highway, Arlington, VA 22209-1198. ■

Unit Reunions

AAF/USAF Crash Rescue Boat Ass'n. October 5–8, 1995, in Houston, Tex. **Contact:** AAF/USAF Crash Rescue Boat Association, P. O. Box 6004, MacDill AFB, FL 33308. Phone: (813) 527-8671 or (407) 588-5504 (TSgt. Wayne Mellesmoen, USAF, Ret.).

Air Commando Ass'n, 2d and 3d Groups (World War II). October 12–15, 1995, in Fort Worth, Tex. **Contact:** Kenneth Heller, 3716 Smoke Rise Hill Dr., Charlotte, NC 28277-9823. Phone: (704) 543-7166.

Air Force Explosive Ordnance Disposal, retired personnel. November 10–11, 1995, at the Ramada Beach Resort in Fort Walton Beach, Fla. **Contact:** CMSgt. Marshall B. Dutton, USAF (Ret.), P. O. Box 204, Valparaiso, FL 32580-0204. Phone: (904) 678-6191.

Airlift/Tanker Ass'n. November 2–5, 1995, at the Sheraton Washington Hotel in Washington, D. C. **Contact:** Col. Thomas P. Williams, USAF (Ret.), 4404 Dawson Ave., North Little Rock, AR 72116-7037. Phone: (501) 758-6885.

Amarillo AFB, Tex., personnel (1942–67). September 8–9, 1995, in Amarillo, Tex. **Contact:** Robert P. Balliett, 6910 W. 45th Ave., Suite 7, Amarillo, TX 79109. Phone: (806) 352-8875 or (806) 355-0242.

Birkenfeld AB, Germany, personnel (1948–69).

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Unit Reunions

October 4–8, 1995, in Williamsburg, Va. **Contact:** Jackie D. King, 212 Islandia West, Nashville, TN 37217. Phone: (615) 366-5626.

C-7A Caribou Ass'n. September 6–9, 1995, in Tacoma, Wash. **Contact:** Nick Evanish, 210 48th St., Gulfport, MS 39507-4317. Phone: (601) 863-6688.

Childress AAF, Tex., personnel (World War II). Reunion will be held the second weekend in October 1995. **Contact:** Sherry Cromartie, Chamber of Commerce, P. O. Box 35, Childress, TX 79201. Phone: (817) 937-2567.

George Field Ass'n. CORRECTION: In the April 1995 issue, the location for George Field, Ill., was wrong. Personnel who were assigned to the base are planning to hold a reunion September 7–9, 1995. **Contact:** George Field Association, P. O. Box 301, Lawrenceville, IL 62439-0301. Phone: (618) 943-2307 (Allie DeLoriea).

Mukden, China, POW Survivors. September 28–30, 1995, at the Ramada Inn in Baton Rouge, La. **Contact:** Paul Lankford, 105 Hummingbird Dr., Maryville, TN 37803. Phone: (615) 982-1189 or (615) 984-7004.

Parks College, AAF cadets (World War II). September 28–October 1, 1995, at Parks College of Saint Louis University in Cahokia, Ill. **Contact:** Paul McLaughlin, Parks College of Saint Louis University, Cahokia, IL 62206. Phone: (618) 337-7575, ext. 364 or 292.

Red Flag. Twentieth-anniversary celebration, November 3–4, 1995, in Las Vegas, Nev. **Contact:** 414th CTS/CCQ, 3662 Tyndall Ave., Nellis AFB, NV 89191-6022. Phone: (702) 652-8108. DSN: 682-8108.

8th Attack Squadron, 3d Bomb Group. October 11–15, 1995, in Fort Walton Beach, Fla. **Contact:** Col. Andrew H. Weigel, USAF (Ret.), 2512 Fairmount St., Colorado Springs, CO 80909. Phone: (719) 632-8576.

8th Photoreconnaissance Squadron Ass'n, 5th Air Force (World War II). September 13–17, 1995, in Philadelphia, Pa. **Contact:** Andy Kappel, 6406 Walnut St., Kansas City, MO 64113. Phone: (816) 363-0261.

9th Bomb Group Ass'n. September 7–10, 1995, at the Marriott Hotel in St. Louis, Mo. **Contact:** Herbert W. Hobler, 295 Mercer Rd., Princeton, NJ 08540. Phone: (609) 921-3800.

11th Air Refueling Squadron (SAC). September 27–October 1, 1995, at the Sheraton Inn in Dover, Del. **Contact:** Cy Merritt, 44 Townbeach Rd., Old Saybrook, CT 06475. Phone: (203) 388-2612.

12th Tactical Reconnaissance Squadron. September 28–30, 1995, at the Holiday Inn–Downtown in Mobile, Ala. **Contacts:** Paul Valentine, 961 Timber Cove Dr., Jackson Gap, AL 36861. Phone: (205) 825-7407. Maj. Lonnie E. Grisham, USAF (Ret.), 2915 Conway Gardens Rd., Orlando, FL 32806. Phone: (407) 896-8174.

20th Air Depot Group, North Africa and Italy (World War II). August 24–27, 1995, at the Stouffer Hotel in Dublin, Ohio. **Contact:** Norman Lane, 3666 Lakestone Cir., Hilliard, OH 43026. Phone: (614) 529-9666.

25th Bomb Group. September 27–30, 1995, in Oklahoma City, Okla. **Contact:** Al LaParche, 4712 N. Hwy. 81, Duncan, OK 73533-9037. Phone: (405) 255-2569.

27th Bomb Group (World War II). October 3–5, 1995, at the Comfort Inn–Boardwalk Beach Resort in Panama City, Fla. **Contact:** Paul Lankford, 105 Hummingbird Dr., Maryville, TN 37803. Phone: (615) 982-1189 or (615) 984-7004.

39th Fighter Squadron Ass'n, 40th and 41st Fighter Squadrons, 35th Fighter Group, 5th Air Force. September 14–18, 1995, at the Embassy Suites in Nashville, Tenn. **Contact:** Bob Latimer, 6139 Berwyn Lane, Dallas, TX 75214. Phone: (214) 691-7806.

39th Troop Carrier Squadron (World War II). September 28–October 1, 1995 in Williamsburg, Va. **Contact:** Maj. Nickolas Katsarelis, AFRES (Ret.), 18304 Woodland Dr., Triangle, VA 22172. Phone: (703) 221-8479.

Pilot Class 42-A, Brooks Field, Tex. October 11–14, 1995, in Southern Pines, N. C. **Contact:** Ralph Ferree, 44 Pine Lake Dr., Whispering Pines, NC 28327. Phone: (910) 949-3270.

Pilot Class 45-A, Enid AAF, Okla. Fiftieth-anniversary reunion, October 3–5, 1995, in Enid, Okla. **Contact:** Frank Therrell, 3303 Shady Cove, Tyler, TX 75707. Phone: (903) 566-2616.

Pilot Class 53-F. October 19–22, 1995, in Fort Walton Beach, Fla. **Contact:** Jake Watson, P. O. Box 3415, Montgomery, AL 36109. Phone: (334) 277-3378.

Pilot Class 56-F. September 19–22, 1995, at the Hale Koa Hotel in Honolulu, Hawaii. **Contact:** Dave Lung, 44-024 Kaimalu Pl., Kaneohe, HI 96744. Phone: (808) 247-1967.

56th Fighter Group, 62d/63d Fighter Squadrons, assigned to O'Hare International Airport, Ill., 1950–59. November 1–4, 1995, at Luke AFB, Ariz. **Contacts:** Lee Heater, P. O. Box 25876, Munds Park, AZ 86017. Phone: (520) 286-1623. Roy King, 25232 S. Fox Glenn Dr., Sun Lakes, AZ 85245. Phone: (602) 895-2911.

60th Troop Carrier Group (World War II). November 1–4, 1995, in Myrtle Beach S. C. **Contact:** John Diamantakos, 3525 Lynngate Cir., Birmingham, AL 35216-5239. Phone: (205) 823-4747.

78th Fighter Squadron (World War II). September 6–10, 1995, in Seattle, Wash. **Contact:** Kenneth J. Sweet, 4045 S. 54th St., Milwaukee, WI 53220. Phone: (414) 541-4015.

85th Bomb Squadron Ass'n. October 11–15, 1995, in Miami, Fla. **Contact:** G. E. Watson, Jr., 2 Homestead Ave., Danbury, CT 06810.

90th Bomb Squadron (Korean War). October 19–21, 1995, at the Holiday Inn in Dayton, Ohio. **Contact:** Edmund E. Doolin, 331 Astor Ave., West Carrollton, OH 45449. Phone: (513) 859-8979.

97th Bomb Wing. September 28–October 1, 1995, in San Antonio, Tex. **Contact:** Lt. Col. Robert L. Hill, USAF (Ret.), 1711 Autumn Lane, Arlington, TX 76012. Phone: (817) 469-1363.

170th Military Airlift Group, N. J. ANG. November 4, 1995, at the Sheraton Inn in Cherry Hill, N. J. **Contacts:** Jack Coughlin, 11 Canterberry Rd., Manalapan, NJ 07726. Phone: (908) 446-7557. Tom Gallagher, P. O. Box 879, Vail, CO 81658. Phone: (970) 845-8430. Fax: (970) 949-6229.

306th Bomb Wing, McCoy AFB, Fla. November 1–5, 1995, at the Holiday Inn–Melbourne in Indialantic, Fla. **Contact:** Joseph Demes, 1585 Mercury St., Merritt Island, FL 32953. Phone: (407) 452-4417.

330th Bomb Group Ass'n, North Field, Guam (1945). August 10–13, 1995, at the Holiday Inn–Dayton Mall in Dayton, Ohio. **Contacts:** Don Murray, 1417 Overlook Dr., Powhatan, VA 23139. Phone: (804) 598-7344 or (513) 855-7946 (Robert C. Flischel).

436th Fighter Squadron Ass'n, 479th Fighter Group, 8th Air Force (1944–45). September 17–22, 1995, at the Holiday Inn–Airport in Charleston, S. C. **Contacts:** 436th Fighter Squadron Association, 18675 Parkland Dr., #301, Shaker Heights, OH 44122-3401. Phone: (216) 752-1829 or (803) 769-6471 (Ralph Helms).

440th and 472d Signal Battalions. October 3–5, 1995, in Myrtle Beach, S. C. **Contact:** Joe Terrien, 909 Colonial Ave., Williamsburg, VA 23185. Phone: (804) 220-1277.

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.

452d Bomb Wing, Korea (1950–52). Forty-fifth-anniversary reunion August 12, 1995, at the Allen Center, US Naval Station, in Long Beach, Calif. **Contact:** Gene Hoffman, P. O. Box 3785, Long Beach, CA 90803. Phone: (310) 438-7138.

457th Bomb Group and assigned units, Glatton, England (World War II). November 12–15, 1995, in Reno, Nev. **Contact:** Homer L. Briggs, 811 N. W. B St., Bentonville, AR 72712. Phone: (501) 273-3908.

467th Bomb Group and assigned units. October 12–16, 1995, in San Diego, Calif. **Contact:** Lt. Col. John E. Stevens, USAF (Ret.), 3526 Larga Cir., San Diego, CA 92110. Phone: (619) 222-4639.

508th Fighter Group and assigned squadrons. Fiftieth-anniversary reunion, September 21–24, 1995, in Honolulu, Hawaii. **Contact:** Dave Doerner, 114 La Marina Dr., Santa Barbara, CA 93109-2109. Phone: (805) 965-8276.

558th and 559th Bomb Squadrons, 387th Bomb Group. September 13–17, 1995, in Williamsburg, Va. Members of the 556th and 557th Bomb Squadrons are invited. **Contact:** Earl J. Seagars, 607 23d St., Manhattan Beach, CA 90266. Phone: (310) 545-3292.

585th Bomb Squadron, 394th Bomb Group. September 21–23, 1995, at the Ocean Creek Resort in Myrtle Beach, S. C. **Contact:** Col. Elden G. Shook, USAF (Ret.), P. O. Box 413, Enon, OH 45323. Phone: (513) 864-2983.

613th Tactical Fighter Squadron (Vietnam). September 29–October 1, 1995, in Aspen, Colo. **Contact:** Hank Bielinski, 2635 17th St., Denver, CO 80211. Phone: (303) 477-9019.

900th Signal Company (Depot Aviation), 9th Air Force (World War II). September 28–October 1, 1995, in St. Joseph, Mich. **Contact:** Harold A. Fox, 3090 Hillandale Rd., Sodus, MI 49126. Phone: (616) 944-1722.

1266th Air Transport Squadron. September 7–10, 1995, at Travis AFB, Calif. **Contact:** Clinton E. Hankins, 225 Madrone St., Vacaville, CA 95688-2710. Phone: (707) 448-4925.

Cadet Class 53-C. Seeking members who have information on a reunion or are interested in holding one in 1998. **Contact:** Ken Ewing, 7741-A S. Curtice Dr., Littleton, CO 80120. Phone: (303) 797-0420. ■

Pieces of History

Photography by Paul Kennedy

Dr. Grow's Ground-Breaking Career

Memorabilia courtesy Malcolm Grow USAF Medical Center, Andrews AFB, Md.

As a surgeon for the Imperial Russian Army during World War I, American Dr. Malcolm C. Grow first practiced military medicine in the trenches. Back in the States, he joined the US Army and became a pioneer in aviation medicine research and development. He flew with test pilots in the 1930s and published an innovative medical handbook on the effects of flight on the human body. In June 1949, Dr. Grow led efforts to establish the US Air Force's own medical service and became the service's first Surgeon General. He retired as a major general. His early instruments are shown here with their high-tech successors used today at the Malcolm Grow USAF Medical Center, Andrews AFB, Md.

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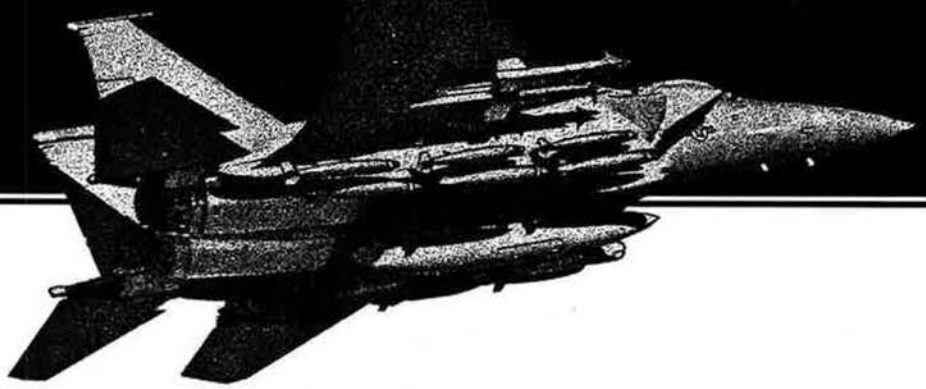

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