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AIR FORCE

JOURNAL OF THE AIR FORCE ASSOCIATION

MAGAZINE

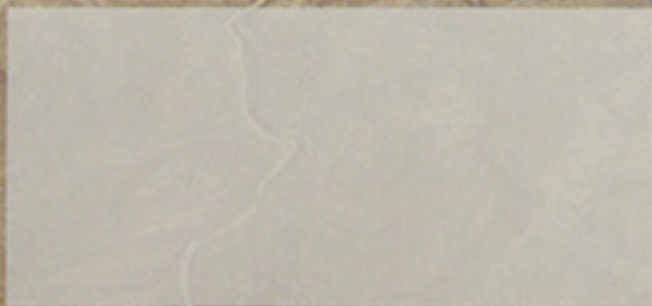


The Joint Strike Fighter

The Guard and Reserve Step Up

Airpower in Afghanistan

The Peanut Gallery Is Wrong Again



It exceeded expectations.
Achieved new milestones.
Proved revolutionary technologies.
Forged new relationships.
Joint Strike Fighter.
We are cleared for takeoff.



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BAE SYSTEMS

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MAGAZINE

January 2002, Vol. 85, No. 1

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By John T. Correll, Editor in Chief

Blood and Thunder

THE war on terror will be long and hard. Before it is over, we will need all of our instruments of national power and all of our military forces. It will be important to understand the diverse capabilities that we can bring to bear.

In every conflict for the past 10 years, airpower has been extraordinarily successful for us.

This does not mean we should expect to win our wars with airpower alone. Other capabilities are also essential. It would be foolish to discount them.

It would be even more foolish to disparage airpower, which has been our single best capability in recent conflicts. Nevertheless, that is exactly what happened.

Air strikes in Afghanistan began Oct. 7. Within the month, an outcry arose that the war was being lost. Airpower couldn't get the job done, and we had not sent in ground forces for fear of taking casualties.

It would not be possible, said the naysayers, to take Kabul or any of the other cities with airpower and indigenous forces. The operation was bogged down. The Taliban would hold on through the winter.

Our best hope, they said, was a ground offensive in the spring. It would take between 20,000 and 100,000 US ground troops. There would be casualties, of course, but that was to be expected in war. Reluctance to take casualties was said to be cowardly, and bombing from a safe altitude was seen as unfair.

Besides, the critics said, it was ground power, not airpower, that carried the day in the Gulf War and in Kosovo. That story had been invented and spread by the land power lobby, but a surprising number of columnists and commentators bought it. *The New Republic*, for example, predicted another failure of airpower in Afghanistan, which would not be surprising since "airpower certainly has a rather impressive record of failure."

By November, the prognosticators began to look less than astute. The Taliban was seriously weakened

from previous strikes. When heavy bombers, assisted by US spotters on the ground, began hammering the front-line positions, the defenses crumbled. Afghan irregulars, supported by airpower and a handful of US Special Forces, took Mazar-e-Sharif and Kabul, swept south, and were soon in control of most of the country.

The peanut gallery was wrong again. Airpower did not fail in Afghanistan.

Even so, not everyone was satisfied. Max Boot, an editor with the *Wall Street Journal*, complained that "President Bush promised that this would not be another bloodless, push-button war, but that is precisely what it has been." Our success in Afghanistan might come back to haunt us, Boot said, because it "did nothing to dispel the widespread impression that Americans are fat, indolent, and unwilling to fight the barbarians on their own terms."

There is plenty of fighting left in the war on terror. Boot may yet see all the blood he can tolerate. He may even see it before operations end in Afghanistan.

Surely, though, we will not be so urwise as to "fight the barbarians on their own terms." The sound strategy is to apply "asymmetric power," pitting our strengths against the enemy's weaknesses.

One such asymmetric strength is airpower. In the Gulf, in Bosnia, in Serbia, and more recently in Afghanistan, airpower gave us an overwhelming advantage. The enemy couldn't match it, and couldn't defend against it.

It is time to put away the tired old story that airpower doesn't work.

Airpower worked in the Gulf War. The 38-day air campaign left the Iraqi force demoralized, reeling, and degraded by about 50 percent. Coalition ground forces, supported by airpower, needed only 100 hours to chase the staggering Iraqis out of Kuwait.

Airpower worked in Serbia. It was the only military force engaged in a 78-day operation that ended with the Serb surrender. The threat of a land offensive had little to do with it. NATO had no plans to invade Serbia and could not have done so for another six months, if then.

It was a good idea to give airpower a chance to do what it could in Afghanistan. It turned out to be quite a lot.

We were fortunate to have a mix of service capabilities, with carrier-based aircraft generating the bulk of the early sorties and Air Force bombers—working with ground troops as events progressed—delivering the preponderance of the ordnance and accounting for more than half of the targets struck. Many others, including airlifters, tankers, gunships, fighters, and unmanned craft in air and space, contributed as well.

The best policy is to respect and support all of our forces. We are likely to need them, sooner or later. The time may come when we cannot avoid the clash of forces in ground combat or when high casualties are inevitable. However, we should not rush that moment because the peanut gallery is impatient with the progress of the campaign.

Assorted analysts, including retired military officers of a certain persuasion, are scornful of the effort to avoid casualties. We can only wonder at their motivation and take care not to put them in positions of authority.

War is not a sporting event where the playing field is level and both sides are given an equal chance. We want to achieve our objectives with the fewest casualties possible. The point is to make war terrible for the enemy, not for ourselves. ■

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Lucky, Isn't She?

I am writing in regard to your "Verbatim Special" [November, p. 42]. One quote has particularly irritated me, and I felt compelled to write you. On p. 48-49, there is a quote from Susan Sontag. I found her comparison of allied pilots over Iraq to the terrorist bombers of the World Trade Center extremely offensive.

As a former member of the US Air Force, as the son of an Air Force pilot, I found her comments galling. Isn't she lucky she lives in a country where she can say such things and not have to worry about the secret police knocking on her door in the middle of the night! Who does she think is protecting her rights from the very people who seek to take those rights from her?

It is easy to criticize from the comfort and security she takes for granted. Maybe she should go live in Iraq and criticize Saddam Hussein for killing thousands of his own people, for trying to take over Kuwait, for depriving his own people of the necessities of life because of his egomaniacal foreign policies, and for supporting terrorists who carry out cowardly attacks that seek to kill thousands of sons, daughters, mothers, and fathers in this country.

Michael Kordus
Yardley, Pa.

The Ultimate Weapon

Much has been written about the devastation of Sept. 11, but I've not seen much written about the unimaginable horror we could face if terrorists get the ultimate weapon, ballistic missiles. The potential destruction that evil forces can unleash on us is almost unlimited. And we are powerless to defend ourselves against some of it. [See "Homeland Defense," November, p. 34.]

China, Iran, Iraq, North Korea, Pakistan, and Russia have medium-range to intercontinental-range missiles—it is not unthinkable that some wealthy terrorist organization might get some of these missiles, either by stealing them, buying them, or acquiring them from a sponsoring nation.

Imagine having two or three missiles, with nuclear, chemical, or biological warheads, aimed at large US cities. Think about pathogens such as small pox, pneumonic plague, botulism, and hemorrhagic fevers such as Ebola—or worse yet, a nuclear device. From the standpoint of defense we are completely impotent against such an attack. Instead of killing 5,000 people, they could kill five million. This is not a hypothetical hazard; it's a very real possibility.

Can we avoid such a catastrophe? Maybe, but not unless we take immediate steps to overcome objections by arms control proponents who are living in a Cold War time warp. It could be a very tight race between our ability to develop and field a ballistic missile defense system and the terrorist's ability to get missiles to launch on us.

DOD has been working to develop such a system for the past 18 years but has been stymied by budgetary and political constraints. Russia continues to hold tightly to the 1972 Anti-Ballistic Missile Treaty, but Kenneth Adelman, US ambassador and arms control director under President Ronald Reagan, says there are legal provisions in the treaty to allow such a development. Contrary to popular beliefs, such action does not entail breaking an international treaty. The ABM accord itself allows either side to abandon the treaty for "supreme national interests" in a changed security environment. Could any rational person deny that such a condition exists today?

Does the Pentagon have serious

challenges to field a ballistic missile defense system? You bet it does, but those challenges are not going to lessen with time, which is something we may not have a lot of any more. Nothing we do will matter much if we lose the race and terrorists get missiles before we can defend against them.

The bottom line is this: We've wasted years of research and development time arguing about whether or not missile defense is practical, doable, affordable, and permitted under the ABM treaty. President Bush may yet be able to convince [Russian President Vladimir] Putin that it is also in Russia's best interest for us to develop such a system. However, it is clear to me that we need to accelerate this program with or without Russia's approval. Missiles are potentially the terrorist's ultimate weapon.

It's time for the American public to face the reality of our inability to defend against missiles and the very real possibility that terrorists might eventually be able to launch them against us.

Lt. Col. Donald L. Gilleland,
USAF (Ret.)
Suntree, Fla.

Manly Pride

Perhaps I have lived too long, but your November issue with the picture [on p. 28] of the unnamed female F-15E pilot preparing to deploy for combat pained me. [See "The War on Terror," p. 26.] I will always love and support America, but as a combat veteran it is difficult for me to maintain my manly pride when we apparently feel it is appropriate to send our women to fight our wars.

Col. Michael Sexton,
USAF (Ret.)
Albuquerque, N.M.

On the Mark

Thank you, John T. Correll, for standing up to your statement that "the 'raid' on Social Security is a phony issue." [See "Letters: No Apology," November, p. 4.] I am one of the senior citizens the allegations are designed to scare.

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

Your categorizing this issue as a lot of malarky is right on the mark. Included in the same category is the reference to a "trust fund" which doesn't exist and a "lock box" which is political demagoguery.

Consultation of any good encyclopedia will reveal that the applicable law requires the investment of surplus Social Security funds in United States government bonds. The use of these funds by the government is as unlimited as the use of funds invested in bonds by individuals or other organizations.

Failure of other elements of the news media to reveal the truth about this issue is a travesty. Thank you for your contribution to the enlightenment of the matter.

Col. Samuel F. Miller,
USAF (Ret.)
Tullahoma, Tenn.

I recognize and applaud your dedication and efforts to help bring forth support to a deserving Air Force. I do think, though, that your terse and rather impolite answer to writer [Walter J.] Gerzin in the November magazine was uncalled for. Your concerns for Air Force support belong to the requirement issue. That is your job. Budget comparisons and trade-offs to other government activity is the task of our elected officials and their political interfaces.

Irv Levin
Issaquah, Wash.

Wake Up

The November editorial [*"Rediscovery of Danger," p. 2*] is so appropriate. Wake up, America!

Charles Nicholson
Concord, N.C.

Mutual Assured Destruction

[Peter] Grier quoted a number of critics of MAD [*"In the Shadow of MAD," November, p. 80*] but for some odd reason ignored President Reagan's bold challenge to former Defense Secretary [Robert S.] McNamara's concept of "mutual vulnerability." Yet, as everyone knows, it was Reagan and his March 1983-launched Strategic Defense Initiative, based on the conceptualizations of the late Gen. Daniel O. Graham of High Frontier, among others, of anti-missile defense that laid the foundation for today's support of National Missile Defense as enunciated and updated by President Bush.

Albert L. Weeks
Sarasota, Fla.

Grier has given us a useful summary of the "strategic doctrines" that

have sustained an otherwise unemployable army of "defense intellectuals" over the past half century, but it is all a fantasy.

As operational intelligence officer of the 42nd Heavy (B-36) Bomb Wing at Loring AFB, Maine, in 1954, I was assigned to brief Lt. Gen. Archie Olds, the Strategic Air Command director of operations, on the wing Emergency War Plan (now Single Integrated Operational Plan).

"Well, lieutenant," [he] said, "that briefing was OK, except that you used the word 'retaliation.' Let me tell you, lieutenant, there isn't going to be any 'retaliation.' We're going to jump those SOB's and kick them (in a tender spot) before they get an aircraft off the ground."

In May 1964, I was recalled to active duty to help write the twice-daily communiques for Joint US Strike Command Exercise Desert Strike, to this day the largest, indeed the only, realistic test of "tactical" nuclear operations ever conducted, at least on the NATO side of the Iron Curtain. The exercise involved major Army and Air Force units simulating the opposing NATO and Warsaw Pact forces, with the Colorado River as the dividing line. Former members of the Joint Chiefs of Staff and high State Department representatives were to process any request for use of tactical nuclear weapons.

With his flank being rolled up and successful river crossings under way, the "NATO" commander sought authority to resort to nuclear firepower. The request was processed and granted within six hours, probably in the circumstances grossly optimistic. That was exactly six hours too late. The overall situation was moving too fast and major enemy and friendly units were too intermingled to enable the defense to retain and engage nuclear targets.

Now I understood what Archie Olds was talking about. You cannot wait to find out if you are dead. The side that pre-empts in nuclear war will almost certainly gain an advantage from which its opponent will never recover. We demonstrated that at the very outset of the nuclear age. Despite all the elaborate rhetoric since, any American President awakened at 2 a.m. and told there is a 90 percent-plus chance of a nuclear attack on the US would order pre-emption.

The missile defense system currently being proposed offers the first hope of changing that equation. It is worth a try.

Col. William V. Kennedy,
AUS (Ret.)
Wiscasset, Maine

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Arnold and FDR

"When Arnold Bucked FDR" [*November, p. 86*] by Herman S. Wolk has a title not supported either by evidence presented by Wolk or by history of the period. Having spent more than a decade researching the life and times of Gen. [Henry H.] "Hap" Arnold, including over 300 interviews of his closest military associates, friends, and family, I feel qualified to question the author's assertion: "So tense were the relations between President and commander that Arnold was worried that he would be relieved." I've seen no evidence that Arnold challenged orally or in writing the Presidential decision to give priority especially to Great Britain's desperate call in 1940-41 for military planes to help stave off an expected German invasion.

It is not surprising that Arnold and Gen. George Marshall were upset and deeply concerned that the buildup of the US Army Air Forces would be slowed by the drain of combat aircraft to bolster the RAF. But Arnold's displeasure never reached a point of defying the President, as strongly implied by Wolk.

While I otherwise enjoyed Wolk's treatment of the AAF buildup in the years immediately preceding Pearl Harbor, one more point needs to be made. He concludes his article by reference to events on Dec. 6, 1941. Arnold's meeting with Donald Douglas, the aircraft manufacturer, had a social purpose other than to discuss aircraft production. The Arnold and Douglas families were soon to be united by the marriage of the general's son to Douglas's daughter. Douglas and Arnold were playing a round on a local golf course on Dec. 7 when the general was notified of the Pearl Harbor attack.

Murray Green
Baltimore

■ *Historians do sometimes disagree. And, perhaps Arnold forgot, but in his autobiography he said he was quail hunting at the time of the attack.*—THE EDITORS

Credit to CAP

It is encouraging to see credit given to Civil Air Patrol for its participation in missions following the Sept. 11 attacks on our country. [See "*Aerospace World: Civil Air Patrol Springs into Action*," *November, p. 16*.]

In his recent speech to the nation, President Bush called for "volunteers" in all areas of American society in our war against terrorism. To those citizens who are willing and eager to

serve their country, but who are not eligible for regular military service, may I suggest they contact their nearest CAP unit and volunteer to serve? It has been my privilege to serve in CAP for 21 years. Other than the 39 years of marriage to my wife, Janelle, CAP has been the best thing that ever happened to me.

CAP Lt. Col. Philip F. Bowden,
Locust Grove, Ga.

On Valor

I am writing in regard to the [column] "Valor." Many of us would like it brought back. Of possible interest to you is the kind of thing that happens when such things are printed.

One of my clients mentioned that he was in the 1st Marine Division in 1950. I [said] I had knowledge of the battle [of Chosin Reservoir]. He said that there was no way that I could have known what happened because of my age. I specifically mentioned the conditions and referenced John Frisbee's article "The Only Way Out" [*November 1997, p. 41*].

He was shocked that people knew about the battle and that their sacrifices are honored by younger men who understand details about the forgotten war. He seemed to find relief in that.

How did I know the details? "Valor"! Bring it back, lest this new generation forget the sacrifices of our forebears!

David Harris
Marshall, Tex.

■ *The "Valor" series, which ran continuously from 1983, came to an end with the December 1999 issue. The main reason was that John Frisbee, who was the author of the series for most of the run, was having increasing difficulty in finding instances of valor that were on a par with those covered earlier. He had also begun having health problems and died in August 2000.*

All of the "Valor" articles—the 176 Frisbee originals, the three non-Frisbee episodes, and several reprints, some of which contain slight modifications or corrections—are now on the magazine section of the AFA Web site (www.afa.org). We will continue to run hero stories, but not in the "Valor" format.—THE EDITORS

Correction

In the December issue, the caption on p. 57 of "Fifty Years of the B-52" [p. 50] should state that the B-52H was delivered beginning in 1961.



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Aerospace World

By Suzann Chapman, Managing Editor

B-1B Crashes in Indian Ocean

An Air Force B-1B bomber crashed into the Indian Ocean at about 11 p.m. local time some 30 miles north of Diego Garcia, Pentagon officials announced Dec. 12.

The bomber's four crew members bailed out and were rescued by a US Navy destroyer.

US Central Command officials said that a USAF KC-10 refueling aircraft circled the location of the ditched crew until USS *Russell* picked them up. The tanker spotted a light blinking at the crash site and had made voice contact with one of the crew, said CENTCOM.

This is the first fixed-wing US warplane lost since Operation Enduring Freedom began Oct. 7.

Two Black Hawk helicopters have crashed, one in Pakistan with two fatalities and one in Afghanistan. Officials indicated bad weather or poor visibility due to dust may have caused those two crashes.

Rumsfeld Sees Continued Danger

Defense Secretary Donald Rumsfeld told reporters Nov. 27 the situation in Afghanistan is "difficult and dangerous" even with more than 75 percent of the country in the hands of anti-Taliban forces.

"The war is not over," he said.

Rumsfeld and Air Force Gen. Richard B. Myers, Chairman of the Joint Chiefs of Staff, flew to Tampa, Fla., to receive an update on the situation from Army Gen. Tommy R. Franks, the Commander in Chief of US Central Command, which is headquartered at MacDill Air Force Base.

Franks is the theater CINC responsible for operations in the Middle East and Southwest and Central Asia. This includes activity in and around Afghanistan.

At a press conference in Tampa, Rumsfeld and Franks emphasized to reporters that Taliban and al Qaeda forces are going to ground in Afghanistan, while others may be attempting to flee.

Rumsfeld stressed that it is likely that Taliban and al Qaeda deserters



USAF photo by MSGt. Keith Reed

SSgt. Rene Delarosa, a C-17 loadmaster from the 17th Airlift Squadron at Charleston AFB, S.C., holds the two millionth Humanitarian Daily Ration to be dropped over Afghanistan. By early December, the total was more than 2.3 million.

and defectors may still hide in some cities and in the rugged countryside.

He noted that broadcasts from USAF Commando Solo aircraft and leaflets they had dropped offering a reward for information on Osama bin Laden were starting to show results. US forces are receiving many tips from people interested in the reward.

In Franks's words, the noose is tightening. He added that CENTCOM may establish a forward base for the command in the region.

Leaving WMD "Non-negotiable"

At the Tampa briefing, CENTCOM chief Franks revealed that US ground forces have found lab paraphernalia, chemical compositions, and materials at about 40 locations around Afghanistan.

He confirmed that there is the possibility the terrorists may have been making Weapons of Mass Destruction.

Defense Secretary Rumsfeld left no doubt as to the disposition of any WMD materials. "You can be certain if Weapons of Mass Destruction are found in Afghanistan, we would re-

move them from the country," he said.

"This is non-negotiable," Rumsfeld declared.

As opposition groups have taken over more and more territory, US troops in Afghanistan have been able to search facilities abandoned by retreating Taliban and al Qaeda forces.

"We've acquired a great deal of samples," Franks stated. The samples are being tested in the US.

C-17s Drop Two Million HDRs

The numbers keep mounting in the effort to fight starvation in Afghanistan. As of early December, Pentagon officials said USAF C-17s had air-dropped more than two million Humanitarian Daily Rations.

US forces began dropping the HDRs on Oct. 7, the same day that coalition aircraft began delivering bombs against al Qaeda and Taliban forces in Afghanistan. C-17 crews have dropped 35,000 or more HDRs daily.

According to Joseph J. Collins, deputy assistant secretary of defense for peacekeeping and humanitarian affairs, Afghanistan was already a

Wolfowitz: World Will Forget Taliban

country in the middle of a full-blown humanitarian crisis, the result of a generation of war, four years of drought, and continued underdevelopment.

"This has made humanitarian assistance to distressed populations an integral part of the Defense Department's overall policy," he told reporters in mid-November.

"In fact, in the first week of November, before the apparent collapse of the Taliban, UN World Food Program deliveries doubled the pace of their October deliveries, and their October deliveries had been a record for the past few years," said Collins.

"The reality is clear; our military actions have not slowed humanitarian assistance, but rather, care in the field and coordination among the various agencies involved has made it possible to both fight successfully and to accelerate humanitarian assistance at the same time," he emphasized.

Collins noted that it was the Taliban that had been the single greatest obstacle to providing humanitarian assistance to the Afghan people. As the Taliban has been removed, humanitarian efforts have gotten easier.

Wald: Bombers Carried Initial Load

As the first month of Operation Enduring Freedom was wrapping up, the air campaign boss said that bombers carried the load for the first part of the air war.

However, Air Force land-based strike aircraft and US Navy aircraft flown from aircraft carriers also joined the campaign, particularly against smaller moving targets, said Lt. Gen. Charles F. Wald, who was the joint forces air component commander. He is now USAF's deputy chief of staff for air and space operations.

The heavy air assault, conducted largely by B-52, B-1B, and B-2 bombers during the first month, achieved most of its goals, said Wald, and the focus of the operation shifted to Taliban and al Qaeda forces on the ground in Afghanistan.

"At this point we've pretty much taken care of the Taliban air force. It's pretty much gone," Wald said while visiting US forces in Southwest Asia. "We've taken care of all of their aircraft. ... We've hit all their airfields. We've taken out all of their surface-to-air missiles, and now we're striking their ground forces in a large way."

During the first month of air attacks, bombers and fighter jets struck strategic targets, including airfields, aircraft, vehicles, anti-aircraft mis-

As al Qaeda terrorists and Taliban militia in the Afghan cities of Kunduz and Kandahar continued to battle opposition forces, a Taliban spokesman gave a press conference Nov. 21 near Kandahar. He proclaimed that Americans should forget about Sept. 11 and that despite rumors, the Taliban is not crumbling.

To that, DOD's No. 2 civilian responded, "I can assure them we will not forget about Sept. 11. We are moving on, and I think before long, the world will forget about the Taliban."

Although anti-Taliban forces had gained control of 75 percent of Afghanistan, Deputy Defense Secretary Paul Wolfowitz told reporters at a Pentagon press briefing that work in Afghanistan continues. He urged patience.

"There's still a lot of work to be done in Afghanistan and a lot of work beyond Afghanistan."

He added, "It's worth emphasizing that this whole operation is clearly one that is bringing great relief to the people of Afghanistan ... who seem to be everywhere greeting the removal of the Taliban as an act of liberation."

Coalition air strikes and ground force support continue, but Wolfowitz pointed out that the mission is also now moving more toward one of preparing for significant humanitarian aid. Beyond the sustained airdrop of food, he said barges are flowing. And, he noted, "We've been joined by advance parties from France and from Jordan, with the ultimate goal, among other things, of setting up a field hospital in Mazar [-e Sharif]."

When asked about the pursuit of Osama bin Laden, he said, "This is a man on the run." He emphasized, though, "There's a danger in the fascination with bin Laden. ... We might forget that there is a whole network outside of Afghanistan ... that we have to get rid of. It's more than just bin Laden."

"At the same time that we're hunting him, we're hunting down that whole network and not just in Afghanistan but in the 59 other countries where they've burrowed in," stated Wolfowitz.

He said that even after completely decapitating al Qaeda in Afghanistan, "we would still be concerned about their networks elsewhere."

On the other hand, he harbored no such reservations about the Taliban. "I think in the case of the Taliban, it's quite different. I think the more one can make an example of the leaders, the more the followers will desert, and that's a process that seems to be taking place as we speak."

sile sites, and much of the military infrastructure in the country. The campaign then began also to target Taliban and al Qaeda ground forces, particularly to aid the Northern Alliance rebels fighting in the north and Pashtun rebels in the south.

The air campaign helped the opposition forces to take control of 75 percent of the country, according to Pentagon officials. US special operations forces on the ground aided in identifying targets for the air strikes.

"Quite frankly, I don't think the Taliban really realize how bad off they have it, so we'll just continue hitting their army in the field and destroy them as we go along," said Wald.

"There's a lot of hills in Afghanistan," he added. "There's places to hide. But we'll eventually find them. We're going to stick with this until the end."

Joint STARS, Global Hawk Fly Over Afghanistan

Pentagon officials confirmed in late November that the high-tech Joint STARS and Global Hawk airborne surveillance systems were in use over Afghanistan.

Both systems had received their deployment orders in early Novem-

ber, but officials initially declined to comment on their specific use.

Joint STARS aircraft made their debut in Operation Desert Storm in 1991 while still in Research and Development. The Global Hawk Unmanned Aerial Vehicle is currently in its R&D phase.

"Global Hawk is in the theater; it is flying," USMC Gen. Peter Pace, the JCS vice chairman, told reporters Nov. 21.

"It is still very much in the Research and Development phase of its development," he said. "But in fact, this theater now provides us a tremendous laboratory in which to use it, so it is flying, and it will be part of our ability to collect information and intelligence."

The Global Hawk UAV flies higher and can dwell longer than the Predator UAV, which was employed earlier during Operation Enduring Freedom.

When queried about the possibility of Taliban or al Qaeda leaders fleeing Afghanistan aboard low-flying aircraft, Pace replied, "As you know, the J-STARS aircraft is capable of tracking that kind of movement."

Pace said that coalition forces had destroyed two or three more aircraft in the last couple of weeks. "I do not know whether or not they were flying

AFRC Volunteers Help Establish Air Bridge

Air refueling aircrews deployed to the Pacific region form an "air bridge" from the West Coast to all points in Southwest and Southeast Asia and back again that enables other aircrews in fighter, bomber, and airlift aircraft to reach their destinations.

Air Force Reserve Command KC-135 Stratotanker crews from McConnell AFB, Kan., and Tinker AFB, Okla., spent more than five weeks in September and October supporting that air bridge.

Within 24 hours after getting that first call for support, the 507th Air Refueling Wing from Tinker had aircraft and volunteers dispatched to a forward location. The group included an AFRC crew from McConnell's 931st Air Refueling Group.

"Our response was fantastic," said Col. Tim Wrighton, 507th commander. He added that the quick response was possible because of support from the employers of the Reservists. "We received a very short notification, and we were still able to get where we needed to be because of their understanding and encouragement."

On one mission the 931st ARG crew transferred about 120,000 pounds of fuel to a C-5 crossing the Pacific.

The AFRC tanker pilot, Maj. Matt Archer, said, "It absolutely feels good to be here in support of Operation Enduring Freedom." Archer is a 21-year veteran with more than 3,500 flying hours.

His copilot, Maj. John Stansfield, said he spent the day after the Sept. 11 terrorist attacks flying refueling missions over the East Coast.

"It felt really good to be able to be there at a time when everyone was looking for ways to help," the 14-year veteran and former Navy helicopter pilot said. Since transferring to the Air Force, Stansfield has logged more than 200 flying hours in KC-135s.

Both pilots are Desert Storm veterans and have supported operations throughout Southwest Asia, but they said Enduring Freedom missions are different.

Because of the terrorist attacks in America, Archer said, "Flying these missions in support of such an operation is much more rewarding than what I've ever done in the past."

Less than 30 minutes into the flight, A1C Chris Norris, the 931st crew's 20-year-old boom operator, stretched flat on his stomach to get ready for the C-5. The young boomer, with just a year in the position, guided the boom to its target on the first try.

The transfer of 120,000 pounds of fuel takes about 30 minutes.

"The job I do—air refueling—is just awesome," said Norris. "Flying missions in support of Operation Enduring Freedom makes me want to do my job even better because it actually counts for something that personally touched every American."

Wrighton said these crews were not part of the reserve call-up. "We asked for, and got, volunteers so we could support the refueling mission while allowing other units the time to activate and assume the vital mission."

at the time they were destroyed," he added.

Precise Targeting Refutes Taliban "Lies"

The Air Force has been particularly careful when bombing Taliban targets to avoid injuring innocent civilians, which the Taliban attempted to use as a platform to stir unrest against the US-led operation in Afghanistan, according to Lt. Gen. Charles Wald, who headed the initial air campaign for Operation Enduring Freedom.

Taliban claims that the air campaign was causing massive civilian casualties in Afghanistan were "lies" designed to inflame Muslims in states supporting the war against terrorism, said Wald.

"I think that the problem will be as we go down through this path and you see the lies that the Taliban put

on TV, it's emotionally volatile for the Muslim world. We have to be very careful which targets we hit and how we hit those targets."

At the fifth week of strikes on Taliban and al Qaeda forces, US aircrews had dropped more than 1,500 bombs on targets in Afghanistan, Wald said. Of those, only two missed their targets. Satellite-guided bombs have hit all targets without a miss.

Two misses by laser-guided munitions did cause some collateral damage, Wald said. However, Taliban claims of numerous civilian casualties after almost every US mission were part of the al Qaeda effort to convince the Islamic world that the United States has been targeting Muslims with the air strikes, he added.

Much of the credit for the bombing accuracy goes to the crews flying the missions, Wald said. Many of the land-based strike aircraft pilots are

USAF reservists with extensive experience flying combat missions.

Aircrews have returned with full munitions loads when they haven't been able to find a target without risking collateral damage.

"I think the airmen involved ... can be unbelievably proud of themselves," Wald said. "It's just really incredible how well we've all done in that case."

Ammo Airmen Keep 'Em Loaded

As Enduring Freedom entered its fifth week, members of the 332nd Air Expeditionary Group Munitions Maintenance Squadron continued to build bombs and more bombs.

The pace has been fast and the workday long.

"The motivation has been big since we engaged in Enduring Freedom," said MSgt. John Sedbrook, senior munitions inspector. "People come in, and they want to start building bombs."

The squadron provides an assembly line for munitions known as "tank killers," "bunker busters," and "5,000-pound penetrators." Seven sections of munitions specialists worked 12-hour shifts to feed the bombing needs of the air campaign.

Once built the bombs are moved along the airfield on well-balanced trailers. Weapons loaders then put the bombs on the aircraft that will strike targets deep in Afghanistan.

Ammo airmen say the most satisfying feelings come when they see a warplane that departs fully loaded, then returns with nothing aboard but a smiling pilot.

"It's nice to see the munitions trailer go out full and come back empty," said SrA. Chris Jones. "You know your job was done."

Amn. Thomas Adamcik called the work "a privilege." And A1C Nick Pip-pin said the squadron's role in the war against terrorism is the "experience of a lifetime."

Charleston Reservists Aid HDR Campaign

The 315th Operations Group was the first group from Air Force Reserve Command to participate in delivery of Humanitarian Daily Rations into Afghanistan when their C-17 aircrews made the 6,500-mile round-trip from Germany on Oct. 7, opening day of Enduring Freedom.

The group is part of the 315th Airlift Wing, based at Charleston AFB, S.C.

"We fly about 20 percent of the [Charleston] missions on any given day," said Brig. Gen. Jerry Black,

315th AW commander. "When a time like this comes, they need us more, and we know that."

"We have some of the most experienced C-17 pilots in the world," he added. "When they see the need, they step up to the plate."

Each aircrew had about 10 members. They performed tactical terrain planning and reviewed the threats in a complete team effort—pilots, intelligence, everyone, said Col. James B. Roberts Jr., 315th OG commander.

AFRC aircrews volunteered for the missions, said officials.

Enduring Freedom Air War Has New Commander

After a month's delay, Lt. Gen. T. Michael Moseley has replaced Lt. Gen. Charles Wald as commander of 9th Air Force and US Central Command Air Forces—thus taking on duties as the joint forces air component commander for Operation Enduring Freedom.

Moseley, who was director of USAF's legislative liaison office, was scheduled to replace Wald at 9th Air Force, headquartered at Shaw AFB, S.C., in late September, but the move was postponed to prevent any possible confusion as plans for Enduring Freedom began to take shape, said USAF officials.

Wald has now assumed the position of USAF's deputy chief of staff for air and space operations at the Pentagon.

Moseley commands 9th Air Force's six wings, with more than 350 aircraft and 26,000 active duty members. His US Central Command duties include responsibility for developing contingency plans and conducting air operations in a 20-plus-nation area, in-

Public Supports Military Tribunals

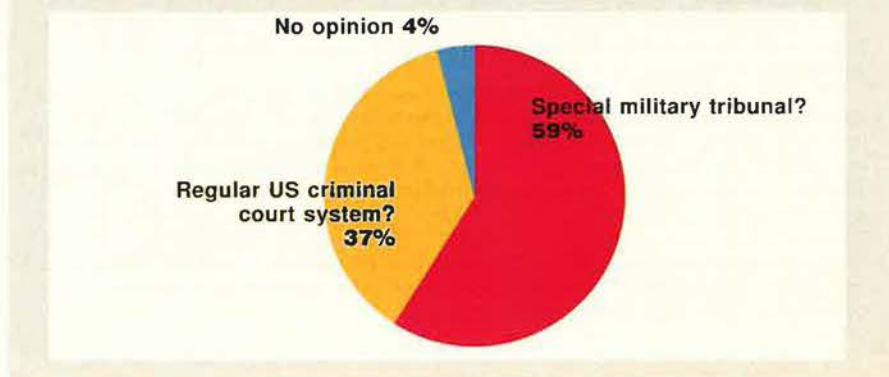
Nearly 60 percent of Americans approve of President Bush's plan to try foreign terrorists who wage war against the United States in military tribunals. So finds a *Washington Post*-ABC News Poll, conducted Nov. 27.

President Bush issued an order Nov. 13 that gives him the option to try foreign terrorists "for violations of the laws of war and other applicable laws by military tribunal."

Civil libertarians as well as some Congressmen in both parties have criticized the President's order. Democratic Sen. Patrick Leahy, chairman of the Judiciary Committee, for instance, said the order "sends a terrible message to the world that, when confronted with a serious challenge, we lack confidence in the very institutions we are fighting for."

Bush told a conference of US attorneys Nov. 29 that terrorists who plan or commit mass murder are more than criminal suspects. "We're an open society, but we're at war. ... We must not let foreign enemies use the forums of liberty to destroy liberty itself."

Do you think non-US citizens who are charged with terrorism should be put on trial in:



cluding the Arabian Peninsula and Southwest Asia to Pakistan.

Striking From Diego Garcia

Many USAF bomber crews have been flying from 12 to 15 hours on sorties from their temporary base at Diego Garcia to strike targets in Afghanistan and return to the Indian Ocean atoll.

Each round-trip sortie may involve extended stays over Afghanistan and can be more than 5,500 miles long.

A bomber pilot, called "Lucky," who flew 12 missions during Operation Allied Force, said Afghan air defenses don't compare to those he faced over Kosovo. He added that aircrews receive excellent air defense intelligence, but they remain vigilant in the air.

"You're definitely looking [for threats] the whole time you're there," he said.

A bomber weapons system officer, called "Bama," said that on the long flight back to base there is a bit of a letdown once the bombers are over the ocean and headed home.

"You're more relaxed, in a sense," she added. "But at the same time, our feet aren't on the ground, and we still have a lot more flying to do."

With the hours needed for mission planning, each sortie lasts about 24 hours. As they fly toward their target, the aircrews go through potential problems or threats they may encounter.

At Diego Garcia, 12-hour shifts are standard for the support team that keeps the bombers flying. When the unit arrived at the atoll from their home base at Ellsworth AFB, S.D., troops worked around the clock for three weeks to beddown their bombers.

Pentagon Assigns Responsibilities for Homeland Defense

Defense Secretary Rumsfeld said that certain US military commanders are being provided additional authorities to defend the United States homeland, its states, territories, trusts, and commonwealths.

Secretary of the Army Thomas E. White, who was named DOD's executive agent for Homeland Defense on Oct. 2, will coordinate the department's efforts with the White House's Office of Homeland Security.

In addition, the Commander in Chief of US Joint Forces Command in Norfolk, Va., was placed in charge of the land and maritime defense of the continental United States, as well as providing military assistance to civil authorities.

The CINC for North American Aerospace Defense Command, headquartered in Colorado Springs, Colo., was given charge of aerospace defense. At the same time, the NORAD CINC in his other role as CINC of US Space Command was directed to provide support in computer network operations.

The CINC for US Pacific Command, at Camp H.M. Smith, Hawaii, and the CINC for US Southern Command, Miami, were given responsibility for their respective geographic areas.

A DOD statement said these assignments will allow "additional detailed planning and training to occur that will increase our military's ability to respond more effectively and quickly to requests from civil authorities."

Airmen Among Troops on Ground

Despite daily press briefings at the Pentagon, Defense Secretary Donald Rumsfeld and other officials have provided only sketchy information about what US Special Forces on the ground in Afghanistan have been doing.

That has changed somewhat with the near total takeover of Afghanistan by anti-Taliban forces.

Rumsfeld and Air Force Gen. Richard B. Myers, JCS head, told reporters Nov. 13 that Special Forces on the ground deserved much of the credit for recent opposition victories.

"At present a number of American Special Forces teams are working with the opposition," Rumsfeld said. "Every day the targeting and effectiveness has improved and that has clearly played a critical role."

Myers added, "We can pass kudos to our Special Forces liaison teams [for improving targeting]."

A day later, more information surfaced in remarks by Deputy Secretary of Defense Paul Wolfowitz at the Fletcher Conference in Washington.

"We have seen that in recent weeks that success has come not just in the remarkable ability to fly bombers from a base in Missouri halfway around the world to strike targets with great precision," said Wolfowitz. "Success also comes from putting some extraordinarily brave men on the ground so they can direct that airpower and make it truly effective."

He then read some excerpts from dispatches from one of those men on the ground. One dispatch, dated Nov. 10, described conditions on the way into Mazar-e Sharif: "I have personally witnessed heroism under fire by two US noncommissioned officers, one Army, one Air Force, when we came under direct artillery fire last night. ... When I ordered them to call close air support, they did so immediately without even flinching, even though they were under fire. As you know, a US element was nearly overrun four days ago and continued to call close air support and ensured the mujahideen forces did not suffer a defeat. These two examples are typical of the performance of your soldiers and airmen. Truly uncommon valor has been a common virtue."

"Otis," a maintenance operations center controller, said that despite the long hours, the troops did not complain. "We're extremely focused on the task at hand," he said.

USAF Has Eye on Tajik Base

In November a US Central Command assessment team visited Tajikistan to examine three military installations as possible areas to base US forces battling terrorism in Afghanistan.

That visit may have paid off, according to a Nov. 10 *Washington Times* report quoting "two military sources" who said Tajikistan had agreed to use of an airfield. The number of aircraft may be limited to about 50.

The CENTCOM team assessment followed a visit to Tajikistan by Defense Secretary Rumsfeld, who had discussed the possibility of a larger role for the country in the war against terrorism. Tajikistan borders Afghanistan.

Tajikistan had already approved overflights by coalition aircraft and was providing some intelligence for Enduring Freedom.

The CENTCOM team looked at three bases: Kulyab, Khujand, and Turgan-Tiube. Tajikistan already permits Russia to station its 201st Mo-

torized Infantry Division at Kulyab and overall has about 20,000 Russian troops in the country.

The use of a base in Tajikistan will enable USAF to station fighter or attack aircraft, or possibly both, close enough to conduct unlimited tactical strikes within Afghanistan.

Most of the tactical missions to date have been flown by US Navy fighters from aircraft carriers, while USAF employed long-range bombers.

Alabama ANG Refuel C-17s

Air National Guard personnel from the 106th Air Refueling Squadron in Birmingham, Ala., deployed to Turkey to air refuel the multinational aircraft supporting Enduring Freedom.

They refuel two to three airplanes during a mission, usually the C-17s bound for Afghanistan, but they also provide top-off for other coalition aircraft.

The unit deployed two KC-135Rs and 24 troops to support the demanding mission, including pilots, boom operators, crew chiefs, administration troops, life support personnel, and intelligence officers.

The 106th was airborne less than 23 hours after being notified.

After a nine-hour flight to RAF Mildenhall, UK, the team waited 16 hours on the ground for diplomatic

clearance and then flew a final five hours to Turkey.

"Sure there was some uncertainty when we started, but everyone in the unit came together quickly," said Capt. Allen King, 106th ARS copilot. "We walked in one day and they said be ready to deploy early in the morning. They activated us for a year, and here we are doing what we do best."

Crews of three in each KC-135 circle and wait to off-load thousands of pounds of fuel.

"Every time I refuel it's exciting," said MSgt. Caroline Bearden, 106th ARS boom operator. "This is the Super Bowl of air refueling. It's great doing our part."

Ridge Describes Homeland Security Strategy

The events of Sept. 11 created a shared sense of urgency and a common sense of purpose, Tom Ridge, director of the nation's new Homeland Security Office said Nov. 15 in Washington, D.C.

"The principal challenge for homeland security is, in fact, to focus all of the resources at our disposal," he said.

Ridge explained that he intends "to create a comprehensive national strategy for homeland defense." He specified national rather than federal, he said, because the strategy will "tap the creative genius and resources of both the public and private sector" and "involve all levels of government, federal, state, and local."

"We need to be able to detect and deter terrorist threats before they happen—and, if America is attacked again, to be able to trigger a seamless system of rapid response and recovery," Ridge said.

He said that like the Defense Department, Homeland Security would take a "long-range approach to its budget needs." It will have a multi-year budget that cuts across all agencies.

And, as part of the strategy, he plans to identify "the gap between where we are today and where we seek to be tomorrow."

He said cracks in the system will be repaired and strengths will be enhanced. However, he noted, "when you're dealing with people as audacious and as calculating and as determined and as evil as terrorists, no system will ever be 100 percent fail-safe and perfect."

"We're going to try to get as close to perfect as possible," he maintained.

He added that the strategy would be forward-looking and require "do-

ing things a little bit differently than we have in the past." One of the areas he's looking at is the role DOD has in homeland defense.

"At first blush, the most obvious component of the DOD force structure to have a role with domestic security will be the National Guard," he said. He plans to work with governors and DOD to determine what that role should be.

"If it requires changing the configuration of some units or redeploying some of the assets in a different way, certainly that's got to be something we want to consider—and we will consider."

Reservists Get Help With Health Care Costs

DOD officials have enacted health care system changes to aid reservists and their families following the Operations Noble Eagle and Enduring Freedom call-up to active duty.

The most significant change is a national demonstration project that waives all Tricare deductibles for care received since Sept. 14 by family members of activated reservists.

Since many of these families probably paid deductibles for civilian health plans earlier in the year, Tricare offi-



Used in Commando Vault missions in Vietnam to clear landing areas, the BLU-82 15,000-pound free-fall bomb, known as the "Daisy Cutter," has proved effective against Taliban and al Qaeda forces. The bomb is so huge, it's pushed out the back of special operations C-130s and drops by parachute. It's being used in Afghanistan largely for its intimidation effect. As Air Force Gen. Richard Myers, JCS Chairman, told reporters who asked about results: "Dead al Qaeda."

cial decided it would be unfair to ask them to pay again just because their sponsor was called up toward the end of the year.

Another change is that Tricare will pay for up to 115 percent of what is usually allowed for care under existing guidelines. Tricare officials said this will help reservists who live far from active military facilities in areas that don't have Tricare provider networks. Without the rule change, families of reservists could have wound up paying more out of pocket.

A third change is a waiver of the need for reservist family members to obtain nonavailability statements before receiving care from a civilian provider. The move will enable reserve families to continue seeing a civilian provider with whom they have an established relationship.

DOD officials said families of reservists called up for at least 30 days are eligible to use Tricare benefits. Families of those activated for at least 179 days are also eligible to enroll in Tricare Prime, which is an HMO-type plan.

Reservists can get more information on these new provisions at www.tricare.osd.mil/reserve/default.htm.

Color To Change, but Maybe Not Blue

Despite news media reports citing blue as the new color for Humanitarian Daily Ration packs being airdropped into Afghanistan, the new color has not been decided, DOD officials said.

The Pentagon did say the color of the packs, currently yellow, would be changed to avoid confusion with

Maintainers Make HDR Drops Possible

USAF C-17s from Charleston AFB, S.C., have been the front line in the distribution of Humanitarian Daily Rations to Afghanistan, but it's the maintenance troops that ensure the cargo aircraft can do their job.

Charleston maintainers, who specialize in technical jobs ranging from electronics to hydraulics and refrigeration, have been doing their jobs day and night in all types of weather at their deployment location at Ramstein AB, Germany.

What's more, they have been doing that job with almost 20 fewer specialists than an operation like Enduring Freedom should command.

At Ramstein, a team of 30-plus people with job skills in maintenance, aircraft generation equipment, and supply typically prepare five C-17 aircraft a day for the airdrop missions. The maintainers said this type of operation would normally have more than 50 maintenance troops to get that many C-17s ready for the next mission after they've returned from a previous one.

"We do it all—the maintenance, the scheduling of jets, and the coordination," said MSgt. John Kiegel, production superintendent from Charleston.

SSgt. Donald Mykamp, a C-17 crew chief, said their normal turnaround time is between four to six hours. "But, when the planes are [late] because of the heavy fog here at Ramstein, that gives us maybe two or three hours to get them ready for the next mission."

"Sometimes, we're doing the maintenance and the planes are being loaded for the next mission," Mykamp added. "It makes it kind of hard. The loadmaster is rushing, and we're rushing, but somehow we still make it happen."

The maintainers have learned to adapt to long hours and, as the situation requires, performing tasks typically not associated with their job specialty back at Charleston.

"Some of us are used to the deployments and long working hours," Mykamp said. "For others, it's their first deployment, and it will take time."

"We also have people here who aren't used to working [outside] of their [specialties], but they're jumping in; they're learning," he said. "They're saying, 'Show me how to do this,' and it's working out pretty good."

SrA. Pedro Vazquez, a communication navigation systems technician, said that despite the hard work and long hours, he is glad to be supporting the humanitarian operation.

"I don't really know if [the Afghans] appreciate what we're doing," he said, "but I know I'm doing my best to help them."



Operation Noble Eagle, largely conducted by ANG and AFRC forces, has generated more than 7,500 sorties—fighters, early warning aircraft, and tankers—since Sept. 11, in addition to providing ground security at airports and other facilities. Here, SSgt. Leslie Hollan, Texas ANG, checks IDs at Lackland AFB, Tex.

yellow canisters used for cluster bombs. But no one said the new color would be blue, stated Air Force Maj. Mike Halbig, a Defense Department spokesman.

"We're still evaluating and researching what the right color should be," he said. "We want to avoid offending any cultural or religious sensibilities."

Although DOD has no reports of anyone being hurt by confusing the ration packs with munitions, officials believe a color change is needed.

Halbig said there are "very rare occasions" that the bomblets don't explode on impact, "but because of the potential seriousness of the situation, we don't want there to be any confusion."

DOD Sets Additional Danger/Hardship Locations

DOD announced Nov. 1 an expansion of the areas in which service members are eligible for imminent danger pay and hardship duty pay.

Imminent danger pay is \$150 per month. Service members need only spend one day in an imminent danger area during the month to receive this pay.

Kyrgyzstan, Oman, United Arab Emirates, and Uzbekistan have been added to the list of imminent danger areas. Also added are the waters of the Red Sea, the Gulf of Aden, and the Gulf of Oman. Service members serving on the Arabian Sea—north of 10 degrees north latitude and west of

68 degrees east longitude—will also receive the pay.

Afghanistan, Pakistan, and Tajikistan were earlier designated imminent danger pay areas.

DOD also designated Indonesia, Malaysia, and the Philippines as imminent danger areas for pay purposes.

The time clock on the new locations started in October.

Afghanistan, Pakistan, and Tajikistan were designated as hardship duty locations at the monthly rate of \$100. The hardship duty pay for Kyrgyzstan and Uzbekistan, as well as Jakarta, Surabaya, and East Timor, Indonesia, was lowered from \$150 per month to \$100 per month.

The reduction was necessary, explained Pentagon officials, because both imminent danger and hardship duty pay have personal security costs built in to them, and service members cannot be compensated twice for personal security reasons.

Pentagon Adds New WMD-Civil Support Teams

Defense Secretary Donald Rumsfeld announced Nov. 15 the stationing plan for five additional National Guard Weapons of Mass Destruction-Civil Support Teams. The new teams were authorized in the National Defense Authorization Act for Fiscal 2001.

The teams, which are scheduled to be set up by Fiscal 2003, will be stationed in Alabama, Kansas, Michigan, Tennessee, and West Virginia.

They will assist state governors with chemical, biological, radiological, or nuclear incidents as part of a state's emergency response structure. Each team consists of 22 full-time National Guard members who are federally resourced, trained, and exercised.

Officials stated that selection criteria for the new locations included coverage of major metropolitan areas based on population density; minimizing overlap with existing WMD-CSTs and other DOD response elements; and availability of existing facilities and support capabilities.

A month earlier, the Pentagon notified Congress that it now had 10 teams certified ready to perform the new mission. The 10th team certified was the 4th WMD-CST, which is stationed at Dobbins ARB, Ga.

This was the last of the 10 teams authorized by the Fiscal 1999 defense appropriations act. Another 17 teams were authorized in Fiscal 2000.

These latest five bring the total number of National Guard WMD-CSTs to 32.

Reserve Affairs Offers Tool Kit

Guard and Reserve members make up nearly 50 percent of the total armed forces, according to Craig W. Duehring, principal deputy assistant secretary of defense for reserve affairs.

So far, more than 50,000 Guardsmen and Reservists have been called up to reinforce active duty units participating in Noble Eagle and Enduring Freedom.

"We get a lot of questions from service members and their families who are going through this very disruptive process," said Duehring.

For the reservists themselves, officials devised a set of rules and guidelines for the mobility process and the time they would spend on active duty. That information is available on the reserve affairs Web site at <http://www.defenselink.mil/ra>.

For their families, Duehring said, "We've created a family tool kit." It is also available on the reserve affairs Web site.

Duehring added that these recent call-ups have been an "unsettling time" for Guardsmen and Reservists and their employers. He said the National Committee for Employer Support of the Guard and Reserve has been busy seven days a week.

Service members and employers seeking information can call 1-800-336-4590 or go to the employer support Web site at www.esgr.org.



**WE'D LIKE TO TAKE A MINUTE
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AMC Changes Lead Mobility Wings

Air Mobility Command announced Nov. 6 that it will reduce the number of its lead mobility wings from five to two. The new structure will begin with Aerospace Expeditionary Cycle 3 in March.

Officials said the change is the natural evolution of the lead mobility wing structure, which was introduced by then-Air Force Chief of Staff Gen. Michael E. Ryan in March 1999 as part of the Air Force's new Expeditionary Aerospace Force concept.

The two new lead mobility wings will be the 60th Air Mobility Wing at Travis AFB, Calif., and the 305th AMW at McGuire AFB, N.J.

The original five wings were the 43rd Airlift Wing, Pope AFB, N.C.; 60th AMW, Travis; 22nd Air Refueling Wing, McConnell AFB, Kan.; 319th ARW, Grand Forks AFB, N.D.; and 92nd ARW, Fairchild AFB, Wash.

Along with the wing's primary mobility mission, a lead mobility wing provides mobility leadership for an AEF and a 33-member initial response team for humanitarian relief operations, disaster response, and contingencies.

One reason for the selection of Travis and McGuire as the lead mobility wings was to link them with existing Air Mobility Operations Groups—the 615th AMOG at Travis and the 621st AMOG at McGuire. The AMOGs provide expertise in mobile command and control and airfield operations.

"The realignment gives these two wings and their collocated AMOGs the primary mission for short-notice humanitarian response and releases the other wings from this additional duty," said Col. Steve Hellwege, chief of AMC's operations plans division. "Our former [lead mobility wings] will go on with their core mobility missions and will continue to support other aspects of the AEF."

The new structure will bring AMC's wings in alignment with Air Combat Command's two combat-response wings, known as Aerospace Expeditionary Wings, Hellwege said. "The AEWs will respond to combat situations while we handle mobility operations."

The choice of Travis and McGuire is a natural also because they are stationed at USAF's major East and West Coast mobility hubs, he said. "There will be more airlift assets immediately available to move our equipment and people."

Hornburg Takes ACC Lead

Gen. Hal M. Hornburg officially assumed command of Air Combat Com-

Relocation of Air Force Memorial Likely

The planned Air Force Memorial will most likely relocate to a new site, on a hill overlooking the Pentagon, with a panoramic view of Washington, D.C., it was disclosed in late November.

Assuming Congressional approval of language pending in the defense authorization bill, a parcel of federal land—now occupied by the Navy Annex—would be transferred to Arlington National Cemetery. The Department of Defense would then make four acres of that land available for the Air Force Memorial.

The relocation would end a long-running controversy about the previous site for the memorial, some two miles farther up the Potomac River on Arlington Ridge. Neighborhood groups and Marine Corps veterans took strong objection to that location, wanting nothing else ever to be built on Arlington Ridge, where the Iwo Jima Memorial now occupies a prominent plot.

Two attempts to block the Air Force Memorial were overturned in federal court, where the project was found to have carefully followed the complex review and approval process mandated by Congress and to have met all of the requirements of four different government oversight agencies.

Even so, the repeated challenges and delays had slowed the project down. Relocation had been discussed on and off for the past year. Last year, several members of Congress moved to make an attractive alternative location available. This year the legislation was revised and the Air Force Chief of Staff and the Commandant of the Marine Corps expressed their approval, and the Air Force Memorial Foundation said it was open to considering such a move.

Retired Maj. Gen. Ed Grillo, president of the foundation, said four considerations were critical in the legislation.

"First," he said, "we need to have adequate time to do a proper environmental assessment of the property and ensure that we will not face any stumbling blocks downstream. Second, we need adequate acreage at the promontory point on the Navy Annex to construct the memorial. Third, our costs incurred in connection with the Arlington Ridge site must be absorbed in the new site's preparation costs. And, fourth, if any significant problems surface at the Navy Annex site, we need to be able to return to Arlington Ridge and continue with the approval process."

Ross Perot Jr., the foundation chairman, said a review of the design for the memorial would also be necessary. Perot also said he was asked by retired Gen. Michael E. Ryan, the previous Air Force Chief of Staff, and Gen. John P. Jumper, the present Chief, to consider the Navy Annex property as an alternate site.

"This is a team effort, and we are going to do what it takes to best support 134,000 donors, those who have served in the Air Force and its predecessor organizations, the active Air Force, and our corporate partners."

Perot went on to add: "This site is not new to us. It was looked at very early in the site review process but discounted because it was not going to be available for a number of years. The site has a great panoramic view of Washington and will be highly visible when viewed by the public."

mand on Nov. 14, becoming ACC's sixth commander.

He came to the job from his post as commander of Air Education and Training Command, but it was old home week, since he had served as ACC's vice commander prior to that.

He replaced Gen. John P. Jumper as ACC commander, but Jumper became Air Force Chief of Staff in September. In the meantime, ACC's current vice commander, Lt. Gen. Donald G. Cook, was acting commander.

Hornburg directed air operations over Bosnia, commanded the Joint Warfighting Center, and served on the joint staff and as director of operations at Air Force headquarters.

Jumper, who attended the ceremony, said, "Serious times call for the best and brightest. Hal Hornburg's one of those leaders."

Hornburg said he has three mis-

sions for ACC: development of airmen, preparedness to deploy, and readiness to fight.

"If there's a call for boots on the ground, we want to be the force that kicks down the door ... so that soldiers and Marines won't have to wade through their own blood as they win this war or the next one," he said.

President Signs Military Construction Act

President Bush signed the \$10.5 billion Military Construction Appropriations Act of 2002 into law Nov. 5. It was more than he asked for, with a major exception.

The Administration originally asked for \$9.97 billion. Congress added to the amount but also took away \$55 million earmarked for the Ballistic Missile Defense Organization.

The act provides \$4.1 billion for

One Sure Thing: Adapting to Surprise Is Key

The solution to the problem of surprise is not just better intelligence, said Deputy Defense Secretary Paul Wolfowitz.

In fact, he said the US must learn "not to depend too much on intelligence" and "not to assume that other people operate on assumptions that mirror our own about what is impossible, what is irrational, or both."

There is one sure thing, he said, "adapting to surprise—adapting quickly and effectively—must be a central element of defense planning."

Wolfowitz, who was speaking Nov. 14 at the Fletcher Conference in Washington, D.C., admitted that adapting to surprise is hard to do. "We were spoiled by the seeming certainties of the Cold War," he said. "We knew the threat, we planned for it, we matched it."

Today is different. The "revolution in threats ... calls for a revolution in how we think about defense."

He explained that one outcome of the months-long debate surrounding the Quadrennial Defense Review was an agreement that to deal with surprise and uncertainty, "we needed to shift our planning from the 'threat-based' model that has guided thinking in the past to a 'capabilities-based' model for the future."

Capabilities-based planning requires taking account of an adversary's existing and potential capabilities and assessing them against one's own. That leads to thinking about "asymmetric threats," he added.

He said asymmetric threats refer "to the tactics and weapons our adversaries will choose to circumvent our well-known and enormous military strengths and attack us where we are vulnerable." Among those threats, said Wolfowitz, are "forms of warfare that most civilized nations long ago renounced: chemical and biological weapons and the intentional killing of civilians through terrorism."

The US must exploit its own asymmetric advantages—capabilities such as precision strike, intelligence, and undersea warfare.

It is also clear, he said, in hindsight that the US should have been investing heavily over the past several years in homeland defense, projecting power in anti-access environments, and denying our enemies sanctuary with long-range precision strike. However, he said that DOD also cannot neglect cyber-warfare defense, enhanced joint operations, and space capabilities.

The first three capabilities, he said, are being applied to the war against terrorism today. The last three must have attention to avoid "creating the conditions for the Pearl Harbor of the next decade."

The budget DOD submitted last July in no way matches where the military is today. In fact, Wolfowitz admitted that no one could have predicted DOD "would soon need billions of dollars to conduct combat operations in Central Asia and moreover do so while a large fraction of our surveillance assets and combat air patrol aircraft were engaged over the United States."

"Sept. 11th ought to give this country a new perspective on the issue of what is affordable," he added. "The capabilities that look so expensive in peace seem relatively cheap when you're confronted with the challenges we face today."

military family housing. Of that, \$1.2 billion goes to new family housing units and improvements to existing units and the rest to operations and maintenance of existing units. It also funds \$1.2 billion for barracks, \$44 million for child development centers, \$199 million for health care facilities, and \$953 million earmarked for the reserve components.

However, the President said, "I am disappointed that the bill includes a 1.127 percent general reduction and a rescission of \$55 million from the Ballistic Missile Defense Organization."

Tricare for Life Starts With a Hitch

The names of about 195,000 Tricare for Life beneficiaries did not match their files on Medicare rolls, so those individuals had to file their medical claims themselves, according to DOD officials. It was a temporary problem, they said.

Without a name match Medicare claims processors could not allow automatic claims processing.

Tricare for Life is the new DOD program for military retirees and their family members who are age 65 or over. It started in October.

According to Steve Lillie, Tricare's director of 65-and-over benefits, the names of roughly 13 percent of eligible Tricare for Life beneficiaries didn't match with their files in the Medicare rolls. He said they were still eligible for benefits, but they would have to take one extra step: They would probably need to file Tricare claims themselves if their provider sent a bill for what remained after Medicare paid its share.

In general, the bill-paying process should be automatic.

Shortly after they identified the problem in mid-October during a routine review of the program, Tricare

officials sent affected beneficiaries letters explaining the problem and telling them how best to handle it.

The problem was to be resolved by Dec. 1, at which time officials said all claims would automatically be forwarded to Tricare. Lillie also stressed that the issue was "a temporary glitch" and said claims would be paid regardless.

JASSM Flies "Flawlessly"

A Joint Air-to-Surface Standoff Missile succeeded across all parameters during a flight test Nov. 20. The missile's next stop is a low rate initial production decision.

JASSM is a stealthy cruise missile with a 1,000-pound-class warhead that can tackle soft or deeply buried, hardened structures. Its range is classified, but Air Force officials said it is beyond 230 miles.

In the November test, an F-16 cruising at 500 miles per hour at 15,000 feet launched the missile over the White Sands Missile Range in New Mexico. Officials said the JASSM flew exactly as planned through three waypoints for nine minutes over a distance of about 50 miles, then "impacted within a lethal distance of the relocatable radar target, and the warhead exploded."

"All systems, including the engine, guidance, and fuze arming, performed flawlessly," stated a USAF news release.

Both the Air Force and the Navy plan to purchase JASSM. Initially the USAF buy was set at 2,400, but that number may increase.

Edwards Gains New AFRC Unit

On Nov. 14, Air Force Reserve Command gained a new squadron—the 370th Flight Test Squadron—and Air Force Materiel Command gained some much needed assistance. The new unit is an associate flight-test support unit that will work with AFMC's 412th Test Wing at Edwards AFB, Calif.

The Reservists will take over flight-test support functions, said Lt. Col. Howard Judd, 370th FLTS commander, thus freeing active duty test pilots, engineers, and others to focus more on the developmental flight-test mission at Edwards.

When the Air Force Flight Test Center at Edwards needs help with flight-test, airborne research platforms, and training missions, the members of the 370th will step up. The unit can operate C-135 tanker and test bed platforms, as well as C-12, KC-10, and T-39 aircraft.

The 370th will also support the USAF Test Pilot School with its multi-

engine curriculum and maintain a detachment at Kirtland AFB, N.M.

Judd said he expects the unit to go beyond flight-test support. For instance, he said many missions require a TPS graduate to pilot a tanker that is providing air refueling certification for a new aircraft like the Joint Strike Fighter. "We have four TPS graduate test pilots in the squadron so far."

The 370th FLTS is manned by Active Guard Reservists, which means they are full-time reservists operationally assigned to an active duty component, and traditional reservists who work part time.

"Many of our people came from the Edwards test aircrew force and are already qualified on the types of aircraft used here," said Judd. "Also, most are qualified to fly more than one type of aircraft."

"This saves the center money in training costs," he said. "Since Reserve tours can be up to five years or more in one location, as opposed to every two or three years for our active duty counterparts, we can provide more stability to the flight-test support functions."

Retired Admiral Heads Force Transformation

Defense Secretary Rumsfeld announced Nov. 26 establishment of the Office of Force Transformation, with retired Vice Adm. Arthur K. Cebrowski as director.

Creation of the transformation office was directed by the 2001 Quadrennial Defense Review.

"Art Cebrowski is the perfect guy to promote and analyze our transformation efforts," said Rumsfeld. "I chose him for his broad military experience, his strong credentials in joint operations and information technology, and his grasp of the cultural and technical issues involved in transformation."

Cebrowski, who will report directly to Rumsfeld and the deputy secretary of defense, has been called the "father of network-centric warfare."

He retired from the Navy in October 2001 after serving as president of the Naval War College. He was a naval aviator and gained combat experience in Vietnam and the Gulf War. He commanded several ships and was the director of command, control, and communications on the Joint Staff.

His job will be to lead the effort to evaluate transformation activities of each of the services. He will also recommend steps that may be needed



Air Force Secretary James Roche gets a close look at an F-16 on a visit to Incirlik AB, Turkey. With him are Lt. Col. Scott Dennis (left), 14th Expeditionary Fighter Squadron, and Amn. Samuel Redden, an F-16CJ crew chief.

to help integrate those activities and link them to both national and departmental strategy.

VA Plans National Museum Honoring Veterans

The Department of Veterans Affairs announced plans for a National Veterans Museum Nov. 8 to be established in Washington, D.C.

"Our nation's veterans have made tremendous contributions to our country and its history," said Secretary of Veterans Affairs Anthony J. Principi. "This new museum will tell that story to generations of Americans, both born and not yet born."

The new museum will be located at VA headquarters at 810 Vermont Ave. N.W.

"It will tell a story of homecoming—the universal experience shared by every soldier returning from every war, and the challenges they face as they return to family, friends, and community," read a VA statement.

Principi also plans to link the museum with the capital's other veterans memorials, including the Vietnam Veterans Memorial, the Korean War Veterans Memorial, the Women in Military Service to America Memorial, and the World War II Memorial now under construction.

No timetable was announced for construction of the museum.

Companies Earn DOD Freedom Award

Five firms received the Secretary of Defense Employer Support Freedom Award Nov. 9 for their contribu-

tions and sacrifices as employers of National Guard and Reserve members.

More than 12,000 companies were considered for the annual award, the highest military honor given to civilian companies.

Award recipients this year are Southwest Airlines; Boeing; Electronic Data Systems; BAE Systems; and the city of Bedford, Va.

The companies were also honored at a White House ceremony with President Bush, who noted that more than 50,000 National Guard and Reserve members have been called up to help fight terrorism since Sept. 11.

He said they're guarding energy plants, meeting the military's intelligence, medical, and supply needs, and helping secure the nation's airports.

"We're fighting a war on many fronts," Bush said. "It's a diplomatic war, it's a financial war. The military is performing brilliantly in Afghanistan. And we could not win the war without the help of the Guard and the Reservists."

"And they, in turn, could not do their vital work without the support of their employers."

DOD established the award in 1996. Employers are nominated by their state Employer Support for the Guard and Reserve Committee, based on input from Guardsmen and Reservists.

Pentagon Creates Vaccine Centers

The Defense Department's concerns about anthrax began much earlier than the post-Sept. 11 an-

USAF photo by AIC Tanaya M. Harms



In honor of an Air Force pararescueman who received the Medal of Honor posthumously for his actions during the Vietnam War, a worker paints "A1C William H. Pitsenberger" onto the side of a chartered ship operated by the Navy's Military Sealift Command.

thrax attack on the nation that has focused American attention on bioterrorism.

DOD had been battling a growing anti-anthrax vaccination movement since it first began ordering military members to get immunized in 1998. Some active duty and reserve members were reluctant to get vaccinated because some people had become seriously ill.

The problem, according to Pentagon officials, was largely misinformation.

To help provide a means to share information more readily, DOD created the Vaccine Healthcare Center Network. The Pentagon announced in November that the first center of the network had opened at Walter Reed Army Medical Center in Washington, D.C.

Several more centers are set to open at regional DOD medical centers in the United States in 2002, leading up to a total of 15 regional centers by 2006, said Army Col. Renata Engler, the medical director of the network.

"These vaccine health care centers would work as a network to share information, not just internally but with the Food and Drug Administration, Centers for Disease Control, and the Vaccine Adverse Event Reporting System, too, as questions arise surrounding a vaccine," she said.

Engler's organization is also working with various agencies to develop contingency plans in case DOD decides to vaccinate military personnel against smallpox. As with the anthrax vaccine there are concerns

about possible adverse events with smallpox vaccine, said Engler.

"We need to do everything we can to give the right shot to the right person at the right time in the right way."

Service members 20 years ago received "a handful" of vaccines but now routinely take more than 50 shots during their careers. And another 30 vaccines are in the development stage. They could be introduced into the immunization requirements over the next five years.

Engler stressed that adverse reactions and drug reactions occur in one to two percent of individuals with any drug. Even that small percentage, she noted, in a large enough population can create problems.

"That's 20,000 to 40,000 people in a population of two million," she said. Through the newly established network, Engler hopes to gain greater knowledge of rare adverse events and ultimately to improve immunization health care delivery overall.

Crossroads Offers QOL Poll

In December the Air Force launched a new addition to its Crossroads Web site—Quality-of-Life quick polls. The polls are short, consisting of only a few questions.

The first poll had only two questions, said Lt. Col. Bruce Lovely, Air Force QOL chief. One pertained to demographics and the other related to a QOL item or issue. All questions will have multiple-choice answers.

"The poll will be used to develop and target future QOL initiatives," Lovely said. "However, the primary purpose of the quick poll is to increase the Quality-of-Life awareness level across the Air Force."

The results will not be scientific since they only reflect the opinions of the participants, Lovely said. Respondents can instantly view submission results by clicking on the results button.

Cope North Shorter but Still Effective

It's almost business as usual for USAF forces in some locations despite the ongoing operations in Afghanistan. Usual, of course, includes training to do their jobs.

In Japan, the annual Cope North exercise, a test of USAF, US Marine Corps, and Japan's air self-defense force ability to defend Japan was scaled back to about one-third its normal size and cut from two weeks

Ramstein Crews Earn Mackay Trophy

In mid-November, the National Aeronautic Association announced award of the 2000 Mackay Trophy to the 86th Aeromedical Evacuation Squadron medical crew and the 75th Airlift Squadron flight crew, both from Ramstein AB, Germany.

The two crews evacuated the 28 sailors injured in the terrorist attack on USS *Cole* in October 2000.

Award recipients were: Lt. Col. Kirk Nailling; Maj. Lola Casby, Kathryn Drake, and Thomas Jenkins; Capts. Karey Dufour, Donna Fournier, Karin Petersen, and Natalie Sykes; and SSGTs. Brad Atherton, Anna Duffner, Ed Franceschina, Juan Garza, Chad Shusko, Heather Robinson, and Alan Woodridge.

At a Pentagon ceremony hosted by Air Force Chief of Staff Gen. John P. Jumper, flight nurse Dufour commented, "We were just doing our jobs. This is what we train for and do every day."

"The true heroes in this scenario were the shipmates of the USS *Cole*, not us," she added. "The sailors were grateful for the support they got from the people in Yemen, but they wanted to get out of there. It was an absolute honor and a privilege to care for them."

The NAA presents the Mackay Trophy annually to the Air Force person, crew, or organization that made the most meritorious flight of the year. This is the first time an aeromedical evacuation crew has received the award.

Space Industry Veteran To Be Undersecretary

The Senate confirmed Peter B. Teets as the next undersecretary of the Air Force on Dec. 8.

Teets retired in 1999 as the president and chief operating officer for Lockheed Martin. He has an extensive background in defense programs and space systems, beginning in 1963 with the Titan III booster. He also served as president of Martin Marietta Space Group prior to its merger with Lockheed in 1995.

A space background would definitely provide a solid base since the new undersecretary is destined to lead DOD space acquisition efforts as a result of the reorganization recommended by the Space Commission.

Defense Secretary Donald Rumsfeld, who chaired the space commission prior to being nominated for his post as head of DOD, named the Air Force as executive agent for space in May last year.

The new Air Force undersecretary would also serve as the director of the National Reconnaissance Office.

When asked at his confirmation hearing in November what he considered were the most serious problems for the USAF undersecretary, he replied: "[They] include developing an integrated vision and plan for national security space, cultural integration of organizational elements, and span of control."

to one. Nonetheless, that didn't necessarily make it easier to pull off.

"We tabled the original plan and started from scratch about a month ago," said planner Maj. Anton Komatz. "We compressed an eight-month project into about three weeks. Fifth Air Force and all the units involved demonstrated a great deal of flexibility to get this exercise off the ground."

At the height of the exercise, more than 24 aircraft battled for air supremacy. Typical scenarios were set up to test a fighter pilot's ability to defend territory from intrusion. The first day included two-ship flights defending territory under peacetime rules of engagement. As the scenario unfolded, the missions involved more aircraft, flying under wartime rules.

Both American and Japanese fighter aircraft acted as either attackers or defenders, rotating the role. The objective was to develop proficiency in the defensive counterair role.

The exercise also proved that interoperability works well in Japan. "In some cases, Japanese weapons directors provided advisory control to assist US fighters, and in other cases US weapons directors controlled or advised the Japanese fighters," said Col. Don Weckhorst, exercise director.

Online Training Gains Momentum

Air Education and Training Command officials recently increased the number of 7-level craftsman courses on the command's e-training Web site. The site now includes links to more than 1,000 courses.

"AETC's Advanced Distributed Learning program is growing at a phenomenal rate," said MSgt. Brian Burton of the command's ADL branch.

"The ability to take effective, interactive training to the learner, anytime, anywhere, is a powerful means of preparing today's airmen for tomorrow's challenges."

ADL is a DOD-sponsored initiative to explore and use advanced technologies and the Internet to enhance traditional instruction methods.

One big advantage is the potential to reduce the length of Temporary Duty stays at in-residence courses, even eliminating the need to travel in some cases.

Currently, technical training craftsman courses dominate the e-training site, but that is slated to change, said Dave Searcey from the ADL branch.

"Prototype ADL lessons for F-15 and F-16 aircrew training are being developed this year, with other weapons systems under review," he said. "The potential for the Air Force, not just AETC, is huge."

Graduate training programs could also benefit from ADL. Many of these programs, such as aircraft com-

mander or instructor qualification courses, require aircrew personnel to return to the schoolhouse where they spend the first three to eight days in academics.

Through ADL, they could complete a portion of the training program online at their home unit, thus reducing the total number of TDY days, Searcey said.

Where Do Those Test Questions Originate?

The origin of promotion test questions has puzzled many enlisted members of the Air Force. The answer basically, according to USAF officials, is that they come from individuals just like themselves.

Each year, subject matter experts from throughout the Air Force gather to revise some 320 tests, said Monty Stanley, chief of the Air Force Occupational Measurement Squadron test development flight at Randolph AFB, Tex. Those tests include the specialty knowledge tests for each Air Force career field, the promotion fitness exam, and the supervisory exam.

Last year Noncommissioned Officers in the supply career field got a hands-on look at the promotion question process.

They were TSgt. Adam Billingsley, Scott AFB, Ill., MSgt. Terry Karshis, Lackland AFB, Tex., TSgt. David Martin, Dyess AFB, Tex., and MSgt. Carlton Moore, Gunter Annex at Maxwell AFB, Ala.

"I'll never look at a test the same way again because of the process we've gone through here," Martin said. "It was an eye-opening experience."

"I thought we would sit down and brainstorm a little bit and that would pretty much be it," Billingsley said. "I was surprised by the amount of work that goes into producing a test."

It is a process that ensures the best

Senior Staff Changes

RETIREMENTS: AFRC Maj. Gen. David R. Smith, Brig. Gen. William M. Wilson Jr.

CHANGES: Brig. Gen. (sel.) David A. Brubaker, from Cmdr., ANG, AF Reserve Test Ctr., Tucson, Ariz., to Dep. Dir., ANG, Arlington, Va. ... Maj. Gen. David A. Deptula, from Dir., AF Quadrennial Defense Review, Pentagon, to Dir., P&P, ACC, Langley AFB, Va. ... Brig. Gen. (sel.) Jan D. Eakle, from Cmdr., 377th ABW, AFMC, Kirtland AFB, N.M., to Vice Cmdr., Ogden ALC, AFMC, Hill AFB, Utah ... Maj. Gen. Thomas J. Fiscus, from Dep. JAG, USAF, Pentagon, to JAG, USAF, Pentagon ... Brig. Gen. (sel.) Stephen M. Goldfein, from Cmdr., 1st FW, ACC, Langley AFB, Va., to Dep. Dir., Jt. Warfighting Capability Assessments, Jt. Staff, Pentagon ... Brig. Gen. Jack L. Rives, from Staff Judge Advocate, ACC, Langley AFB, Va., to Dep. JAG, USAF, Pentagon ... Brig. Gen. George P. Taylor Jr., from Cmd. Surgeon, ACC, Langley AFB, Va., to Asst. Surgeon Gen., Medical Readiness, Science & Tech., Office of the Surgeon Gen., Bolling AFB, D.C.

people move through the enlisted ranks in the Air Force, according to Lt. Col. Gene Henry, AFOMS commander. "The system is always fresh, as tests are revised annually," he said.

AFOMS, created in 1970, collects information from the field, based on job surveys and task analysis reports that reflect the work each career field performs. It then solicits the help of Senior Noncommissioned Officers and SNCO—selects from the field who use the survey information and study references to develop each test.

Once the subject matter expert team drafts questions, the team's test psychologist, a quality control psychologist, and a test management psychologist review the new questions, plus any carried over from the previous bank of test questions before the items are accepted. Everyone must agree to give a question the green light.

The process for the subject matter experts takes 32 days.

"Having taken the test a few times, I came away telling myself I had no idea where 'they' came up with this question or that question," Billingsley said. "Now, I guess we'll be looked at that same way, but I can honestly say they're all valid questions."

Vandenberg First To Get Off-the-Shelf Radar

The 30th Communications Squadron and 30th Operations Support Squadron put the only military-maintained off-the-shelf air traffic radar system—the Galaxy 2000 Tower Display—online at Vandenberg AFB, Calif., last fall.

The two 30th Space Wing units expect the new radar to save the base more than \$300,000 in manpower and repair costs each year.

One big improvement over the old GPN-12 radar system is that maintainers can monitor, troubleshoot, and train from a remote site without causing downtime on the primary Galaxy system, said MSgt. Richard Chavez-Hatton, 30th CS NCO in charge of ground radar systems.

For operators of the new radar—air traffic controllers—the new system has pluses as well.

"We now have a flat-screen color monitor that can receive multiple radar feeds at one time," said MSgt. Richard Czap, 30th OSS chief controller. The older GPN-12 used one radar and one display.

With the new system, operators use multiple feeds to get information from separate radar sites along the central coast that enable them to cover an area up to 920 miles, compared to about 70 miles for the older system.

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The Galaxy also has the capability to use next generation weather radar information, a benefit in providing real-time adverse weather advisories to pilots, Czap said.

DOD Launches Teleworking

The Department of Defense joined much of the private sector last fall when it announced its telework, or telecommuting, policy. It will allow employees to work from an approved alternative worksite, which may be a home office or telecenter.

Congress passed a law in 2000 stipulating that all federal agencies allow 25 percent of eligible employees to telecommute by the end of 2001. There's an additional goal of increasing that percentage by 25 percent in each of the next three fiscal years.

The policy promotes regular telework at least one day every two weeks for eligible DOD employees, although it also provides for ad hoc telework on an occasional basis. Federal guidelines allow for agencies to provide teleworking employees with computers and other equipment to carry out their required tasks, including technical support from the agency.

Officials stated that teleworking is not limited to civilian employees. DOD is working on a directive to provide guidance for telework programs for all DOD personnel—including active duty and reservists.

The current policy and guide are available on the Web through the Interagency Telework/Telecommuting Site at <http://www.telework.gov>.

News Notes

■ Three Texas AETC bases—Lackland, Laughlin, and Randolph—were placed on the Central Texas Recycling Association's top 10 list of best recycling programs for Fiscal 2001.

■ Air Force officials have determined that fasteners that came loose in the engine of an F-16D led to its crash July 23 about 57 miles southwest of Luke AFB, Ariz. Damage caused by two inner air-seal retaining fasteners progressed to the drive-shaft and resulted in a titanium fire, at which point, the engine seized. The pilot ejected safely.

■ Three USAF Test Pilot School graduates were inducted into the US Astronaut Hall of Fame Nov. 10. They were retired Navy Capt. Robert L. Crippen, retired ANG Maj. Gen. Joe H. Engle, and retired Vice Adm. Richard H. Truly. A fourth inductee, retired Navy Capt. Frederick H. Hauck, was a graduate of the US Naval Test Pilot School.

■ MaryBeth Bash, wife of Col. Brooks Bash from Andrews AFB, Md., was named the National Volunteer Coach of the Year by the National Alliance For Youth Sports. She was selected from about 150,000 volunteer coaches nationwide.

■ The US Air Force Academy retained the Commander in Chief Trophy by defeating Army 34-24 in their Nov. 3 football game.

■ Three child-care providers at USAF facilities were named top providers in the nation by the National Association for the Education of Young Children on Nov. 1. They were Andrea Crandall, RAF Croughton, UK, Jackie Ingram, Robins AFB, Ga., and Wanchalee Putnam, USAFA, Colo.

■ USAF selected 635 out of 2,879 individuals eligible for promotion to chief master sergeant—a selection rate of more than 22 percent, which was an eight point increase from the previous year and the highest rate of chief master sergeant selects since 1986.

■ Fifteen service members and military spouses stationed in the US

and Europe were named winners of the National Military Family Association's 2001 Very Important Patriot Program, which recognizes exceptional volunteer service to the military and neighboring communities. The three USAF winners with first-place honors were TSgt. William Harrington, Hickam AFB, Hawaii; Kitty King, Maxwell AFB, Ala.; and TSgt. Brian Williams, Altus AFB, Okla. Other USAF winners were Capt. Orlando J. Dona, Eielson AFB, Alaska; AFRC Maj. George Friedman, Travis AFB, Calif.; Capt. Jason Haynes of RAF Mildenhall, UK; Doris Lankford, Holloman AFB, N.M.; and SSgt. Brian Stolpe, Bad Aibling Station, Germany.

■ USAF winners of the 2001 Secretary of Defense Maintenance Awards, recognizing annually the most significant weapon system and equipment maintenance achievements within DOD, were the 62nd and 446th Aircraft Generation Squadrons, McChord AFB, Wash., in the medium category, and 20th Fighter Wing, Shaw AFB, S.C., large category.

■ Edwards AFB, Calif., has a new test capability, the Air Traffic Control Communications Test facility and Avionics System Test. The system evaluates military aircraft use of Global Air Traffic Management data links. Officials said the system will be fully operational in December 2002, when it can be used to send corrupt data in simulated information warfare attacks on the KC-135 avionics suite.

■ USAF has hired Chauncey Group Intl. to evaluate the enlisted testing program, used as part of the Weighted Airman Promotion System, for quality and fairness. The completed review is due in late fall 2002.

■ Air Force Materiel Command selected Northrop Grumman to develop and produce the laser-based Large Aircraft Infrared Countermeasures system designed to protect large military aircraft from sophisticated heat-seeking missiles. The LAIRCM sys-

Academy Honors Risner

On Nov. 16, the US Air Force Academy paid tribute to retired Brig. Gen. Robinson Risner, a man who flew in three wars and managed to survive more than seven years as a Prisoner of War, by placing a permanent statue of him in the Air Garden.

He is most known as a hero for his leadership and courage over the long years as a prisoner during the Vietnam War. Risner was also a jet ace in Korea with eight confirmed victories.

At the ceremony unveiling the nine-foot statue, Risner said, "I'm a bit embarrassed to have been chosen for the statue here that represents all POWs. It still leaves me in awe."

tem is destined for 20 USAF C-130 and C-17 aircraft.

■ The 730th Air Mobility Squadron, Yokota AB, Japan, reached a fourth consecutive year without any on- or off-duty reportable mishaps. Last year the unit handled 7,000 aircraft and processed more than 37,000 tons of cargo and 90,000 passengers.

■ The Range Management Office at Nellis AFB, Nev., became the 98th Range Wing on Nov. 5. The first commander is Col. Wilhelm Percival. The new wing manages the 2.9-million-acre Nevada Test and Training Range and the Leach Lake Tactics Range near Barstow, Calif.

■ Goodrich announced in November that it will supply the landing gear and lead the landing system integration effort for the Joint Strike Fighter and estimates the value of this effort at nearly \$5 billion.

■ USAF awarded a \$2.7 billion system development and demonstration contract for the Extremely High Frequency satellite program to a Lockheed Martin-TRW team. The EHF is the follow-on to the Milstar communications satellite.

■ Air Mobility Command honored three Andrews AFB, Md., units for flying safety milestones. The 1st Airlift Squadron has not had a Class A mishap in more than 10 years. The 99th AS has never had a mishap in its 14-year history. The Presidential Air-

lift Group has not had a mishap in its 12-year history.

■ The Air Force Research Laboratory in Rome, N.Y., awarded a \$49 million contract to Northrop Grumman to provide technical support for a messaging system—Communications Support Processor for the Millennium—used by the Intelligence Community.

■ On Nov. 8 the Senate approved Marvin Sambur as assistant secretary of the Air Force for acquisition and Mary Walker as Air Force general counsel.

■ Kaiser Electronics, acquired by Rockwell Collins last year, delivered its first head up display camera for the F-15E to Warner Robins Air Logistics Center in Georgia in early November. The company will produce 163 of the new cameras, which replace the monochrome camera currently used.

■ Two USAF members were selected for the US National Skeleton Team. Maj. Brady Canfield, Hill AFB, Utah, finished third overall and SrA. Trevor Christie, Utah ANG, finished sixth. The skeleton, a headfirst version of luge, will be a sport in the Winter Olympics.

■ The board of supervisors for Spaceport Florida Authority, located at Cape Canaveral AFS, Fla., voted to change the name to Florida Space Authority.

■ The National Aeronautic Association awarded the 2000 Collier Trophy to the Global Hawk team—Northrop Grumman, Rolls Royce, Raytheon, L-3 Communications, USAF, and Defense Advanced Research Projects Agency—for "designing, building, testing, and operating Global Hawk, the first fully autonomous, operationally demonstrated, and most capable surveillance and reconnaissance Unmanned Aerial Vehicle in the world."

■ The first class of student pilots to train exclusively in the new T-6A Texan II began training at Moody AFB, Ga., in mid-November. The T-6A replaces USAF's T-37 and the Navy's T-34C. ■

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A design based on the Lockheed Martin X-35 is chosen to replace aging aircraft in US and allied fighter fleets.

A Strike Fighter

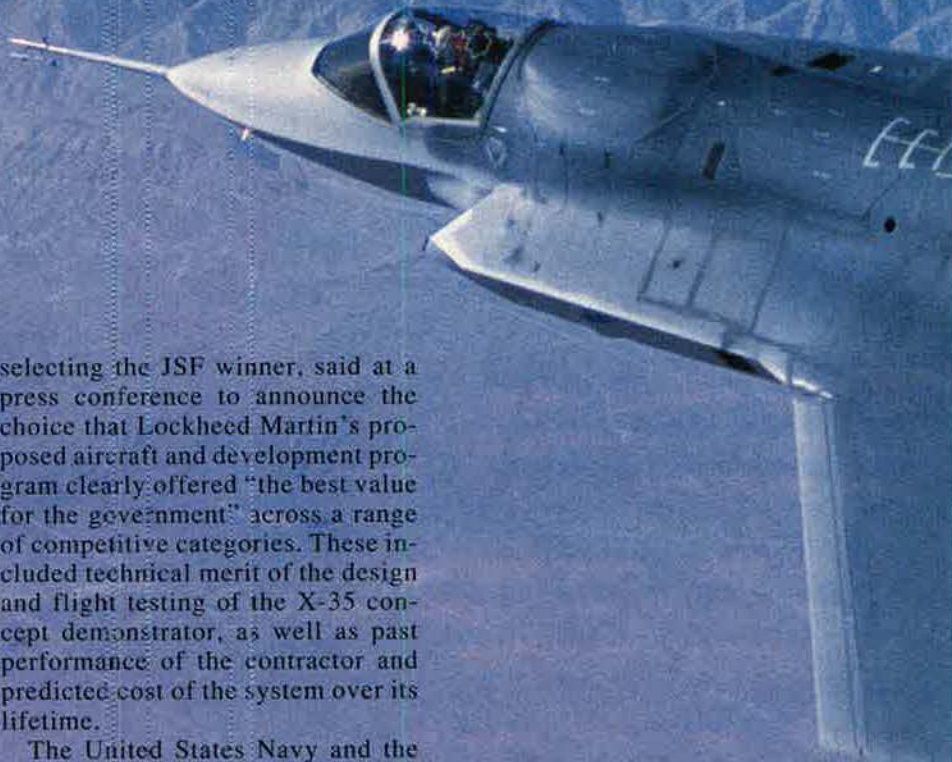
By John A. Tirpak, Senior Editor

In October, the Pentagon selected Lockheed Martin to build the Joint Strike Fighter, embarking on a 25-year effort to replace the bulk of the US fighter fleet with stealth aircraft. The announcement capped a fierce, five-year technology contest and flyoff between Lockheed and Boeing, settled the long-debated future course of US tactical aviation, and confronted Congress with serious questions about the health of the defense industrial base.

Secretary of the Air Force James G. Roche, the official in charge of

selecting the JSF winner, said at a press conference to announce the choice that Lockheed Martin's proposed aircraft and development program clearly offered "the best value for the government" across a range of competitive categories. These included technical merit of the design and flight testing of the X-35 concept demonstrator, as well as past performance of the contractor and predicted cost of the system over its lifetime.

The United States Navy and the air and naval services of the United



for the Future



As many as 6,000 fighters, similar to the X-35 demonstrator shown here, will be built over the next 30 years for the US and its allies. Lockheed Martin's win over Boeing in the Joint Strike Fighter competition will make it the world's foremost builder of fighter aircraft and possibly, within this decade, the sole US fighter maker. The winner-take-all arrangement is expected to save billions of dollars but raises concerns about the defense industrial base.

Kingdom—partners on the project—said they concurred with Roche's pick.

The JSF will replace the F-16 and A-10 fighter and attack aircraft in the Air Force, early model F/A-18s in the Navy, and aging AV-8B Short Takeoff and Vertical Landing fighters in the Marine Corps. Specially configured but highly similar variants of the JSF will be built for each of those services.

The government promptly signed contracts—one worth about \$19 billion for Lockheed Martin and team-



The flyoff was only the end phase of a rigorous, five-year technology battle between Lockheed Martin and Boeing. The two competed just as much on management capabilities, manufacturing processes, and life-cycle costs.

mates Northrop Grumman and BAE Systems and one for more than \$4 billion to Pratt & Whitney, which will develop the aircraft's F135 engine. These initial contracts cover about 10 years of development and flight testing and will pay for 22 aircraft—14 flyable airplanes, seven ground-test items, and one stealth "pole model" test airframe. Before the development phase ends, however, the Pentagon likely will award more contracts covering 465 initial production aircraft.

First Flight 2006

The first flight of the Air Force version is slated for early 2006, and initial operational capability is planned for USAF and the Marine Corps in 2010. The Navy and Britain's Royal Air Force and Royal Navy will have their first squadrons in 2012.

The JSF will be an enormous defense program. Plans call for Lockheed Martin to build about 3,000 fighter aircraft for the US and UK over 28 years or more. The work will make Lockheed Martin, near the end of this decade, the exclusive supplier of manned fighters to the nation's military forces.

In addition, the JSF builder will be well-positioned to dominate the overseas fighter market, where experts see potential for sales of another 3,000 airplanes to foreign forces. Along with the prize of building the actual jets goes a training and

support package, including simulators, as well as the inside track on upgrades and modifications.

Pete Aldridge, DOD's acquisition chief, noted that the value of the fighter contract ultimately "could be in excess of \$200 billion" and acknowledged that it is the largest US military program ever.

Work on the 126-month development phase of the project began immediately.

"The train has left the station," said JSF program director Air Force Brig. Gen. John L. Hudson. Pieces of the aircraft will be made at numerous team locations, but final assembly will be performed in Fort Worth, Tex., on the same mile-long assembly line that churned out thousands of F-16s.

Only a few months ago, there was no certainty there would even be a JSF program. The Bush Administration, in the midst of a months-long review of national military strategy, made it known it was considering scrapping one of three new fighters on the Pentagon's books: the JSF, USAF's F-22 Raptor, or the Navy's F/A-18E/F Super Hornet. The JSF was considered the most vulnerable because, unlike the other two aircraft, it was not yet in production and therefore had a limited political constituency in terms of jobs and suppliers.

However, in announcing the decision to press ahead with the JSF program, Aldridge acknowledged

that the fighter fleets of the Air Force, Navy, and Marine Corps are rapidly aging. The Pentagon's Joint Requirements Oversight Council had reaffirmed the urgent need for the JSF to replace its wearing-out inventory of fighters, many of which are already near or at the end of their planned service lives.

Aldridge chairs the Defense Acquisition Board, which just prior to the contract go-ahead, decided that the JSF is in fact a necessary program, the technology is mature enough to proceed into development, and the project is affordable within expected Pentagon budgets. This blessing allowed the contracts to be signed and also gave assurance that the program would not be reduced in scope, at least not in the near future.

Close Scrutiny

Affordability was "one of the questions that we looked at very carefully," Aldridge said. He noted that tactical aviation has averaged about an 18 percent share of the Pentagon's budget over the last 20 years, getting as high as 25 percent during the mid-1980s. In the coming decade, all tactical aviation procurement—not just the JSF—will stay under that average until Fiscal 2007. Even after that, "the peak of the spending for Tacair will not reach but 22 percent of the DOD budget, less than what we did in the mid-'80s," Aldridge said.

The same Pentagon panel had, less than two months before, given a green light to proceed with production of the F-22, which will replace the F-15C in the air superiority mission.

Three versions of the JSF will be built, and all will be stealthy.

The Air Force model—plans call for building 1,763 of them for the service—will be the least expensive of the three. It is expected to cost about \$40 million a copy in 2001 dollars. It will replace the F-16 and have similar or better aerodynamic performance—a top speed of about Mach 1.8 and able to turn at nine Gs—as well as a combat radius of 690 miles. Internally, it will carry two 2,000-pound bombs. After enemy air defenses have been beaten down and stealth is less important, the Air Force JSF will also be able to carry external stores and fuel tanks, as well as missiles on wingtip launchers, all of which greatly diminish the low observability qualities of an aircraft.

The JSF used by the Air Force and Marines will be slightly larger than the F-16, with wingspan four feet wider but length only one foot longer. The fuselage, however, will be far deeper, to hold munitions and fuel internally. Whereas the F-16 needs to carry bulky and heavy targeting and vision pods, the JSF will be externally "clean," and all optics will be accommodated through a faceted aperture under the nose.

The airplane will also have basic flight displays on the inside of the helmet visor, helmet-mounted cuing of weapons, and respond to certain voice commands.

USAF plans to use the JSF in much the same way as it now employs the F-16. It will principally be an attack aircraft but with sufficient aerodynamic agility to win dogfights with almost any other aircraft. Because of its stealth and nimbleness, said Aldridge, the JSF will "provide an air-to-air capability second only to the F-22 air superiority fighter." He has said previously that, at half the price of rival foreign fighters and twice the capability, the JSF could doom foreign fighter makers.

Combat Persistence

Gen. John P. Jumper, Air Force Chief of Staff, said the JSF will provide persistence over the battlefield in future combat operations because it will be numerous enough to strike

in many places simultaneously and stealthy enough to survive against emerging air defense threats.

Because the Air Force JSF won't arrive for another decade, USAF will have to invest several billion dollars in a systems and structural upgrade of the F-16 fleet, which will start to reach retirement age in large numbers beginning in 2005.

Jumper has said he expects some of the JSF buy will go to Air National Guard units as well as for active squadrons, to keep the Total Force balanced in its equipment.

The Navy model will be capable of landing on an aircraft carrier. To

achieve that, it will have larger and heavier landing gear, more structural strength, an arresting hook, and larger wings for better range and carrier landing characteristics. The Navy plans to build 480 JSFs, at a 2001 unit cost of about \$50 million. It will be about the size of the C model of the F/A-18.

The USMC version will have Short Takeoff and Vertical Landing capability and will be the first operational STOVL aircraft that will also be capable of achieving supersonic speeds. The Marines plan to deploy their JSFs at unimproved forward airstrips and on amphibious assault



Both teams agreed that Lockheed Martin's Short Takeoff and Vertical Landing concept was one of the clinching factors. A "lift fan" behind the cockpit, powered by a shaft from the engine, helps loft the airplane while adding payload margin.

ships to be near the action when close air support is needed for ground troops. A total of 609 STOVL versions of JSF are planned for the Marine Corps, which will pay about \$45 million apiece for them in current dollars. They will have a combat radius of about 500 miles, the cost of having the capability to take off and land vertically.

The UK will decide within two years whether it wants to procure the carrier version or STOVL model of the JSF. The choice will be made after Britain makes a more basic decision about the style and design of the next generation of British aircraft carriers. In any event, the British requirement is for 150 airplanes.

The UK has been a partner in the JSF since the inception of the program in 1996. In exchange for about \$2 billion in contributions to the project, the UK was able to have



The new fighter's outline will be only slightly larger than the F-16 but with a much deeper fuselage for stealthy internal weapons and fuel carriage. When stealth is less of an issue, external stores can be carried on wing hardpoints.

input into the aircraft's performance requirements and basic design. It will also receive its aircraft concurrently with the US.

Six other nations are likely to join in the development phase. They are Canada, Denmark, Italy, Netherlands, Norway, and Turkey. Those that participate will pay a share of development costs. In return, they will receive some share of the development work and move to the front of the line for foreign sales of the aircraft.

About 35 nations operate the F-16, F/A-18, or AV-8B, and all would be considered candidates to purchase the JSF at some point in the future. Pentagon and industry officials say the biggest issue in export would be the level of stealth the US would be willing to release to a customer, as well as the degree of sensor fusion and access to US combat information systems.

Congressional Unease

The JSF has always been structured as a winner-take-all contract; whoever emerged with the winning design would build all 3,000 airplanes planned. The scheme has been questioned numerous times by members of Congress who are reluctant to concentrate all fighter work with a single contractor facing no competition.

Jerry Daniels, president and chief executive officer of Boeing Military Aircraft and Missile Systems, acknowledged at a press conference to discuss why the company lost in its

bid for the JSF work, that "the danger of winner-take-all ... is that one company—clearly now, that is Boeing—could get out of the fighter business." However, he noted, such an event "isn't going to happen tomorrow."

At least through the end of this decade, Boeing will continue to build the F/A-18E/F Super Hornet, and it is a major subcontractor to Lockheed on the F-22, production of which is scheduled to run through 2012. Moreover, Boeing stands a good chance of selling F-15Es to South Korea, so Boeing will likely be producing fighter airplanes for at least another 10 years.

However, the "perishable commodity" is the knowledge of engineers who are skilled in designing fighters, who know "how to take metal and composite materials and glue and put it into something that weighs 30,000 pounds but you can't find it with a radar," Daniels observed. This capability, which he called "a national asset," will dissipate without "meaningful work" to do in fighter design.

The Pentagon has reviewed the winner-take-all approach at Congress' insistence—three times in 2000 alone, Aldridge noted—and still found the approach to be the most cost-effective. Various Pentagon and independent analyses estimated that setting up a second production line for JSF could cost between \$1 billion and \$4 billion, depending on

how much production capability is duplicated.

Aldridge noted Boeing's ongoing work on the F-22 and Super Hornet and also pointed out "there's still design work going on [with] unmanned aircraft and unmanned combat aircraft." Boeing's design teams would be "appropriate" to work on these, he said. Furthermore, DOD has put into the Fiscal 2002 budget some money to begin work on "a new long-range strike platform that could have capabilities far out into the future," Aldridge said.

In the case of prime contractors, "there's plenty of work," he concluded. He added that Unmanned Combat Air Vehicles and other unmanned systems hold much promise. "When you get to the period of 2025 or 2040," said Aldridge, "it's not clear that manned aircraft competition will exist at all," possibly rendering the question of preserving more than one manufacturer moot. In fact, some industry and Pentagon officials have speculated that if Boeing's defense-suppression UCAV performs well, more of them could be purchased at the expense of some cuts to the JSF buy.

Daniels admitted that UCAVs offer a distinct opportunity for Boeing but that the long-range strike platform will not enter a design phase until near the end of this decade, too far out to help cushion the loss of the JSF program.

Man From Missouri

The Missouri and Washington Congressional delegations—representing the largest concentrations of Boeing workers—introduced legislation that would order the Pentagon to give some JSF work to Boeing as an industrial base-saving measure. Missouri Republican Sen. Christopher Bond has called a second production line a national "insurance policy."

Aldridge, however, said that the two teams knew going into the competition that the result would be a winner-take-all, and they structured their teams and assigned work share and risk within them on that basis.

"If Lockheed Martin wishes to use the unique talents of Boeing ... they are free to do so," Aldridge said. "We're not forcing them to do it." He later acknowledged it would be "politically astute" of Lockheed Mar-

tin to find some work for Boeing on the project. For its part, Lockheed Martin said it would entertain assigning a work share to Boeing if the government asked the company to do so. However, a Lockheed official noted that, with 18 percent of work share already assigned to Northrop Grumman and 12 percent to BAE Systems, "there's not a lot of room to play around with this."

The Pentagon would oppose any legislation mandating a share to Boeing, Aldridge said. In a letter to concerned members of Congress, he noted that the winner-take-all approach was validated as the most efficient way to conduct the program and that creating additional assembly lines or redundant manufacturing capabilities would add to the cost and delay the project. He emphasized that there will be a rigorous engine competition on the program and that the Pentagon is also seeking ways to expand competition on the radar and other critical avionics.

Boeing is also considered likely to get substantial Air Force orders for 767 widebody transports to serve as tankers and replacement airframes for the E-8 Joint STARS, RC-135 Rivet Joint, and possibly the E-3 AWACS fleets. Roche has suggested leasing the airplanes as a means of speeding up their acquisition, saying the airframes were urgently needed "yesterday."

F135 engines for the JSF will be



Lockheed Martin photo by Peter Torres

On the Marine Corps/UK model, the lift fan is installed behind the cockpit to enable vertical takeoff and landing. In the Air Force and Navy versions, this space is used for fuel, adding hundreds of miles of range.

made initially by Pratt & Whitney, but General Electric-Rolls Royce will produce a competing power plant called the F136. The two engines will have to be functionally identical in the way they mount on the airplane, in the procedures for their maintenance, and in the software that runs them, so as to reduce engine-unique spare parts and processes.

"We want it so that you can take out a Pratt engine and put in a GE engine, and the pilot will never know the difference," Hudson said. Pratt & GE will compete for JSF engine production in lots, in an arrange-

ment akin to the "great engine war" of the 1980s between the F100 and F110 power plants.

No Rush

In the run-up to the Quadrennial Defense Review, several area study teams noted that the Navy is still without a stealth airplane and, under the JSF schedule, will not get one for another decade. Several panels suggested the JSF be accelerated, for at least the Navy version.

Aldridge said that "we'd love to have this airplane today" but the Pentagon will not rush the program.

"We're going to make sure we do it right," he explained, adding that the JSF will follow a "spiral development" plan in which early models will not have "100 percent" of the ultimate capability planned for the type. The JSFs will be improved in block upgrades, and early models will be retrofitted as more advanced avionics, software, and weapons become available.

Hudson, too, acknowledged that the development program has been laid out in a well-paced, "logical" fashion and that tinkering with it would likely not produce airplanes much faster but would certainly raise the cost "and the levels of risk that we associate with this program."

Prior to the JSF go-ahead, the General Accounting Office advised Congress to slow the program, arguing that, while good progress had been made in reducing technologi-



Lockheed Martin photo by Judson Brohmer

The JSF will be second only to the F-22 as a dogfighter but was designed as a bomb dropper. Hundreds of stealthy airplanes attacking across an enemy's territory will provide what Jumper calls persistence over the battlefield.

cal risk, the program was still not a “low risk” venture. The GAO warned that cost overruns and schedule delays could loom in the future if certain of the program’s business, manufacturing, and weapons initiatives don’t pan out. The Pentagon rejected the assertion and insisted that the risks in JSF are well-understood and well within reason.

Lockheed Martin was the “clear winner” of the competition, Roche said, adding that the outcome was not “a squeaker” but also not a shut-out, either.

“It became clear, as we went through this process, that the case built more and more strongly” for the airplane that will derive from the X-35 demonstrator, Roche added.



Lockheed Martin photo by Tom Reynolds



Lockheed Martin photo by Kevin Robertson

Thanks largely to high reliability of the power plant—derived from the F119 engine in the F-22—flight evaluation of the JSF demonstrators went very smoothly. Pratt & Whitney and General Electric will compete to supply thousands of JSF engines.

Lockheed Martin JSF leader Tom Burbage said “our biggest gamble” was the lift system in the STOVL version. This machine uses a swivel-down rear exhaust, coupled by a shaft to a vertically mounted “lift fan” behind the cockpit. The two posts of thrust—one of which is cool “fan” air and not engine exhaust—made for a cooler environment around the airplane, as well as more lifting power at lower engine power levels.

The swiveling rear exhaust is a licensed design from the Yakovlev design bureau in Russia, which tried it out on the Yak-141 STOVL fighter.

“It was all or nothing,” Burbage said. “If the propulsion concept didn’t

work, we obviously weren’t going to be competitive.”

Daniels, the Boeing executive, said the lift fan concept was “probably the single most important feature” of the competition.

Advantage: Lift Fan

Boeing’s proposal called for “direct lift,” meaning the engine was providing all the raw power to raise the airplane. This meant it had to run hotter, which probably cost Boeing points in life-cycle costs; the Boeing proposal would have burned up engines more quickly, Daniels allowed. The Lockheed Martin proposal also provided more lifting power, despite

the added weight of the lift fan, 60 percent more than with the engine alone.

“We had thin margins on some parameters, where Lockheed had very strong margins on those same parameters,” Daniels said. As requirements to carry more ordnance were added, Boeing’s margin shrank.

“We’re basically using an engine where we’re diverting the thrust to get us direct lift,” Daniels said in a press conference. “With the fan system, they’ve effectively created what is like another engine in the aircraft. So they’re getting much more efficiency.”

“In the non-STOVL versions, the lift fan is replaced by a fuel tank.”

The Pentagon told Boeing that the company had scored slightly better on prior performance and management but had not scored as well as Lockheed on airplane capabilities, Daniels reported. Aircraft unit costs were about the same, he added.

Burbage said the “challenge now is to make sure we’ve got the life-cycle cost dimension” under control. Although most of the technologies going into the JSF were tested either in the factory or on the X-plane demonstrators, long-term reliability and maintainability haven’t been proven “because these were very abbreviated flight [test] programs,” he said.

Former JSF program director Marine Corps Maj. Gen. Michael A. Hough said the two JSF concept demonstrators—Lockheed’s was the X-35 and Boeing’s the X-32—turned in phenomenal performances and

rarely missed a flight-test hop because of system glitches and missed none due to engine failure. To achieve such a thing with experimental aircraft was “unprecedented,” Hough said, and validated the new computer-aided design systems employed in their construction.

Lockheed used two aircraft to demonstrate the capabilities of all three versions. The Air Force model was designated the X-35A and flew more than 27 hours on 27 flights in just 30 days. The same airplane, redesignated X-35B, was the STOVL model with the lift fan installed; it flew 21.5 hours over 39 flights in 45 days. The X-35C was the carrier version, which had heavier landing gear and Navy-specific equipment and wings. It racked up 58 hours over 73 flights in 85 days. The flight test schedule was “aggressive,” Burbage noted.

There is no plan to use the demonstrators for any further testing. Hudson said there would be a certain amount of risk in doing so, since they were designed for a brief round of use and not extended flying. Moreover, although the X-35 strongly resembles the proposed airplane—which may be called the F-35 or F-24—it was not a prototype. Hudson has had “lots of requests” from museums around the world for the demonstrator aircraft.

Burbage said Lockheed will achieve a maximum production rate on the JSF at approximately 17 a month in 2011. The Fort Worth plant built F-



The JSF will incorporate many cockpit advances, such as helmet cuing of weapons, helmet visor displays, voice-activated functions, and wraparound infrared imaging, giving the pilot 360 degrees of terrain visibility at night and in bad weather.

16s at a “considerably higher” rate during the late 1980s, but the JSF figure does not count foreign sales. Burbage said the facility can accommodate more than 17 per month but declined to give a figure.

Born in Crisis

The JSF program grew out of a defense financial crisis in the early 1990s. USAF needed a cheap, lightweight fighter to replace the F-16, the Navy wanted a stealthy medium bomber, and the Marines wanted a new jump jet to replace the AV-8B Harrier. As a cost-saving measure,

the three programs were merged, to the catcalls of both those in the military and industry. It was considered almost impossible to build an airplane that could satisfy such divergent requirements without being a jack of all trades, master of none.

Burbage said he himself had doubts it could be done.

“Back in those days, I’m not sure we had the tools to do it,” he said. “Even as recently as three or four years ago, ... the industry really didn’t have the capacity to design a family of airplanes where no user paid any penalty for what the other guy needed.”

However, “today, with our 3-D, solid engineering modeling tools, and just the pure processing power of the computers, you can in fact create these collaborative engineering environments,” in which the talents of geographically dispersed companies can work together on a design, create templates, and wind up with parts that mate perfectly, Burbage said.

He also said the services demonstrated great discipline in holding their requirements to those that were absolutely needed. That made the joint solution possible.

“Once the airplane gets off the ground and raises the landing gear, they all do the same thing,” said Burbage. “They’re all multirole combat aircraft. ... The challenge really is to ... accommodate all the different basing requirements without penalizing one guy for the other.” ■



The JSF may well be the last manned fighter. The aggressive development of Unmanned Combat Air Vehicles may even cut into JSF production, if the robotic craft prove as efficient in battle as they do in the budget.

Lockheed Martin photo by Tom Reynolds



Striking Back

US and coalition air and ground elements press the war against Taliban and al Qaeda forces in Afghanistan.

Members of Air Combat Command's 11th Reconnaissance Squadron, deployed to Operation Enduring Freedom from Indian Springs AFAF, Nev., perform pre-flight checks on a Predator Unmanned Aerial Vehicle in early November.



Fighters and bombers are the front line of airpower, but none gets to the fight without air refueling. USAF tankers, crewed by active duty, Guard, and Reserve troops, had flown about 2,500 missions for Enduring Freedom as of November.

Here, a KC-135R tanker of the 319th Air Expeditionary Group from Grand Forks AFB, N.D., takes off from its forward operating location.

Below, two British VC-10 tankers sit on the ramp near a USAF C-5, unloading cargo at a forward location.



USAF photo by TSgt. Mark Buchor

USAF photo by SrA. Matthew Hammen



USAF photo by SSgt. Pamela J. Farlin

Above, ground crews prepare to unload a C-5 cargo aircraft at Moron AB, Spain. Airlift crews have delivered more than 43,000 tons of cargo for the operation.

More than 50 nations have been engaged in the campaign against terrorism. At MacDill AFB, Fla., the home of US Central Command, there are more than 230 representatives from more than 20 nations—"a very visible sign of the international commitment to our overall effort," Army Gen. Tommy Franks, commander in chief of CENTCOM, said Dec. 7.

Here, an RAF VC-10 tanker refuels two US Navy F/A-18 fighters in late October for Enduring Freedom.



US Navy photo by Lt. Steve Lightstone



USAF photo by Tsgt. Scott Reed



Coalition forces on the ground in Afghanistan include airmen such as this USAF special operations staff sergeant in the photo above and, here, in the small photo.

Above, members of the 16th Special Operations Wing, normally based at Hurlburt Field, Fla., off-load personnel and equipment at a forward location.

US Special Forces working with Northern Alliance opposition members in Afghanistan adopt a local mode of transportation: the horse.



DDC photo

USAF has used Predator UAVs for reconnaissance since the start of Enduring Freedom in October. The newest UAV, Global Hawk, which is still in research and development, got orders to join the fight in early November.

Here, SSgt. Todd Gargac (left) and A1C Chad McManus, from the 11th RQS, fuel a Predator at its deployed location.



USAF photo by TSgt. Scott Reed



USAF photos

The Predator is shown above and left with Hellfire missiles. The UAV had only recently begun tests with the missiles, when it was pressed into action for Enduring Freedom. Its primary role is still to provide battlefield awareness.

The UAVs are working in concert with manned Intelligence, Surveillance, and Reconnaissance assets, like the E-3A Airborne Warning and Control System, E-8 Joint STARS, EC-130E Commando Solo, RC-135 Rivet Joint, and U-2 aircraft. ISR forces have been in action every day.

Here, an E-8 from Robins AFB, Ga., gets a checkover at its forward deployed location.



USAF photo by SSgt. Tiffany Page



USAF photo by MSGt. Dave Nolan

USAF aircraft flew some 4,600 sorties in the first 50 days of Enduring Freedom. Among the fighter aircraft in use was this F-15E, here getting prepared by crew chiefs from the 332nd Air Expeditionary Group.

At right, an F-15E takes on fuel from a KC-10.

Below, more 332nd AEG crew chiefs working or waiting on their F-15Es.



USAF photo by SSGt. Wayne Clark

USAF photos by MSGt. Dave Nolan



Here, "Pugs," an F-15E weapons system officer, preflights a Strike Eagle before a sortie over Afghanistan.

USAF members, transported to an undisclosed location, set up this forward base, ready to house more than a thousand troops.

Below, a 16th SOW airman at a forward location.



USAF photos by SSgt. Cecilio M. Ricardo Jr.

USAF photo by MSgt. Dave Nolan



Air Force Reserve Command fighter pilots from Hill AFB, Utah, have flown F-16Cs on strike missions into Afghanistan. Here a pilot preflights his Fighting Falcon before a sortie.

Air National Guard and AFRC members have supported Enduring Freedom with strike aircraft, airlifters, and tankers.

During nighttime operations for Enduring Freedom, an F-16 moves up to refuel from a KC-135R from the 319th AEG.



USAF photo by TSgt. Scott Reed



A munitions loader from the 28th AEW preps Joint Direct Attack Munitions to load on a B-1B. Air Force B-1B bombers have dropped more than 3.8 million pounds of weapons and more than 60 percent of the JDAMs used.

At left, B-1B pilots and a crew chief discuss the bomber's maintenance log before the aircrew flies its next mission over Afghanistan.

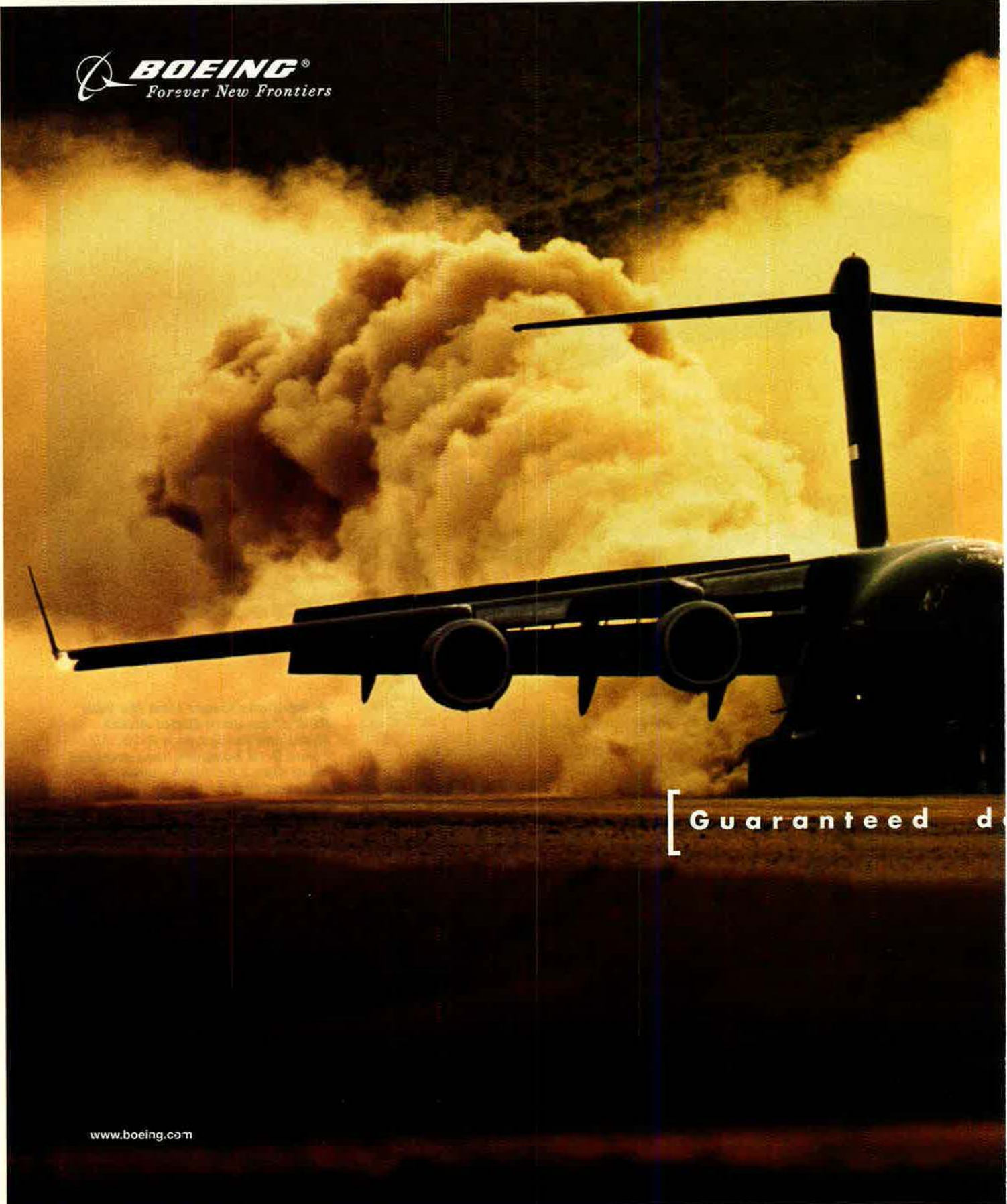


At left, about 50 reservists returned to McGuire AFB, N.J., after a month overseas—the KC-10 flight crew shows the colors as they taxi in.

At right, a B-1 takes off from Diego Garcia for a combat mission. ■

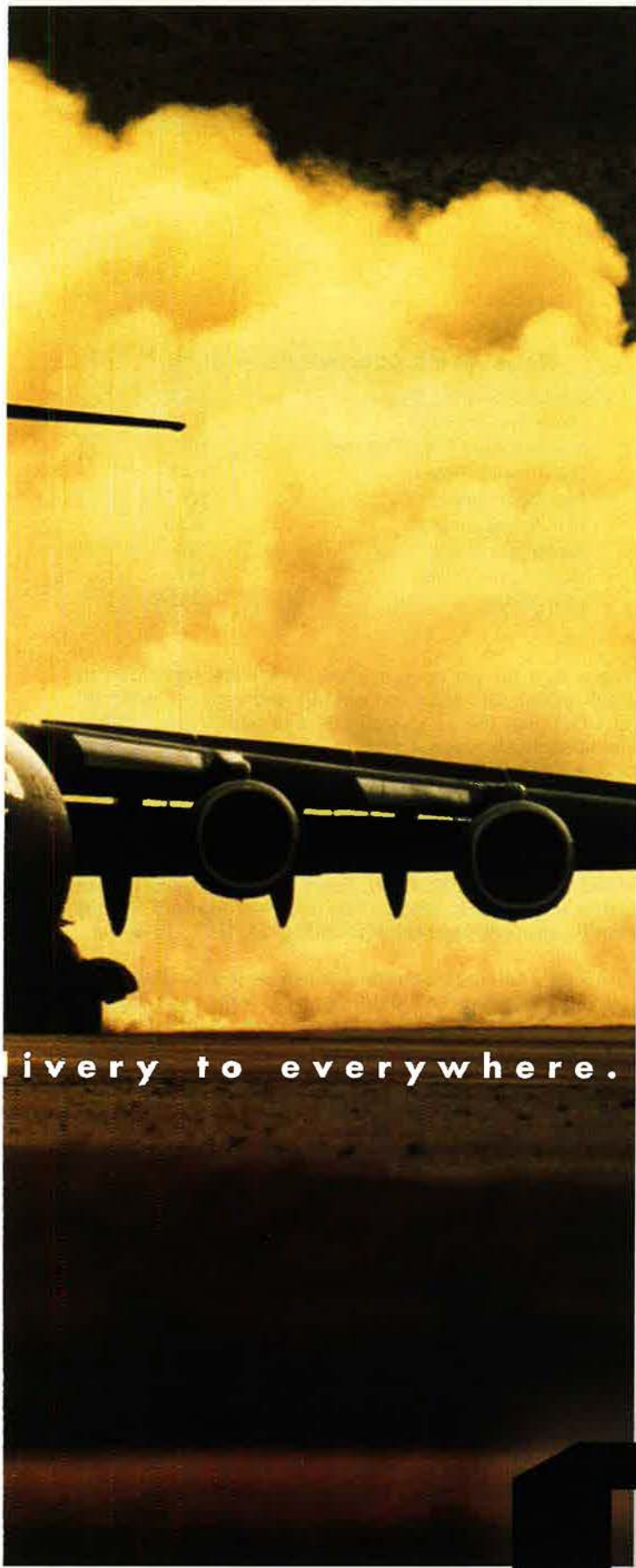


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Verbatim Special: War on Terror

By Robert S. Dudley, Executive Editor

Individuals quoted herein issued remarks in a variety of ways—speeches, impromptu statements, testimony, briefings, press interviews, and so forth. Where possible, we cite the original venue and the date. Otherwise, we provide a prominent media source of the quotation. Date of media publication does not necessarily indicate the date of the actual utterance.

"A coalition partner must do more than just express sympathy; a coalition partner must perform. ... [A]ll nations, if they want to fight terror, must do something. It is time for action."—**President Bush, remarks to press, 11-6-01.**

"Over time, it's going to be important for nations to know they will be held accountable for inactivity. You are either with us or you are against us in the fight against terror."—**Bush, remarks to press, 11-6-01.**

"Our first phase right now is in Afghanistan, but there are no plans at the moment to undertake any other military action."—**Secretary of State Colin Powell, IHT, 11-7-01.**

"In the first Crusade, when the Christian soldiers took Jerusalem, they first burned a synagogue with 300 Jews in it and proceeded to kill every woman and child who was Muslim on the Temple Mount. ... I can tell you that that story is still being told today in the Middle East, and we are still paying for it. Here in the United States, we were founded as a nation that practiced slavery, and slaves were quite frequently killed, even though they were innocent. This country once looked the other way when significant numbers of Native Americans were dispossessed and killed to get their land or their mineral rights or because they were thought of as less than fully human. And we are still paying the price today."—**Former President Bill Clinton in a speech at Georgetown University, WT, 11-7-01.**

"We'll find him [Osama bin Laden]. ... On the other hand, he could show up today, dead, and I'd be delighted."—**Secretary of Defense Donald Rumsfeld, on PBS's "The NewsHour With Jim Lehrer," 11-7-01.**

"These people couldn't care less about international law. I mean, they killed 5,000 people in the United States without batting an eye. If they had had Weapons of Mass Destruction, they would have killed hundreds of thousands."—**Rumsfeld, "The NewsHour With Jim Lehrer," 11-7-01.**

News Media Abbreviations Used

<i>Christian Science Monitor</i>	CSM
<i>Inside the Air Force</i>	ITAF
<i>International Herald Tribune</i>	IHT
<i>Los Angeles Times</i>	LAT
<i>New York Times</i>	NYT
<i>Wall Street Journal</i>	WSJ
<i>Washington Post</i>	WP
<i>Washington Times</i>	WT
<i>USA Today</i>	USAT

"There is a lot we do not know. We were forbidden to speak about our activities among each other, even off duty. But over the years you see and hear things. These Islamic radicals were a scruffy lot. They needed a lot of training, especially physical training. But from speaking with them it was clear they came from a variety of countries, including Saudi Arabia, Yemen, Algeria, Egypt, and Morocco. We were training these people to attack installations important to the United States. The Gulf War never ended for Saddam Hussein. He is at war with the United States. We were repeatedly told this."—**Unnamed former Iraqi lieutenant general who defected, NYT, 11-8-01.**

"The Pentagon is relearning a timeless lesson about the utility of land power. In the end, if you can't control territory, then you can't determine how adversaries are going to use it. Airpower can only do so much. The Army is finding its future and will take a central role in dealing with the threat of global terror."—**Loren Thompson, Lexington Institute analyst, NYT, 11-8-01.**

"Pakistan has one of the strongest and best-disciplined armies in the world, which would follow only its leader. Just as there is no possibility of another coup in Turkey, there is none in Pakistan, either."—**Pervez Musharraf, president of Pakistan, during a stopover in Turkey, NYT, 11-8-01.**

"This is a struggle that's going to take a while. ... It's not one of these Kodak moments. There is no 'moment' to this."—**Bush, remarks to the press, 11-8-01.**

"If bin Laden or his supporters indeed obtained a genuine suitcase-sized Russian nuclear weapon (and not some fake traded on the black market), it is virtually impossible that they would be able to make it explode. Outsiders cannot directly use modern Russian and American nuclear weapons because they have security codes that fully deactivate them when there is an attempt at unauthorized penetration or activation. It is also not easy to use the core nuclear materials of a sophisticated nuke to make a clandestine bomb. If there is any serious threat that bin Laden may get a usable nuke, its origin would

likely be Pakistan, not Russia.”—**Russian military analyst Pavel Felgenhauer, WSJ, 11-8-01.**

“Tommy Franks is no Norman Schwarzkopf.”—**Army Gen. Tommy R. Franks in response to reporters who said he was being criticized for not being as accessible as the commander in chief was in the Gulf War, DOD briefing, 11-8-01.**

“It is only those who believe that all of this should be done in two weeks’ time ... who are disappointed by this. The campaign plan which we have initiated ... is precisely the plan that we intended to begin to initiate, and I’m well satisfied with it.”—**Franks, DOD briefing, 11-8-01.**

“I do not subscribe to—and I even resent—the theory that America’s arrogance, even indirectly, led to the attacks.”—**Chelsea Clinton, remarks in *Talk* magazine, as quoted in WP, 11-9-01.**

“We need to win this war. We need to destroy the Taliban regime, and we need to do it sooner rather than later. If the only way it can be done is by ground troops, then I would very much favor it. We cannot protect the American public by losing the first engagement.”—**Richard Perle, chairman of Defense Policy Board, USAT, 11-9-01.**

“The United Nations is nothing but a tool of crime. ... [In Bosnia] our brothers have been killed, our women have been raped, and our children have been massacred in the safe havens of the United Nations and with its knowledge and cooperation.”—**bin Laden, videotaped message broadcast on al Jazeera television, NYT, 11-9-01.**

“This [bin Laden’s statement] is an important speech. It tells you that you cannot bargain with someone like this, you cannot reconcile. This reinforces my belief that we are doing the right thing in bombing him because if we don’t want this to be a war of civilizations, we have really got to get rid of a person who is intent on making it that way.”—**National Security Advisor Condoleezza Rice, NYT, 11-9-01.**

“There are no plans to meet with Mr. Arafat in New York. There are responsibilities that come with being the representative of the Palestinian people, and that means to make certain that you do everything that you can to lower the level of violence, everything that you can to root out terrorists, to arrest them. We still don’t think that there has been enough in this regard. You cannot help us with al Qaeda and hug Hezbollah. That’s not acceptable. Or Hamas. And so the President continues to make that clear to Mr. Arafat.”—**Rice, WT, 11-9-01.**

“I think some ground forces are going to be necessary. No doubt about it.”—**Sen. John Kerry (D-Mass.), LAT, 11-9-01.**

“We must [deal with Iraq] because Saddam has a special hatred for America and the capacity to do something terrible about it.”—**Sen. Joseph Lieberman (D-Conn.), writing in WSJ, quoted in LAT, 11-9-01.**

“I think we should have a very simple, straightforward discussion with the Saudis, and they should understand that they have a hell of a lot more to lose in the breakup of the [US-Saudi] relationship than we do.”—**Sen. Joseph Biden (D-Del.), LAT, 11-9-01.**

“Airpower has done its business, but it is only Stage 1. Airpower alone will never do the job. The US thought it would in Kosovo, and it didn’t. And it will not in Afghanistan. Ground forces are needed now as much as ever.”—**Andrew Brookes, “airpower specialist” with the International Institute for Strategic Studies, CSM, 11-9-01.**

“If the US is serious about destroying the Taliban, a bloody war with numerous US and allied forces on the ground in Afghanistan is a must.”—**Strategic Forecasting (Stratfor), an analysis group on the Internet, CSM, 11-9-01.**

“The campaign cannot be described as fully satisfactory. It appears the Taliban are well-entrenched, so ground forces will have to be engaged.”—**Atal Bihari Vajpayee, prime minister of India, WP, 11-9-01.**

“Pakistan is fully alive to the responsibilities of its nuclear status. ... Let me assure you all that our strategic assets are well-guarded and in very safe hands.”—**Musharraf, address to UN General Assembly, 11-10-01.**

“I don’t believe that [bin Laden’s] message really resonates strongly in the Muslim world. Public opinion in the Muslim world in general wants peace, security and stability, and the right to defend their religion and their freedom. ... The horrific terrorist attacks of Sept. 11, 2001, in the United States were perpetrated by cult of fanatics who had self-mutilated their ears and tongues and could only communicate with perceived opponents through carnage and devastation.”—**Iranian President Mohammed Khatami, as quoted in NYT, 11-10-01.**

“We have no credible evidence that he [bin Laden] has [nuclear weapons] at this point in time, but we’re not going to take any chances. ... Our entire strategy is to go after al Qaeda, to go after the Taliban, because these are very, very bad people and if they acquire anything, we have no doubt that they would try to use it.”—**Rice, on CNN’s “Late Edition,” 11-11-01.**

“We have a great deal of intelligence that says over a period of years the al Qaeda organization has been actively trying to acquire chemical, biological, and radiation and/or nuclear weapons. I think it’s unlikely he has a nuclear weapon. It is certainly reasonable to assume he might very well have chemical or biological and possibly even radiation weapons. The biological are probably the easiest because they can be developed in very small rooms, laboratories, mobile trailers, and the like. Second, the terrorist networks of the world have been working with terrorist states. And if you look at the terrorist states that are on the list, a great many of them have biological and chemical weapons and several of them have been actively seeking nuclear and/or radiation capabilities.”—**Rumsfeld, CBS’s “Face the Nation,” 11-11-01.**

“It doesn’t take a real wild guess to assume that they either have chemical or biological [weapons], or that they may have or will have at some point in the future. I think it’s unlikely that they have a nuclear weapon, but on the other hand, with the determination they have, they may very well.”—**Rumsfeld, “Face the Nation,” 11-11-01.**

“This [directing the war effort] is not clockwork. This is rough, dirty stuff.”—**Rumsfeld, “Face the Nation,” 11-11-01.**

"I would say that for myself, I think it is important that al Qaeda and Taliban be taken out of Kabul and every inch of that country."—**Rumsfeld, "Fox News Sunday," 11-11-01.**

"I am very safe. I think these are overblown impressions [on rumors of death threats by thousands of Islamic militants]. These are by a very small minority, but a fanatic, extremist minority. So what we are seeing is not really the magnitude of the number of people. The number of people doesn't bother me at all. But it is an individual, even, who can undertake an act of extremism, and that is what one has to guard against. I'm not at all worried by the magnitude, and that's why I'm here. And there's no doubt in my mind that the army cannot be sabotaged at all, and the vast majority of Pakistanis are with me. I am very confident."—**Musharraf, NBC's "Meet the Press," 11-11-01.**

"I don't believe him [bin Laden, when he claims to have nuclear arms]. I can't even imagine that he can have nuclear weapons. Chemical is a possibility, because it's easy to fabricate and easy to possess, but I cannot even imagine that he could be possessing nuclear weapons."—**Musharraf, "Meet the Press," 11-11-01.**

"Mazar-e Sharif falling, it has certainly—it has very big military and political implications, so I would say now it [the war in Afghanistan] has turned the corner."—**Musharraf, "Meet the Press," 11-11-01.**

"We've been disappointed by General Pervez Musharraf. He says that the majority is with him. I say the majority is against him. ... He will be punished by the Pakistani people and Allah."—**bin Laden in an interview with Dawn newspaper, as quoted on "Meet the Press," 11-11-01.**

"If the Taliban want to take their relatives, we do not object. ... It is Islamic law to give the bodies to their relatives. They are free to come to collect the bodies."—**Abdurrashid Dostum, Afghan warlord, WP, 11-12-01.**

"Pakistan is a moderate religious country ... and the army is part of Pakistan. The army is religious, certainly. What I am against is religious extremism, fanaticism, or fundamentalism. The army does not have that kind of extremism because Pakistan is not a religious extremist society."—**Musharraf, WP, 11-12-01.**

"To protect the United States and its citizens, and for the effective conduct of military operations and prevention of terrorist attacks, it is necessary for individuals subject to this order ... to be detained and, when tried, to be tried for violations of the laws of war and other applicable laws by military tribunals. ... Having fully considered the magnitude of the potential deaths, injuries, and property destruction that would result from potential acts of terrorism against the United States, and the probability that such acts will occur, I have determined that an extraordinary emergency exists for national defense purposes, that this emergency constitutes an urgent and compelling government interest, and that issuance of this order is necessary to meet the emergency."—**Bush, written order, 11-13-01.**

"The Air Force is a sortie-producing machine to a much greater extent than the Navy. We're the guys who set

the international metric for how to do this sort of thing."—**Gen. Merrill McPeak, USAF (Ret.), former USAF Chief of Staff, WP, 11-13-01.**

"There is a general deterioration of the Taliban military position. Once you start something like this, it tends to start rolling, and they can't stop it."—**Powell, interview, NYT, 11-13-01.**

"We've got a First World air force connected to a Fourth World army—B-1 bombers and guys on horses, and what we have done in the last five weeks is sort of connect those two."—**Powell, NYT, 11-13-01.**

"The President will never, never step away from the goal of finding bin Laden and ripping up al Qaeda in Afghanistan and all the other places where it is located."—**Powell, NYT, 11-13-01.**

"If avenging the killing of our people is terrorism, then history should be a witness that we are terrorists. Yes, we kill their innocents, and this is legal religiously and logically. ... We will not stop killing them and whoever supports them."—**bin Laden, from a videotape, WP, 11-13-01.**

"First priority is unquestionably tracking down the leadership in al Qaeda and Taliban. I would say the second priority is destroying the Taliban and al Qaeda's military capability, which is what props up that leadership, and tracking it down, finding it, and destroying it. Third ... to create a presence that is professional and will be stabilizing in those cities. And fourth ... begin the kinds of humanitarian assistance that these people are clearly going to need."—**Rumsfeld, DOD briefing, 11-13-01.**

"Any person [Taliban fighter] who goes hither and thither is like a slaughtered chicken that falls and dies. You should regroup yourselves, resist, and fight. ... This fight is for Islam."—**Mullah Mohammad Omar, admonishing his troops, WP, 11-14-01.**

"This [the Taliban retreat] was all planned. History shows that it is easy to capture Kabul but very difficult to rule it. Mark my words: The Taliban will be back."—**Munawar Hasan, secretary general of the Jamaat-e-Islami, pro-Taliban religious party in Pakistan, USAT, 11-14-01.**

"This is not a rout, it is a withdrawal in reasonably good order. They don't want to hang on to any territory because if they do they will be destroyed from the air."—**Charles Heyman, editor of Jane's World Armies, London's Daily Telegraph, 11-14-01.**

"With the Northern Alliance takeover of Kabul, our worst nightmare has come true. At least for the time being, the United States military power has handed Afghanistan to Pakistan's worst enemies in that country."—**Unnamed senior Pakistan military official, WP, 11-14-01.**

"This is not a war being won with American blood and guts. It is being won with the blood and guts of the Northern Alliance, helped by copious quantities of American ordnance and a handful of American advisors. After Sept. 11, President Bush promised that this would not be another bloodless, push-button war, but that is precisely what it has been."—**Max Boot, editorial features editor of the Wall Street Journal, WSJ, 11-14-01.**

"I guess there are a couple of lessons in that for folks—the handwringers who, a week or two ago, were saying, 'It is not going to work. You are not doing enough. You have been at it now for three or four weeks, and my gosh, the war's not over yet.' ... If anybody has any questions about whether or not we're determined to carry through on that threat, all they have to do is go visit Afghanistan today and interview members of the Taliban—if they can find any."—**Vice President Dick Cheney, remarks to the US Chamber of Commerce, 11-14-01.**

"Foreign terrorists who commit war crimes against the United States, in my judgment, are not entitled to and do not deserve the protections of the American Constitution, particularly when there could be very serious and important reasons related to not bringing them back to the United States for justice. ... I think it's important to understand that we are at war now."—**Attorney General John Ashcroft at news conference, 11-14-01.**

"You might catch some senior al Qaeda leaders. You might catch some senior Taliban leaders. If they are the kind you want to shoot, you shoot them."—**Rumsfeld, remarks during visit to the World Trade Center site, NYT, 11-15-01.**

"I myself saw how one of them raised his hands to surrender. When one of my soldiers came up to him to take him prisoner, he set off a bomb and blew himself to pieces. My man was wounded. After that, we became reluctant to take prisoners."—**Gol Aidar, a Northern Alliance division commander, WSJ, 11-15-01.**

"Bush and Blair ... don't understand any language but the language of force. Every time they kill us, we will kill them, so the balance of terror can be achieved."—**bin Laden, from Oct. 20 videotape, WP, 11-15-01.**

"The battle has been moved inside America, and we shall continue until we win this battle or die in the cause and meet our maker."—**bin Laden, from Oct. 20 videotape, WP, 11-15-01.**

"We have tried to bend over backwards to give bipartisan support, because most of us have been here for some period of time, and we know that kind of unity gives credibility to what we're doing and also makes a very concerned American population less concerned. They've got to realize that simply going it alone like this isn't making people feel more secure, it's making them feel more concerned."—**Sen. Patrick Leahy (D-Vt.) on President Bush's order for military tribunals, NYT, 11-15-01.**

"[Afghanistan is] a large country with a lot of borders, and one has to be realistic. I think we'll find him either there or in some other country."—**Rumsfeld, DOD briefing, 11-15-01.**

"It's been said that we are tightening the noose and in fact that is the case. We are tightening the noose. It's a matter of time."—**Franks, DOD briefing, 11-15-01.**

"Osama has already decided that death will be preferable to being arrested by America."—**Taliban spokesman Mullah Abdullah, USAT, 11-16-01.**

"The current situation in Afghanistan is related to a bigger cause. That is the destruction of America. ... The plan is going ahead and, God willing, it is being imple-

mented. But it is a huge task, which is beyond the will and comprehension of human beings. If God's help is with us, this will happen within a short period of time. Keep in mind this prediction. ... This is not a matter of weapons. We are hopeful for God's help. The real matter is the extinction of America. And, God willing, it will fall to the ground. ... I tell you, keep this in mind. This is my prediction. You believe it or not—it's up to you. But we will have to wait and see."—**Taliban leader Omar, BBC World Service interview, WP, 11-16-01.**

"Military tribunals, secret evidence, no numbers on how many people the government is detaining. We're looking like a Third World country."—**Jim Zogby, president of the Arab-American Institute, WP, 11-16-01.**

"One of the lessons of Afghanistan's history, which we've tried to apply in this campaign, is if you're a foreigner, try not to go in. If you go in, don't stay too long, because they don't tend to like any foreigners who stay too long."—**Paul Wolfowitz, deputy secretary of defense, on "Face the Nation," 11-18-01.**

"I think we have got to keep our focus right now on Afghanistan. There's a great danger that we're going to declare victory before we have achieved our objectives there."—**Wolfowitz, "Face the Nation," 11-18-01.**

"I want to be very clear that getting the al Qaeda network broken up is really what we're after here. ... It's terrific that the Northern Alliance has had the successes that it's had. It's very important that the Taliban are fleeing and that we're loosening their grip on the country. But this mission will not be complete until we have broken up this al Qaeda network and until it cannot do the kind of harm that it did on Sept. 11."—**Rice on CNN's "Late Edition," NYT, 11-19-01.**

"We have the airport, we have Mazar, we have everything."—**Dostum, the warlord who commands the Northern Alliance's forces in the northwest and who arrived on horseback, Newsweek, 11-19-01.**

"They are like dogs. They never give up. They must be Arabs."—**Gen. Moammar Hassan, a Northern Alliance commander, Time, 11-19-01.**

"I think we should have been more aware [of bin Laden's activities after the Soviet-Afghan war]. When you look back on it, you say, 'My God, they have been telling us they are going to do something like that.' And we didn't believe them. ... He had to be stopped. The kingdom said, 'You [bin Laden] have done your best to help the mujahideen in Afghanistan. Leave it at that.' He was not pleased."—**Prince Turki al Faisal, former head of Saudi intelligence, Time, 11-19-01.**

"We have clearly destabilized them. We are eliminating all the known figures. There are two ways to see this: There is the positive, optimist perspective. We are making progress. But now they could also be more invisible. It's the classic dilemma of intelligence work vs. police work. It is always helpful to let the networks function, to see where they lead you. But this is a period where the police have no choice: We are obliged to act because there could be an attack."—**Unnamed European investigator, LAT, 11-19-01.**

"As enemy leaders become fewer and fewer, it does not necessarily mean that the task will become easier. People

can hide in caves for long periods, and this will take time.”—**Rumsfeld, DOD briefing, 11-19-01.**

“The idea of their getting out of the country and going off to make their mischief somewhere else is not a happy prospect. So my hope is that they will either be killed or taken prisoner.”—**Rumsfeld, DOD briefing, 11-19-01.**

“Our hope is that the dual incentive of helping to free that country from a very repressive regime and to get the foreigners in the al Qaeda out of there, coupled with substantial monetary rewards, will incentivize ... a large number of people to begin crawling through those tunnels and caves, looking for the bad folks.”—**Rumsfeld, DOD briefing, 11-19-01.**

“I need to have that extraordinary option [military tribunals] at my fingertips. I ought to be able to have that option available should we ever bring one of these al Qaeda members in alive. It’s our national interests, it’s our national security interests [that] we have a military tribunal available. It is in the interests of the safety of potential jurors that we have a military tribunal.”—**Bush, press remarks after a Cabinet meeting, 11-19-01.**

“These are extraordinary times. I would remind those who don’t understand the decision I made that Franklin Roosevelt made the same decision in World War II. Those were extraordinary times, as well.”—**Bush, remarks after Cabinet meeting, 11-19-01.**

“Nobody wants him alive. The United States doesn’t want him captured alive, his own people don’t want him captured alive, and bin Laden himself decided long ago that he wouldn’t be captured alive. He’s a smart enough man to know that he has no options.”—**An unnamed US official, NYT, 11-20-01.**

“Iraq will be much, much easier [to defeat in battle] than a lot of people think.”—**Perle, LAT, 11-20-01.**

“If you’re looking for long-term, sustained ‘boots on the ground,’ that’s not in the cards.”—**Unnamed Defense Department official, NYT, 11-21-01.**

“Saddam’s possession of WMD justifies an attack [on Iraq].”—**Perle, Aerospace Daily, 11-21-01.**

“The air war enabled the ground war to succeed.”—**Rumsfeld, address at Ft. Bragg, N.C., 11-21-01.**

“The President’s policy [on capturing bin Laden] is, ‘Dead or alive.’ And ... I have my preference.”—**Rumsfeld, Ft. Bragg, 11-21-01.**

“Afghanistan is just the beginning on the war against terror. There are other terrorists who threaten America and our friends, and there are other nations willing to sponsor them. We will not be secure as a nation until all of these threats are defeated. Across the world, and across the years, we will fight these evil ones, and we will win.”—**Bush, remarks to 101st Airborne Division at Ft. Campbell, Ky., 11-21-01.**

“The most difficult steps in this mission still lie ahead, where enemies hide in sophisticated cave complexes, located in some of the most mountainous and rugged territory. These hideouts are heavily fortified and de-

fended by fanatics who will fight to the death.”—**Bush, Ft. Campbell, 11-21-01.**

“America has a message for the nations of the world. If you harbor terrorists, you are terrorists. If you train or arm a terrorist, you are a terrorist. If you feed a terrorist or fund a terrorist, you’re a terrorist, and you will be held accountable by the United States and our friends.”—**Bush, Ft. Campbell, 11-21-01.**

“Our specialized approach to caves and tunnels is to put 500-pound bombs in the entrance.”—**Marine Corps Gen. Peter Pace, vice chairman of the Joint Chiefs of Staff, DOD briefing, 11-21-01.**

“You target Saddam Hussein and no one will boo or hiss or object. But bombings like the ones we saw against Iraq in 1998, or like the ones we’ve seen now in Afghanistan, with so-called collateral bombings, when bombs hit innocent people, will have strong resonance and very bad implications for relations with the West.”—**Prince Turki, NYT, 11-22-01.**

“Remember, 10 years ago people in Saudi Arabia [were] naming their sons for [George H.W.] Bush, the President. And 90 percent of the people supported the American presence. What change happened from then to now? It is because of what they see daily on their screens about the attacks of the Israelis, and they associate this with the participation of the United States, and probably what they see as bias in favor of Israel, and this has caused the erosion of public opinion in Saudi Arabia toward the United States.”—**Prince Saud al Faisal, Saudi Arabia’s foreign minister, NYT, 11-23-01.**

“Iraq ended its biological program in 1991 in compliance with the convention that it joined in the same year. The United States has unleashed in the past few years a new program for secret researches for biological weapons and not Iraq.”—**Iraqi Foreign Ministry spokesman, WT, 11-23-01.**

“My view on the military tribunals will be formed by how they’re used. If they’re done carefully and with deliberation—and I really expect they will be—I don’t have a problem with it. As far as ethnic profiling, it’s very troubling. It pains me to say this, but some of it may have to be done. We just have to recognize that we cannot bend over backwards in our innate American fairness to overlook that there are some people trying to hurt us.”—**Warren Rudman, chairman of the President’s foreign intelligence advisory board, NYT, 11-25-01.**

“When we’re talking about largely setting aside our criminal justice system for something like this, we end up looking to the people we’ve asked to be our allies more and more like some of the things that we are fighting against. I don’t think we should be doing that. ... I think the attorney general owes the country—certainly owes the Congress—an explanation.”—**Leahy, “Meet the Press,” 11-25-01.**

“Seventeen million [shipborne] containers come to this country every year. We’re inspecting somewhat less than two percent of those. That includes the container that shows up in the Port of Los Angeles–Long Beach and is trucked across the country to New Jersey, where for the first time the box is opened. So the potential for mischief

along the way is enormous.”—**Adm. James M. Loy, Coast Guard Commandant, WP, 11-26-01.**

“We love death. The US loves life. That is the big difference between us.”—**bin Laden, interview with Dawn newspaper, as quoted in Newsweek, 11-26-01.**

“It is naively optimistic not to take him [bin Laden] at face value [when he threatens to use nuclear weapons]. I think he’s going out in a blaze of nuclear glory.”—**Peter Bergen, author of Holy War, Inc., about bin Laden, Newsweek, 11-26-01.**

“They [Bush Administration officials] are literally dismantling justice and the justice system as we know it.”—**Rep. Maxine Waters (D-Calif.), USAT, 11-26-01.**

“These procedures belong in a Soviet state or a dictatorship, not in a free society.”—**Rep. Jerrold Nadler (D-N.Y.), USAT, 11-26-01.**

“Terrorism is a weapon of the weak but mostly used by the strong. ... The crimes of Sept. 11 are [a] historic turning point, but not because of their scale, rather because of the choice of targets. ... The number of victims of US savagery are huge right up to the present moment. For the first time, almost in two centuries, the guns have been pointed in the opposite direction. And it is a historic change. ... The coalition forces are making plans to further destroy the hunger-stricken country [of Afghanistan]. The consequences of their crimes will never be known and they are quite confident about that. And that is the enormous outcome of the crime of the powerful.”—**MIT Professor Noam Chomsky, address in Islamabad, Pakistan, Dawn, 11-26-01.**

“From everything I’ve read about him [Taliban leader Omar], he’s a rather determined, dead-ender type. ... He just doesn’t feel to me like the surrendering type.”—**Rumsfeld, DOD briefing, 11-26-01.**

“If you have people who are willing to have hand grenades wrapped around themselves and blow themselves up so they can kill a half-dozen other people in close proximity to them, the thought that they’ll surrender readily is not likely. ... I’m hopeful that some will surrender. I suspect some won’t, and I suspect the result of that will be that the opposition forces will kill them.”—**Rumsfeld, DOD briefing, 11-26-01.**

“As for Mr. Saddam Hussein, he needs to let inspectors back in his country, to show us that he is not developing Weapons of Mass Destruction.”—**Bush, remarks in the Rose Garden, 11-26-01.**

“Unnamed American officials, ... who express doubts about Pakistan’s ability to keep control of its nuclear assets, seem unaware of what we have accomplished. In the past two years, Pakistan has implemented strong command-and-control measures to guarantee foolproof nuclear security. Safe custody is ensured by dedicated formations of specially equipped forces, which have been set up for each of the three armed services. Stringent procedures are in place to minimize risks of accidental or unauthorized launch. The United States has expressed confidence in the steps we have taken; we have never had an incident of theft or of leakage of nuclear material, equipment, or technology from military or civilian research facilities.”—**Abdul Sattar, foreign minister, Pakistan, letter to The New Yorker, 11-26-01.**

“The success of the bombers is nevertheless a surprise, even if not a wholly unpredictable one. What had been unpredictable is the resurgence of the Northern Alliance. Their ability to achieve practical superiority, against an enemy superior in numbers who had held them at bay for five years, could not have been foreseen and defies explanation. It is not due to superior weapons—there must have been a collapse of Taliban morale.”—**John Keegan, WSJ, 11-27-01.**

“Most of the foreigners were killed [in prisoner uprising near Mazar-e Sharif]. Up to 300 foreign troops were killed. It was not a big deal.”—**Abdullah Jan Tawhidi, a deputy in Northern Alliance Ministry of Security and Intelligence, WP, 11-27-01.**

“The Marines have landed and we now own a piece of Afghanistan.”—**Marine Brig. Gen. James Mattis, commander of the attack task force, WP, 11-27-01.**

“Any threat against an Arab country is rejected, and a military attack against any Arab country will lead to endless problems. America knows that, and Europe knows that. I believe it will be a fatal mistake to harm any Arab country.”—**Syrian Foreign Minister Farouk a-Sharaa, Associated Press, 11-27-01.**

“This is going to be a very difficult period. Those cities are not safe. There are people in those cities who are hiding and who are perfectly willing to tie grenades around their bodies, blow up themselves and whoever else happens to be around. There are people who have defected who may re-defect. There are people who go across borders who may come back across borders.”—**Rumsfeld, DOD briefing, 11-27-01.**

“The United States covets no one else’s land, certainly not Afghanistan.”—**Rumsfeld, DOD briefing, 11-27-01.**

“There are a lot of networks, and there’s a pretty clear list of states that support terrorism that includes Iraq and quite a few others. I think what’s happening in Afghanistan is a message to every state that supports terrorists or harbors terrorists that, if you keep it up, you’re going to have the same fate as the Taliban. I think that is a useful principle.”—**Wolfowitz, roundtable with European journalists, 11-27-01.**

“Whoever was there is going to wish they weren’t. It was clearly a leadership area.”—**Rumsfeld, after a bombing attack on a specific site, NYT, 11-28-01.**

“Anyone who thinks Iraq can accept an arrogant and unilateral will of this party or that is mistaken.”—**Statement of Iraqi government spokesman, WT, 11-28-01.**

“I gauge our success by how happy Gen. [Tommy] Franks is, and I think he’s very happy with some of the stuff we’ve been able to produce for him.”—**Air Force Chief of Staff John Jumper, WP, 11-28-01.**

“They are armed, experienced, disciplined, and suicidal. They will fight to the last drop of blood. If they had wanted to leave or give up fighting, they would have been gone by now. But they have one slogan: to keep Tora Bora or be killed.”—**Hazrat Ali, the new regional security chief in the area used by al Qaeda holdouts, WP, 11-28-01.**

“It could well be that Marines could be positioned in any

place inside the country, or Army forces could be positioned at another forward operating base at some point. We're going to continue to apply pressure. We're going to continue to refine our intelligence and what we know. As we do that, the noose tightens."—**Franks, NYT, 11-29-01.**

"This is modern war. It's not like Desert Storm. You go into it with your nose first, slowly. You get your grip. You get others to fight for you. And you use airpower as much as you can and stay as high as you can."—**Retired Gen. Wesley Clark, former Supreme Allied Commander of NATO, USAT, 11-29-01.**

"You must stand strong, my brothers. Don't vacate any areas. Stick to your positions and fight to the death."—**Taliban leader Omar in radio message, USAT, 11-29-01.**

"We are ready to face these Americans. We are happy that they have landed here, and we will teach them a lesson."—**Omar, as quoted by Taliban official Hafiz Majidullah, USAT, 11-29-01.**

"There is no other nation [besides Afghanistan] whose leaders have been active accomplices of terrorist actions. So we do not believe that it is today necessary to take military action against other sites."—**Alain Richard, defense minister of France, IHT, 11-29-01.**

"Mr. bin Laden has declared war on us. ... Are we being aggressive and hard-nosed? You bet. But let me emphasize that every step that we have taken satisfies the Constitution and federal law as it existed both before and after September 11th."—**Assistant Attorney General Michael Chertoff, statement to Senate Judiciary Committee, WP, 11-29-01.**

"We're saying, 'Welcome to America. You have come to our country; why don't you help make us safe? Why don't you share information with us? Why don't you help us protect innocent people, women and children and men? Why don't you help us value life? As you enjoy the freedoms of our country, help us protect those freedoms.'"—**Bush, US attorneys conference, 11-29-01.**

"We're an open society. But we're at war. ... We must not let foreign enemies use the forums of liberty to destroy liberty itself. Foreign terrorists and agents must never again be allowed to use our freedoms against us."—**Bush, remarks to US attorneys conference, 11-29-01.**

"Clearly, we [Navy aircraft carriers] have been America's main battery in this war and because of our strength and guts we are winning."—**Vice Adm. John Nathman in internal message to commanders, WT, 11-30-01.**

"We're entering a very dangerous aspect of this conflict. ... The noose is tightening. But the remaining task is a particularly dirty and unpleasant one."—**Rumsfeld, "Meet the Press," 12-2-01.**

"The way they finally got the dead-enders [in Mazar-e Sharif] to come out was by flooding the tunnel. ... And finally, they came up and surrendered, the last hard-core al Qaeda elements. And I guess one will do whatever it is necessary to do. If people will not surrender, then they've made their own choice."—**Rumsfeld, "Meet the Press," 12-2-01.**

"The hope is that they will surrender and save the city and save some of their lives. ... If they don't surrender, they're going to be killed."—**Rumsfeld, "Meet the Press," referring to the Taliban and al Qaeda forces in Kandahar, 12-2-01.**

"I think we are closer to Phase 2, in part because the end is in sight for Phase 1, unless there is a serious reversal. ... It would have been better, I think, to look at this as a single campaign, which is what I think the President had in mind at the outset, when he declared a war against terrorism—not against al Qaeda simply, not against the Taliban simply."—**Perle, NYT, 12-2-01.**

"The romanticization of jihad was the gift of small minds to Pakistan. Lacking any real understanding of the intricacies of a modern war, these parties presented to the raw minds of Pakistani boys a jihad that was fun. ... Now, they are holed up in the barren vastness of Kandahar, waiting for death, while those who urged them to jihad and turned them into cannon fodder have confined their own part in jihad to issuing press statements and observing black days."—**Pakistani newspaper columnist Muhammad Ali Siddiqi, LAT, 12-3-01.**

"We had an idea that some foreign troops, some American troops and British troops, were in Afghanistan. We wanted to capture some American troops—it would be a great honor for us to capture a US Army man. But when we entered the area, we never saw any foreigners. They were all Muslims. They were all Afghans. And nobody told us about the air strikes, this carpet bombing."—**Sardar Daud, a 20-year-old Pakistani who went to join the jihad in Afghanistan, LAT, 12-3-01.**

"I don't know what the [Iraq–al Qaeda] relationship is, whether it's a 90–10 joint venture or a 10–90 joint venture, and it doesn't matter. [Some al Qaeda attacks] look like a foreign intelligence service was involved, and we have a long history of contacts between Iraqi intelligence and al Qaeda. All of that, plus the (blocking) of the UN inspections, is enough."—**Former CIA director James Woolsey, USAT, 12-3-01.**

"They can no longer conceive a new operation in Afghanistan. Their capacity to be in contact and run their networks abroad has been drastically reduced because they no longer have the safety of their sanctuary. The sanctuary is totally at risk. They are not able to communicate in a way they could before 9-11. That is over."—**Unnamed US defense official, WT, 12-3-01.**

"We believe time is on our side. We want to maintain pressure and avoid any steps that would snatch defeat from the jaws of victory."—**Unnamed "senior military officer," WP, 12-4-01.**

"This is how they [Taliban and al Qaeda fighters] are thinking: They say, 'If we surrender, they will kill us.' Honestly speaking, after Kunduz and Mazar, we can understand them."—**Sardar Jelani Khan, a Pashtun negotiator, WP, 12-4-01.**

"I want to say to the foreign [al Qaeda] guests—all of us gathered here want to say—that we have a saying: Fish and guests stink after three days."—**Haji Din Mohammed, leader of Afghan elders' gathering, NYT, 12-4-01.**



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The Air Force has global reach with its bombers but needs airfields closer to the action.

The Search for Asian Bases

By Adam J. Hebert



USAF photo by SSgt. Shane Cuomo

USAF members from the 28th Air Expeditionary Wing download munitions from a B-52H at a forward location supporting Operation Enduring Freedom.

IN the Cold War, the Air Force had a simple plan to make sure it could swiftly reach the Central Europe war zone: It based hundreds of aircraft in Germany, Britain, and other allied nations. The expected front line was right next door.

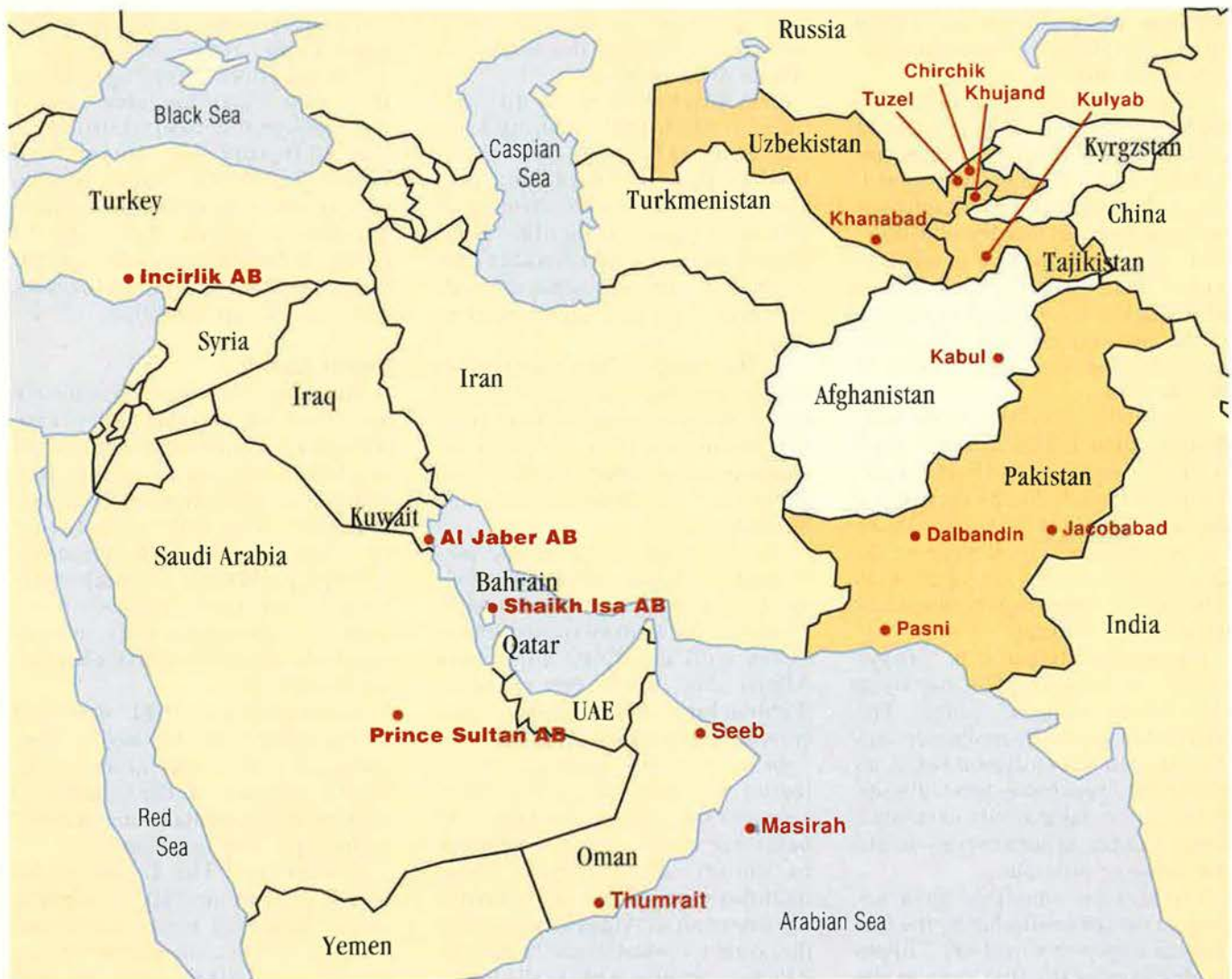
That was then—when US strategy pivoted on Europe. Today, the Air Force is under pressure to come up with a similar arrangement but in a different part of the world. Pentagon officials have ordered the Air Force to find new ways to position more aircraft, airmen, supplies, and fuel on the explosive rim of Asia.

Defense planners say the Asia-Pacific theater—an arc stretching from Egypt in the west through the Persian Gulf, the Indian subcontinent, Central Asia, and Southeast Asia to Japan in the east—will grow in strategic importance, as witness the war in Afghanistan.

DOD's recently completed 2001 Quadrennial Defense Review found a serious basing deficiency there and warned that the current concentration of military assets in Europe "is inadequate for the new strategic environment." The QDR called on USAF to find new footholds in Southwest and Southeast Asia, where the distances are great and the dangers numerous.

The QDR directs the Secretary of the Air Force, James G. Roche, to "increase contingency basing in the Pacific and Indian Oceans, as well as in the Arabian Gulf." It asks Roche to "ensure sufficient en route infrastructure for refueling and logistics to support operations in the Arabian Gulf or Western Pacific areas."

The war in Afghanistan is an extreme example of the access challenges highlighted in the QDR report. When that conflict began, USAF



had no permanent presence in the nations adjacent to Afghanistan. During the early stages of the operation, the United States and its allies were restricted largely to the use of the Air Force's long-range bombers and carrier-based fighters.

In the early weeks of the war, the Navy's aircraft carriers standing by in the Arabian Sea generated 90 percent of all attack sorties flown against Afghan targets.

The BUFF and its Friends

It was the Air Force's heavy B-1B, B-2, and B-52H bombers, however, which delivered the most devastating blows. Though these heavyweights flew only about 10 percent of sorties, they delivered 80 percent of the ordnance dropped on Taliban military positions and terrorist targets, according to Defense Department figures. And reports from Taliban

At the start of the war, the US had no military presence on the territory of Afghanistan's neighbors. US air strikes came mostly from Air Force long-range bombers and Navy aircraft on carriers in the Arabian Sea.

Over the past 20 years, USAF had built up a substantial basing system around the Gulf region—most prominently in Saudi Arabia, Kuwait, Bahrain, Oman, Turkey, and the British-owned Indian Ocean atoll of Diego Garcia. But these facilities were distant from Afghanistan. B-1B and B-52H bombers on Diego Garcia flew long-range missions. Shorter-range aircraft, such as AC-130 gunships, F-15E fighters, and support aircraft, flew a limited number of missions from some of the Gulf bases, requiring numerous aerial refuelings.

To gain greater operational flexibility, Washington moved to secure access to several "contingency" support and operational bases in Pakistan to the south and Uzbekistan and Tajikistan to the north. Noted on the map here are some mentioned prominently in the press. Not all have been used. The listing on this map is not intended to be comprehensive.

Indian Ocean

Diego Garcia
2,500 miles from
Afghanistan

defectors and prisoners made plain that B-52 raids had a shattering psychological impact.

"For the time being, it looks like the bombers are doing fine," retired Gen. Richard E. Hawley, former commander of Air Combat Command, said at the height of the air campaign in late November. Hawley said, however, that the type and number of aircraft that would be needed over Afghanistan was bound to change as the mission evolved. "It really depends upon what we're trying to do," he said.

Even in the early days of the war, shorter-range USAF aircraft, such as AC-130 gunships and F-15E fighters, participated, though they flew a limited number of missions. These aircraft, launched from bases in the Gulf region, could not operate as efficiently as long-range bombers and large support aircraft.

Hawley maintained it is "always better" to have fighters deployed close to the arena of combat. The alternative would be to operate tactical aircraft out of distant bases, an activity that requires extensive aerial tanker support that would generate a lesser number of sorties than would otherwise be possible.

The problem caused by poor access was eased somewhat by the fact that US airpower wiped out Taliban air defenses in the first days of the campaign. That left heavy bombers free to traverse Afghan airspace without fighter escorts, enabled all air-

craft to operate in daylight hours, and greatly reduced the number of targets to be attacked.

Gen. John P. Jumper, the Air Force Chief of Staff, said Enduring Freedom is unlike the 1991 Gulf War or 1999's Operation Allied Force over Kosovo "where land-based [tactical] air had the predominant role." Now, Jumper said, "we have another construct, but ... the nation has the tools to deal with it. That's the important part."

In the early going, USAF units had access to several bases scattered across the area, none of them close to Afghanistan. Key facilities included bases in Turkey, Saudi Arabia, Diego Garcia, Guam, Japan, and South Korea.

Diego Garcia is secure and particularly useful for attack operations by B-1B and B-52 heavy bombers. However, the British-owned Indian Ocean atoll lies 2,500 miles from Afghanistan. While this poses no problem for bombers, tactical fighters would face prohibitive distances.

In view of this situation, Washington moved to secure Air Force access to several new "contingency" bases that would support operations by shorter-ranged aircraft. These facilities were located in Pakistan to the southeast of Afghanistan and, to the north, Uzbekistan and Tajikistan. All share borders with Afghanistan.

However, Afghanistan's neighbors could not provide the kind of facilities to which the United States has

grown accustomed in its operations against Iraq over the past decade.

For operations enforcing Iraqi no-fly zones, USAF has been able to rely on the well-developed infrastructure at Incirlik AB, Turkey, and Prince Sultan AB, Saudi Arabia, among others. Both have long, modern runways, extensive repair facilities, and plentiful fuel and water, but the same cannot be assumed for bases in former Soviet republics.

Worst Case?

To some, Afghanistan actually presented an extreme worst-case situation for Air Force airpower: It is a landlocked nation on the other side of the world from the US, surrounded by poor, undeveloped countries lacking in modern infrastructure and possessing few high-value targets. Air Force officers don't expect to encounter such serious problems every time USAF goes into action in Asia.

According to a USAF statement on the subject, the US has "a large group of friends and allies in the Pacific region with the capacity to support allied military operations," including USAF's missions.

It went on, "The United States enjoys a robust network of relationships, including treaty allies and friendly nations, on whom we can depend. [The Air Force is] continuously exploring the most effective approaches to prosecuting our global security strategy."

Others are more skeptical. There is concern that other countries may not be willing to let USAF aircraft onto their soil to engage in future military operations, meaning the Air Force needs to identify other, more permanent basing options.

Secretary Roche will turn to the warfighting Commanders in Chief for advice on changes to the service's lineup of foreign bases, according to service officials. The CINCs in the Pacific and Southwest Asia are considered the best sources of information about basing needs, an Air Force official said.

The search already is under way, and the US regional Commanders in Chief will look at the issue of what additional access is needed in their areas of responsibility.

A spokesman for Roche, Maj. Chet Curtis, explained that international negotiations will feed into a basing

USAF photo by SSGT. Sean M. Worrell



This is an aerial view of Maintenance City at Prince Sultan AB, Saudi Arabia, which is used by coalition forces for operations enforcing the southern no-fly zone over Iraq.

plan. The Air Force will work closely with Pacific Command and Central Command CINCs "to develop regional defense engagement strategies that focus on achieving those goals and objectives mentioned in the QDR," Curtis said.

These commanders know the strengths and limitations of existing basing arrangements, and officials say the more urgent the need for new bases, the more the CINCs will drive the process.

Two analyses by RAND's Project Air Force underscore the operational difficulties that must be considered.

The Missile Threat

The first, a 1999 study of air base vulnerability, found that Air Force plans to use tactical fighters heavily for attack missions will put the aircraft in danger of counterattack from enemy missiles if the fighters are based near the conflict.

Several other analyses have come to similar conclusions, resulting in a rough expert consensus that the service should now expect to keep its fighters at bases at least 400 miles distant from known missile launch areas.

Paradoxically, other experts have noted that air bases should be situated as close as possible to a war zone to maximize the daily number of sorties, increase time on station over the target, and reduce demand on aerial tankers.

The second RAND study, "Evaluat-



USAF photo by SRA Ashley Sorrells

Established USAF facilities, like Aviano Air Base in Italy, provide resources for operations over Iraq but are too far away to support action in Afghanistan. Here, SRA Michael Morden refuels an F-16 at Aviano.

ing Possible Airfield Deployment Options: Middle East Contingency," was released in mid-2001. In it, author William O'Malley argued that the Air Force should develop fighter bases 400 and 800 miles away from the mostly likely targets. Get any closer, he said, and tactical aircraft come under missile threat. Move farther away and the daily sortie rate "drops dramatically."

The report also recommended the Air Force favor large air bases and concentrate on finding basing in nations with which the United States has historically had good relations—

though RAND noted that allies can change over time, particularly in the Middle East.

According to the report, most airfields outside the Gulf region "are not optimized to support Western combat operations; US and NATO aircrews are not familiar with them; and there are no pre-positioned stocks or sustainment chains" in place to support long-term operations.

The expectation is that the Air Force will work first to improve the capabilities of a handful of existing bases, such as its now-critical facilities on Diego Garcia and Guam and, for bomber operations, RAF Fairford in Britain.

These facilities have served well in the past and are viewed as logical places for the Air Force to seek an increased presence, officials say. These existing bases can host large numbers of high-value airplanes such as bombers and intelligence, surveillance, and reconnaissance platforms like the E-3 Airborne Warning and Control System.

According to officials, Guam is a site of particular significance. For starters, Andersen Air Force Base is situated only about 1,800 miles from the Taiwan Strait. From there, long-range aircraft such as the B-2 could fly missions over Asia with far greater efficiency. B-2 pilots have demonstrated the ability to fly 44-hour, round-trip missions from Whiteman AFB, Mo., to Afghanistan and on to

USAF photo by TSgt. Scott Reed



It takes some work to build a base from scratch. SSgt. LeRoy Huyghue III waits in his dump truck for TSgt. Dale Scott to deposit a load of gravel destined for a tent city the 823rd RED HORSE Squadron is creating at a forward location.



Newly arrived USAF members walk through an entry control point at Prince Sultan AB, which, like other well-developed facilities in the Middle East, is too far from Afghanistan for shorter-range aircraft such as fighters.

Diego Garcia, but Guam would make for much shorter flights.

Vietnam Memories

One Air Staff officer called the base at Andersen “absolutely enormous,” with long runways and enough ramp space to accommodate hundreds of aircraft. Another source said the base handled a complement of more than 150 B-52 bombers during the Vietnam War and, with minor improvements, could now accommodate hundreds of fighters, bombers, and support aircraft.

Guam, Diego Garcia, and Fairford are expected to remain outside the range of missiles fired by any nation other than Russia or China, adding a measure of force protection.

Still, these bases are not considered sufficient, in and of themselves, for future USAF needs. Air Force officials say it is likely Washington also will secure access to new operating locations in other nations, though they concede this will be a long and politically difficult task.

“Contingency basing is a function of regional strategic planning,” Curtis observed. “The Air Force is supporting regional efforts to develop such a strategy in consonance with QDR goals and objectives.”

Curtis added that it is too soon to know when new bases will be identified or established.

One solution would be to spread aircraft to other US territories such as the Northern Mariana Islands,

Wake Island, and Midway Islands, as well as in the state of Alaska.

Increasing the US presence at these locations would reduce the concentration of aircraft at any single location, while still enabling the Pentagon to undertake operations from facilities much closer to Asia.

“It would sure make sense to take advantage” of the substantial US investment already put into these locations, one officer said.

Apart from the Air Force’s existing bases and possible expansion locations within US territories and states, there are few other nations of interest.

One USAF officer pointed to Australia as a possible future deployment site. From bases located in the northern part of that nation, the Air Force could operate not only long-range aircraft but also unarmed aerial vehicles such as Global Hawk. Falling within range of such aircraft would be the Taiwan Strait and Korean peninsula. “We have exercises over there all the time,” a planning official noted.

RAND identified a sizeable group of existing air bases around the Middle East that the Air Force may want to consider as future contingency bases, but many analysts are wary of these sites, some of which are in Saudi Arabia. They warn that they fall into a

gray area—uncomfortably close to likely scenes of conflict and worryingly vulnerable to political disruption.

High Politics

The importance of political factors in picking new bases cannot be overstated, several experts said. Even long-standing US allies can and frequently do disagree with Washington on the question of what constitutes full access.

One official argues that “it doesn’t make any sense” to build up an international basing presence if host governments can tell the United States not to use the base for combat operations. This is not a concern with Great Britain, for example, but it is a major irritant in relations with Saudi Arabia, which routinely forbids the US to launch combat operations from its soil.

Others think it would be folly to base large numbers of combat aircraft in nations such as Saudi Arabia, Egypt, Pakistan, and others in the Middle East that are busy trying to fend off Muslim extremists bent on overthrowing regimes.

Israel seems all but out of the question. Putting bases in the Jewish state, most analysts assert, would create a serious political backlash within Arab nations, including US allies Saudi Arabia and Egypt, and thus damage US interests throughout the Middle East. Since the Sept. 11 attacks, the US has found strong regional political support for the war on terrorism, but backing of this nature cannot be assumed in all cases.

USAF officials say Asian and Pacific nations have literally hundreds of bases that could support air operations, but Washington must first engage the nations in long-term diplomatic dialogue, which seems a certainty at this point.

All in all, a redistribution of worldwide bases over the next decade appears highly likely as the Pentagon seeks to shift from its long-standing “Eurocentric” view, established during the Cold War, to a new alignment that places greater emphasis on access on the Asian continent. Afghanistan was only the first stage of this campaign. ■

Adam J. Hebert is senior correspondent for *InsideDefense.com*, an Internet defense information site, and contributing editor for *Inside the Air Force*, a Washington, D.C.-based defense newsletter. His most recent article for *Air Force Magazine*, “Homeland Defense,” appeared in the November 2001 issue.

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Air Mobility Command has been the glue holding the Afghanistan operation together.

Tankers and Lifters for a Distant War



ON Sept. 11, the day of the terrorist attacks, Air Mobility Command's active duty fleet of more than 378 long-range airlifters and tankers included 94 aircraft sitting on ramps awaiting repairs. USAF maintenance crews jumped to the task and, within two days, rushed 55 of them back into service. Already, they were sorely needed.

For most of the world, the war began Oct. 7, the day the first bombs fell on Afghanistan. However, logisticians, airlifter and tanker crews, loadmasters, civil engineers, and thousands of other personnel supporting Operation Enduring Freedom went into action weeks before the headlines announced war.

They deployed in greater numbers than special operations forces, which got more public attention. They bedded down in inhospitable conditions on bases US troops had never visited. Some mobility units rotated from one rugged site to another, and did so enthusiastically.

"They live to do one of these bare-based operations," reported Air Force Maj. Gen. Michael W. Wooley, the commander of AMC's Tanker Airlift Control Center, Scott AFB, Ill. "Guys are fighting over [the chance of] being in the forward [units]."

In the early weeks, at least, the

war was a much bigger challenge for support units that form the military "tail" than it was for the combat units that constitute the "tooth." Through the first month of the war, US combat aircraft flew about one-sixth as many strike sorties per day as they did in Operation Allied Force, the 1999 air war over Kosovo. But because of Afghanistan's remote location—at least 400 miles from aircraft carriers in the Arabian Sea and much farther from land bases used by Air Force air crews—the need for tanker and airlift support units came out about the same.

A Major Theater War

The early Afghan air campaign rarely delivered 100 strike sorties in a day. However, the effort tied up roughly 70 percent of the Air Force's active duty tanker fleet.

"We called Kosovo an MTW [Major Theater War] for tankers," said Gen. Charles T. Robertson Jr., the then-AMC commander who also served as commander in chief of US Transportation Command. "This is probably of that magnitude."

In the immediate aftermath of Sept. 11, military commanders sensed that logistic support for the military response would take a major war's worth of effort.

Secretary of Defense Donald Rums-

By Richard J. Newman



USAF photo by SSSgt. Pamela J. Farlin

Here, a KC-135 tanker gets a tow into place at Moron AB, Spain. At left, C-17 airlifters sit on a ramp at a forward location, awaiting their next missions in Operation Enduring Freedom.

feld and Army Gen. Henry H. Shelton, then the Chairman of the Joint Chiefs of Staff, inquired of Robertson whether the Pentagon should activate the Civil Reserve Air Fleet, or CRAF. Such a move would have allowed DOD to call up designated commercial jetliners to help ferry troops and cargo to the theater of operations, a step considered necessary in a major war to augment the military airlift fleet.

Air travel was largely shut down at the time, and the airlines were more than willing, but the mobility forces were able to meet US needs by hiring all the airliners it needed, without invoking CRAF.

Within days of the Sept. 11 attacks, the Air Force started laying down an "air bridge" for an operation whose nature had yet to come into focus. With no warning prior to Sept. 11 and with the possibility of US military retaliation imminent, the goal was to build up the capability for operations near Afghanistan as rapidly as possible. Commanders did not anticipate having the luxury of a six-month buildup period like that before the Persian Gulf War in 1991 or even the shorter buildup prior to the Kosovo war.

"The difference between this war and the Gulf War is the speed of the response required," said Robertson, who retired in November.

AMC and TRANSCOM officials organized several Tanker Airlift Control Elements, or TALCEs, that

included command-and-control experts, civil engineers, cargo handlers, and other specialists. They began packing up industrial equipment such as the K loaders used to rapidly load huge cargo jets.

From the United States, C-5 airlifters and advanced, newly procured C-17 transports began heading both east and west, to maximize throughput. TALCEs gathered first at intermediate staging areas such as bases in Germany, Guam, and South Korea. In some instances, teams were prepared to fly to facilities in the region before host countries had given permission to use their bases or their airspace. "We were ahead of the diplomatic process," said Robertson.

Eventually, the US military dispatched between 20 and 25 TALCEs to bases in Central Asia, the Gulf region, Uzbekistan, and Pakistan, plus other undisclosed locations. The typical team included about 45 airmen but some exceeded 100. At some bases—for example, some in the Gulf region—the TALCEs fell in on well-established infrastructure and faced the relatively simple challenge of setting up fueling stations for tankers and airlifters, cargo-handling operations, and command-and-control cells.

"Abysmal" Sites

At other sites, however, the TALCEs encountered primitive conditions. "A couple of locations are absolutely

abysmal," noted Robertson. "We're operating in places that don't have facilities that meet Western standards."

Robertson wouldn't identify particular bases, but other military men made special mention of an airfield in Uzbekistan at which the US based search and rescue crews and perhaps special operations forces. It had poor sanitation and no potable water at the outset. And US troops reportedly found similar conditions at two Pakistan bases from which they operated.

As the TALCEs began setting up operations at various airfields, C-5s and C-17s began flying in the equipment needed to house troops, maintain aircraft, and sustain military operations. While most public attention focused on the possible deployments of combat aircrews, ground troops, and special operations forces to the theater, the airlift community was heavily engaged. Three weeks into the war, nearly the entire active duty C-5 and C-17 fleets—some 140 aircraft total—had been dedicated to supplying the war effort.

Air mobility planners reorganized many regular missions, such as supply flights to US embassies, to use the cargo aircraft more efficiently. C-5s were dedicated solely to the war effort because of their huge capacity and C-17s because of their ability to land on unimproved runways. Smaller C-130s and C-141s, and commercial aircraft, took over many of the regular missions of the two cargo workhorses.

TRANSCOM also contracted for more than 100 commercial flights during the first month of the war. During the 1999 Kosovo war, by contrast, mobility officials called upon commercial carriers for just 66 flights during the entire 78-day conflict.

The sudden strain on the airlift system produced problems that mobility officials have learned to expect. The C-5, for instance, represents half of the nation's airlift capability and carries half of the military's oversize cargo, but it is also one of the oldest airframes in the military, dating to 1970. And it clogged the system with breakdowns at several points.

Since the C-5's reliability record has grown increasingly spotty, mobility planners anticipated problems and organized its flights accordingly.

USAF photo by SSGT. Ken Bergmann



An Air Force C-5 is unloaded at NAS Sigonella, Italy. Airlift and tanker support for Enduring Freedom began before Oct. 7, as mobility forces established an air bridge for troops and supplies and set up bare bases.

"We were very cautious where we flew the C-5s," said Robertson.

They only flew to larger bases with plenty of room to move aside in event of a breakdown. As another precautionary measure, the giant aircraft's engines were rarely shut down except for scheduled oil changes; once one landed at a base, it would sit on the ramp just long enough to unload and then take off again.

Smaller or more rugged airfields, where there was little room or infrastructure for servicing of aircraft, were frequented primarily by the much newer and far more reliable C-17.

Out of Luck

For about a week, the gentle handling of the C-5 paid off. Then the



USAF photo by TSgt. Efrain Gonzalez

USAF photo by TSgt. Scott Reed



"Fighting over [the chance of] being in the forward [units]." At top, 821st TALCE members from McGuire AFB, N.J., unload equipment from a C-17 at a forward location. Here, members of the 615th TALCE from Travis AFB, Calif., off-load pallets from another C-17 at a forward location.

luck ran out. In a four-day period in late September, 20 percent of the C-5s supporting the build up for Enduring Freedom broke down. At one location—TRANSCOM won't identify specific bases—planners had estimated they needed room for up to eight C-5s on the ground at any one time. During the worst of the breakdowns, there were 22 C-5s on the ground, most down for repairs. The problems forced mobility officials to devote precious cargo space to engines and other replacement parts for the C-5.

"The C-5 is a challenge," said Brig. Gen. Peter J. Hennessey, AMC's director of logistics. "It can do things

no other airplane can do, but reliability is still a problem."

Such a problem, in fact, that the Pentagon's Quadrennial Defense Review, released Sept. 30, highlighted a shortfall of strategic airlift as a particular weakness. The QDR singled out the C-5 for its low mission capable rates.

The new requirement for strategic airlift is to be able to deliver 54.5 Million Ton Miles of cargo per Day, but DOD can only transport about 45 MTM/D at present. The C-5's poor reliability is one of the primary limitations; planners routinely program two aircraft per mission in case one poops out.

A mere shortage of aircraft hurts, too. The C-17's high reliability makes it extremely valuable, but plans call for USAF to replace 256 retiring C-141s with just 134 C-17s—a net loss of airlift flexibility, according to military officials.

Overall, the Air Force tanker and airlift fleets performed better than in the past. According to Hennessey, mission capable rates for the fleet were higher than averages in the prior year, even though they were flying about 100 more missions each day.

Still, shortfalls highlighted problems that logisticians have been pointing out for years.

"We need more strategic lift and a healthier strategic airlift force," said Robertson.

A program to replace the engines on C-5s should help, but that won't begin until 2007. USAF gets about one additional C-17 per month. Many would like to see the Pentagon embrace a far more aggressive procurement program.

As TALCEs began to establish operational conditions at more than a dozen bases this fall, the airplanes that would provide direct support to the front-line combat jets began arriving. Of these, the most critical were the KC-10 and KC-135 tankers.

In virtually every air campaign, the tankers' ability to refuel warplanes almost indefinitely provides the range needed to reach faraway targets, to loiter while searching for targets, and to fly over the combat zone with a safe supply of fuel. Those needs were magnified during the



Critical companions to USAF strike aircraft, such as this B-1B, are the refuelers, like the KC-10 tanker behind it. These aircraft, part of the 28th Air Expeditionary Wing, are taking off for a mission over Afghanistan in November.

early weeks of Enduring Freedom because of the lack of bases close to Afghanistan.

Around the World

US military officials provided few details regarding the number of tanker aircraft involved or their locations, but tankers clearly kept the war on pace from locations all over the world. B-2 bombers flying from Whiteman AFB, Mo., for instance, refueled six times en route to Afghanistan. Such an operation presumably brought in tankers flying from the East Coast of the United States, Europe, and possibly Turkey and other countries.

The biggest concentration of tankers was in several orbits over southwestern Pakistan, just outside Afghan airspace. KC-10s and KC-135s flying from bases in Diego Garcia, in the Indian Ocean, and from Oman, Bahrain, and elsewhere in the Persian Gulf, kept the warplanes tanked up. B-52s and B-1s swooping in from Diego Garcia topped off their tanks before heading into “the box” over Afghanistan to drop their bombs. The massive warplanes have plenty of range for the mission, on paper—but air commanders typically prefer to send jets into a combat zone with full fuel tanks, in case hostile fire or an accident causes a loss of fuel or the need to fly for an extended period.

Fighters flying from two aircraft carriers in the Arabian Sea—which

accounted for the bulk of the strike aircraft used in the first month of the operation—relied partly on carrier-based refuelers. But those have a fraction of the capacity of KC-10s and KC-135s, which provided most of the fuel for strike packages. And F-15Es and F-16s that began flying strike missions from Kuwait had to refuel at least twice before they got to Afghanistan.

Combat jets weren’t the only airplanes flying into the box. On the same day that B-52s started dropping bombs, C-17s flying out of Ramstein AB, Germany, began dropping a different kind of payload—food.

Beginning on Day 1, the Air Force began running two to four food-drop flights per day. Each C-17 unloaded about 17,000 humanitarian daily rations over northern Afghanistan. The meal packets, packaged much like a US meal-ready-to-eat, burst out of large cartons shortly after leaving the airplane, fluttering down to the ground to be either stockpiled by hungry Afghans—or gathered up by Taliban soldiers and stored as a military foodstuff.

There was no mistaking the fact that the deliveries were being made in a combat zone. Military commanders, who have been increasingly concerned about threats to cargo airplanes,

directed the C-17s to fly at altitudes of 25,000 feet or higher. That allowed the jets to fly above the range at which most shoulder-fired surface-to-air missiles could reach. The Taliban has some American-made Stinger anti-aircraft missiles left over from the 1980s, for example. The Pentagon isn’t certain how many—or whether they even work—but the threat was considered serious enough to force the airplanes to fly at altitudes where crews risked getting altitude sickness once the cargo door was opened and the fuselage was depressurized. One Pentagon priority is to improve the defensive capabilities of airlifters such as the C-17 by equipping them with flares, chaff, and other countermeasures.

The lopsided reliance upon the “tail” in Enduring Freedom highlighted long-standing concerns about what would happen if war broke out elsewhere, and the United States found itself fighting in two conflicts or more.

There was little slack in the airlift and tanker fleets. Officials knew that if another war erupted, many of the TALCEs and aircrews would have to swing from the first conflict to the second. And with most active duty units deployed for Afghanistan, the Pentagon would have rapidly summoned Air National Guard and Air Force Reserve Command units to fill gaps.

That is how the system is supposed to function during a national emergency. However, many planners believe the support crunch will only get worse. The QDR, for instance, focused on the declining likelihood of conflict in Europe—long the home of the majority of US troops overseas—and on the greater chance that future hot spots will be in Asia, where the distances that need to be covered to get to the theater are far greater.

Key airlift and tanker shortfalls remain unresolved. That could make for some uncomfortable decisions in the future.

“If there was another war,” warned Robertson, “there might come a point where I call the CINC and the Chairman and say, ‘I’m maxed out—what’s your priority?’ ” ■

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Books

Compiled by Chequita Wood, Editorial Associate

Battle Over Bavaria: The B-26 Marauder versus the German Jets—April 1945. Robert Forsyth with Jerry Scutts. AIRtime Publishing, Inc., Norwalk, CT. 200 pages. \$35.95.



Hit to Kill: The New Battle Over Shielding America From Missile Attack. Bradley Graham. PublicAffairs, New York. 430 pages. \$27.50.



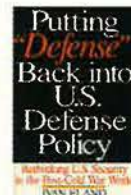
Postcards From World War II: Sights & Sentiments From the Second World War. Robynn Clairday and Matt Clairday. Square One Publishers, Garden City Park, NY. 183 pages. \$14.95.



Born to Fly: The Untold Story of the Downed American Reconnaissance Plane. Shane Osborn with Malcolm McConnell. Broadway Books, New York. 262 pages. \$22.95.



Kiwi Spitfire Ace: A Gripping World War II Story of Action, Captivity and Freedom. Jack Rae. Seven Hills Book Distributors, Cincinnati. 183 pages. \$29.95.



Putting "Defense" Back into US Defense Policy: Rethinking US Security in the Post-Cold War World. Ivan Eland. Praeger Publishers, Westport, CT. 242 pages. \$40.00.

Digital Diplomacy: US Foreign Policy in the Information Age. Wilson Dizard Jr. Praeger Publishers, Westport, CT. 215 pages. \$24.95.



Lockheed Secret Projects: Inside the Skunk Works. Dennis R. Jenkins. Motorbooks International Publishing Co., St. Paul, MN. 127 pages. \$19.95.



Russian Strategic Nuclear Forces. Pavel Podvig, ed. The MIT Press, Cambridge, MA. 692 pages. \$45.00.



Exploring the Unknown: Selected Documents in the History of the US Civil Space Program, Vol. V: Exploring the Cosmos. John M. Logsdon, ed. Supt. of Documents, Pittsburgh. 796 pages. \$70.00.



MiG-29 Flight Manual. Alan R. Wise. Schiffer Publishing, Ltd. Atglen, PA. 156 pages. \$24.95.



Sharing Success—Owning Failure: Preparing to Command in the Twenty-First Century Air Force. Col. David L. Goldfein, USAF. Air University Press, Maxwell AFB, AL. 114 pages. \$8.50.

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The nation's security needs put new pressures on the Air Force's on-call forces.

USAF photo by SSgt. Gregory L. Davis



The Guard and Reserve Step Up



Two F-16As from the North Dakota ANG fly Combat Air Patrol over Washington, D.C., and the Pentagon in November.

By James Kitfield

At the height of the Cold War, when the threat from the Soviet Union's long-range bombers posed a major strategic threat, Aerospace Defense Command maintained 1,500 interceptor aircraft at more than 100 air defense "alert sites" around the nation. Fighters stood cocked and ready, 24 hours a day, to scramble and repel an attack.

The air defense mission faded, though, and Aerospace Defense Command was inactivated in 1980.

By Sept. 11, that defensive line had dwindled to seven Air National Guard alert sites. The minutes before the terrorists flew the hijacked airliners into the World Trade Center and Pentagon saw North American Aerospace Defense Command frantically scramble Air National Guard interceptors, but to no avail. The closest alert sites were in Massachusetts and southern Virginia, far from the action in New York and Washington, D.C. These ANG aircraft could not reach the hijackers in time to stop them.

Much has changed since then. Homeland defense and the role played by the National Guard and Reserve have become subjects of utmost military gravity and emphasis. Few doubt that major additional duties are in store for the nation's on-call troops. DOD officials and analysts say Sept. 11 marks another milestone in the revolution that was already shifting much of the burden of US defense onto the shoulders of citizen airmen and soldiers.

In many ways, it's a new world for the nation's reserve components.

"The 11th of September ... has caused every aircrew member and every person in uniform to think about the challenges that we never, never thought we'd ever face," said Maj. Gen. Paul A. Weaver Jr., the recently retired officer who was ANG director on the day of the attacks. "Americans do not shoot down airliners with innocent women, children, and men onboard, and this was new to us. ... We never thought we would even be there. ... Our thinking was always looking inward out, looking at the [Soviet] Bear [bombers] coming down the northeast corridor or drug runners coming in from the

Gulf. Never did we think that the threat would be from within."

Natural Fit

For many reasons, the Guard and Reserve of all armed services fit naturally into the homeland defense mission. Even before Sept. 11, a Reserve Component Employment 2005 study, conducted under the auspices of the Office of the Secretary of Defense, the Joint Staff, and the Office of Reserve Affairs, made that point explicitly, suggesting reserve forces as the military units of first resort in terms of homeland defense.

As state militia, National Guard forces already work closely with governors in preparing for civil emergencies, and Guard leaders are firmly rooted in state political systems. While under state authority, Guard forces are also not restrained (as are active duty forces) by the posse comitatus law forbidding the military from performing domestic law enforcement functions. Reserve forces are also scattered in communities throughout the United States, making them readily accessible for emergency response operations.

Since 1998, the National Guard has been standing up specialized military teams to respond to catastrophic terrorist attacks. The Pentagon announced in November that there will be 32 of these units—called Weapons of Mass Destruction—Civil Support Teams—to respond to domestic terrorist attacks that involve such weapons. They will be stationed in 31 states, with California getting two teams.

Weaver maintains that, as policymakers and lawmakers in Washington think through the implications of tasking the military for homeland defense, the inherent advantages of the National Guard and Reserve will become even more evident.

As future discussions on homeland defense unfold, state governors and the National Guard will take a leading role, said Weaver. Just from what's been done since Sept. 11, he stated, from providing airport security to flying air defense over an expanded area of the United States, the National Guard will become a very big part of the future homeland defense force.

Indeed, the heavy reliance on the

Where They Are Located

The Pentagon plans to station the 32 National Guard Weapons of Mass Destruction–Civil Support Teams authorized by Congress in 31 states. The teams will be federally funded and trained but come under state control.

The locations, according to DOD officials, were chosen based on coverage of a major metropolitan area, minimal overlap with other teams, and availability of existing facilities and support. They will be located in:

Alabama	Hawaii	Massachusetts	Pennsylvania
Alaska	Idaho	Michigan	South Carolina
Arizona	Illinois	Minnesota	Tennessee
Arkansas	Iowa	Missouri	Texas
California (2)	Kansas	New Mexico	Virginia
Colorado	Kentucky	New York	Washington
Florida	Louisiana	Ohio	West Virginia
Georgia	Maine	Oklahoma	

Guard and Reserve in response to the Sept. 11 attack suggests a pivotal role for the nation's reserve forces both in homeland defense and the overseas war on terrorism. Just three days after the attacks in New York and Washington, for instance, President Bush authorized the Pentagon to mobilize up to 50,000 reserve members from the Air Force, Army, Navy, Marine Corps, and Coast Guard. It soon became clear that the military would exceed that number and need even more.

The partial mobilization order signed by Bush also authorizes the call-up of as many as one million reservists for up to two years, if necessary. Such a partial mobilization offers service leaders greater flexibility to call up retirees as needed for various missions.

Message Delivered

Guard and Reserve officials say the rapid reservist call-up in the immediate wake of the September attacks also sent a strong message of US intent and purpose.

"When [the President calls] the National Guard up, [he's] calling America up," said Weaver. "We're key parts of the community, whether we are firemen or policemen or bankers or lawyers or commercial airline pilots." And he noted that because the Guard is there in the communities, when it's called up it sends a "magic" message to the nation and all of its citizens, because they associate themselves directly with Guardsmen.

With nearly 30,000 Air National Guard and Air Force Reserve Command members called up by late November, USAF was setting the pace among the armed forces. More

than 16,000 Army National Guard and Army Reserve soldiers had also been called up.

Given numerous terrorist alerts at home and new requests for additional security at federal installations pouring in daily, Pentagon officials confirmed that they had already exceeded the original call-up of 50,000 reservists. Most of the Guardsmen and many Reservists have reported for duty on the home front.

Already, uniformed Guardsmen and Reservists have become a highly visible presence on America's post-Sept. 11 landscape. NORAD, for instance, has rapidly increased the number of "strip alert" bases within the US, expanding the network from seven to 26 sites. The Air National Guard has provided virtually all of the F-15 and F-16 fighters flying Combat Air Pa-

trol over major US urban areas as part of Operation Noble Eagle.

More than 6,000 National Guardsmen have also deployed to some 420 airports around the nation to provide extra security and calm the fears of the traveling public.

Bush Administration officials announced Sept. 27 that the federal government would cover the estimated six-month cost of \$150 million for posting the National Guard troops at airport security checkpoints. More recently, federal officials broadened the duties of Guard troops deployed at airports to include patrolling airport perimeters and parking areas.

For their part, Reserve forces have replaced many active duty troops at Stateside bases, performing in security roles, as firemen, air traffic controllers, logisticians, and in other jobs. They have also augmented the Dover AFB, Del., mortuary crews. AFRC port mortuary specialists were among the first volunteers after the September attacks.

AFRC tanker aircrews and maintainers are also supporting the Operation Noble Eagle CAPs with air refueling. Other Reservists have been participating in Operation Enduring Freedom, some as early volunteers who helped establish the initial mobility air bridge to move personnel and equipment overseas.

Defending Infrastructure

National Guard forces have also taken the lead in securing other criti-



Flexibility is key to employing Guardsmen and Reservists. SSgt. Chris Bates from Charleston AFB, S.C., monitors refueling on an AFRC C-141 deployed to NAS Sigonella, Italy, for Enduring Freedom.

USAF photo by SSgt. Ken Bergmann

cal infrastructure. For example, National Guardsmen in Massachusetts took command of providing perimeter security at the Pilgrim nuclear power plant in Plymouth. Guardsmen in Washington, D.C., have recently augmented the overworked Capitol Hill police force, to help protect the United States Capitol and House and Senate office buildings.

In Washington state's Puget Sound, some of the nearly 3,000 Coast Guard Reservists called to active duty routinely patrol the area's harbors and waterways, guarding against the terrorist threat. In California, Gov. Gray Davis dispatched Guardsmen to patrol four of the state's big suspension bridges—structures that he thought were in peril of terrorist attack.

National Guard and Reserve forces assigned to homeland defense missions will work directly at times with active units, according to Gen. William F. Kernan, commander in chief of US Joint Forces Command. That command has responsibility for most US-based military forces. It was recently given defense of the nation's territory and coasts as an additional mission.

Officials at the federal level and the governors of the states are looking very closely at critical infrastructure with an eye to identifying what security enhancements might be needed, said Kernan.

Rumsfeld recently designated Joint Forces Command as the command responsible for supplying military assistance to homeland defense missions. Kernan has established a 90-man Homeland Defense Directorate to coordinate operations.

Kernan said that national critical infrastructure includes transportation hubs—airports, seaports, rail terminals, etc.—that are located in states. For those transportation nodes that are critical to the nation and beyond the power of a governor to protect, "we would make an assessment as to how best to protect them" whether with additional National Guard troops or with other assets.

In that sense, he said, after the 11 million first responders in the nation's police and fire departments and rescue services, the next line of defense is the National Guard. "Those are the people who routinely work with the state [and who] have developed emergency preparedness plans that they are ready to execute."



USAF photo by SSgt. P. J. Farlin

The US can't go to war without the ANG and AFRC, says Weaver. Capt. Steven Rosborough with the Wisconsin ANG, pilots a KC-135 tanker from the New Hampshire ANG for an Enduring Freedom mission.

ANG officials emphasize that their forces, while they have taken the lead in many Noble Eagle homeland defense missions, are also integrally involved in Enduring Freedom in Afghanistan and Central Asia. In the total Air Force, Air National Guard and Air Force Reserve Command forces account for 64 percent of the tactical airlift, 55 percent of aerial refueling and strategic tankers, 38 percent of tactical air support, and 27 percent of strategic airlift and refueling.

Many members of AFRC's 919th Special Operations Wing based at Duke Field, Fla., were also activated in the early days of the call-up. The 919th includes the 711th Special Operations Squadron, which flies the MC-130E Combat Talon for clandestine insertion of special operations forces. The unit also includes the 5th Special Operations Squadron, which flies the MC-130P Combat Shadow, for special operations aerial refueling.

No Differentiation

"Everything the Air Force is doing, we are doing," Weaver said. "Literally, the Air Force can't go to war without the Air National Guard and the Air Force Reserve."

Whether talking airlift, tanker support, ground support, or combat operations, he emphasized, all of them are being performed by active duty units, Air Guardsmen, and Air Reservists. That's in keeping with

the Total Force philosophy, which doesn't differentiate missions as being for the active duty, Guard, or Reserve. "It is truly a Total Force mission."

Especially as the US military has evolved into a more expeditionary force over the past decade, that close integration with the active force has taken a toll in terms of operations tempo for the Guard and Reserve. Even before Sept. 11, many experts were concerned that reserve forces were being pushed to the limit by a continuous stream of peacekeeping and smaller-scale contingency operations in places such as Iraq, Somalia, Haiti, Bosnia, and Kosovo.

In recent years, for instance, reserve forces have contributed 13 million duty days annually to ongoing operations, a 13-fold increase over the 1980s level of roughly one million duty days each year.

The Air Force took a major step in adapting to those demands in late 1999 when it began organizing itself into 10 Aerospace Expeditionary Forces, following signs of serious personnel strains as a result of closely spaced deployments. Reserve forces now account for roughly 10 percent of personnel involved in each 15-month AEF cycle, serving alongside active duty counterparts in virtually all ongoing Air Force operations.

A few years back, said Weaver, the optempo of the active duty Air Force was so high that people were



ANG units have provided most of the F-15 and F-16 fighters flying Noble Eagle CAP missions over the US. A ground crewman from the Virginia ANG shepherds an F-16C as it takes off on a CAP mission.

“leaving in droves,” and there were major problems with retention and recruiting. That forced the Air Force to turn to the Air Guard and Reserve for help, and in turn that became “a forcing mechanism” for the Air Force to properly outfit the reserves with modern equipment.

The result, said Weaver, is that the Air Guard now runs about 25,000 Air Guardsmen through each 15-month-long AEF cycle, which means that, in any 30-month period, roughly half of the 108,000 men and women in the Air National Guard are involved in real-world operations. That’s a much greater percentage than the Guard initially anticipated, but “it has been a pleasure and a joy to watch all of this happening.”

By integrating themselves so closely into ongoing operations, the Guard and Reserve have been largely transformed. In the four decades of the Cold War, for instance, reserve forces encountered few call-ups. Since then, reserve forces have participated in Desert Storm in 1991, Deliberate Force in 1995, Allied Force in 1999, the decade-long no-fly zone enforcement operations over Iraq, and Operations Enduring Freedom and Noble Eagle.

Saturation Point?

Though they are proud to be involved in front-line operations, many leaders of the Guard and Reserve have become increasingly wary of reaching the saturation point in terms

of contributing to ongoing operations, with the subsequent separations for reservists from their families and civilian jobs. Efforts to shoulder a large portion of the homeland defense burden will add to those concerns.

A number of recent news reports, for instance, have documented the hardships involved in the reserve call-up for Noble Eagle and Enduring Freedom. Because so many of the initial National Guard units activated were military police, for instance, a number of local police departments complained that their ranks were being depleted at a time when their forces were stretched thin in responding to terrorist alerts.

The financial hardships of reservists called to active duty have also figured heavily in recent accounts. Many reservists take large drops in pay when activated.

Current law requires only an unpaid leave of absence for those called to active duty, though Guardsmen and Reservists must be reinstated with the same status, seniority, and retirement benefits upon their return. According to a recent survey, only seven percent of 200 companies surveyed had an existing policy of paying employees the difference between their regular and military pay.

To fully gauge the impact of increased deployments on employers, the Office of Reserve Affairs sent out its first-ever survey in 1999. The study revealed that most employers

supported the reserve service of their employees, but many complained that reserve call-ups were too long and unpredictable. Employers also complained that reservists signed on to successive deployments voluntarily and their jobs were nonetheless protected by federal law.


Guard and Reserve officials say that adding flexibility to operations is the key to maximizing the contribution of reserve forces. For instance, instead of assigning one reservist to a job, as might be done with an active duty service member, officials have found it better to have two or more reservists doing that job in rotation, keeping time away from home limited for any one individual. Air Guard and Air Force Reserve Command units have also started sharing forward deployed aircraft in some cases to help enable the reservists to deploy for shorter intervals.

ANG fighters are among the oldest in the Air Force fleet, averaging 20 years of service. Weaver, however, expresses a relatively upbeat view of wear and tear on Guard equipment. He told reporters on Nov. 5 that ANG aircraft flying round-the-clock CAP missions are in good shape and will be able to conduct such operations indefinitely. “We’ve modernized the aircraft extensively in the last four years,” he said. “Maintenance is one of our core competencies. We are flying a lot more than anticipated, but our aircraft are in great shape.”

This robust rate of equipment modernization, coupled with good retention and recruiting in recent years, has left the Air Guard prepared to absorb the extra workload of Enduring Freedom and Noble Eagle, according to Weaver. In the aftermath of Sept. 11, many reservists have reported to duty determined to lend a hand.

“Looking at where we are today, we are busier in the Air National Guard than we’ve ever been in our history, [yet] our retention has never been better,” said Weaver. In fact, he added, “the units that are busiest normally have the highest retention rates as well.” ■

James Kitfield is the defense correspondent for National Journal in Washington, D.C. His most recent article for Air Force Magazine, “The Dangerous World of 2015,” appeared in March 2001.



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In crisis and wartime, the personnel center must know where the troops are—and that's just the beginning of it.

Keeping Track of the **FORCE**

By Bruce D. Callander

ON any given day, thousands of people with Air Force connections are on the move—taking leave, traveling to and from schools, making permanent changes of station, or serving on Temporary Duty assignments. Normally, the Air Force cares little about the exact whereabouts of such people during their travels. All that matters is that they arrive at their prescribed destinations on time.

That all changed on Sept. 11. In the hours after the terrorist attacks in New York and Washington, D.C., determining the locations of such individuals became critical.

“Our first concern was to account for everybody in the Air Force,” said Col. Steven Kelley, chief of the personnel readiness division in the Directorate of Personnel Accountability at the Air Force Personnel Center. “That’s more complicated than it seems. We’re talking about active duty, Guard and Reserve, civilians, and even contract employees in some cases.

“We were looking for people who were assigned to or on TDY to the Pentagon, but we also had to find people who were assigned to agen-

cies in the [Washington, D.C.] metropolitan area, such as the National Security Agency at Ft. Meade, and might have had business that day in the Pentagon.

“Then we were concerned about folks on duty or on leave in the New York City area. We had recruiters who are assigned in the general vicinity of where the attacks took place. So we quickly found we faced multiple challenges in accounting for the force.”

Nor was this to be a short-lived crisis for personnel officials. In the days after the attacks, they made plans to gear their recently updated data system for a new round of deployments, to cope with a flood of requests for return to active duty, to make still-developing Internet systems responsive to new demands, and to deal with the new concept of homeland defense.

The Accounting

The immediate problem of accounting for the force fell to the Personnel Readiness Center at Randolph AFB, Tex. It had handled natural disasters, aircraft crashes, and terrorism at overseas installations,

but nothing in its experience had the widespread effects of the Sept. 11 attacks here at home.

“For the military members who were at the Pentagon,” said Kelley, “we didn’t have a really significant problem. As they evacuated the building, they went to designated points and checked in with their supervisors or someone assigned to do a head count. There was an accountability system already in place, so we could match them against Social Security numbers or other means of identification and against a master list and close that particular piece of the puzzle.”

With civilian employees, however, it was a different story.

“Accountability,” said Kelley, “often begins and ends in the supervisor’s desk with a personnel folder on that individual.” Kelley said they wound up designating a person in the Pentagon to be a central site for civilian accountability. “The contract employees posed more of a challenge because they work for the contractors,” he added. “We just stayed engaged with those contractors until they gave us 100 percent accountability.”

Other pockets of people were difficult to locate because not everyone in the Washington area is assigned to a military organization. For example, there are active duty officers who work in civilian clothes with the Federal Aviation Agency.

"In the case of the recruiters in New York, we just asked Recruiting Service to reach out and touch those folks and they were able to do so in short order," said Kelley.

There were also military people who were training with industry and in other education programs. Personnel turned to agencies such as the Air Force Institute of Technology and whatever points of contact would help identify folks who could have been in the New York area.

As the search wound down, new challenges loomed.

"Even before the President announced the war on terror," said Kelley, "we felt that the effort was not going to be short term. So we started developing a long-range vision of where we might be going, and we organized ourselves in that fashion. The first thing on our list in the wake of the tragedy was to prepare for accounting for forces deploying to wherever they might have to go."

Broad Spectrum

The colonel said that the PRC becomes the focal point for all personnel actions for an operation, whether it is assignments, Stop-Loss, re-enlistments, schools, or promotions. Whatever the issue is, it gets worked through the PRC.

"The accountability mission is first and foremost, especially when you're talking about disasters and crisis response," said Kelley.

Judith Grojean, chief of media relations, represents AFPC's public affairs office in the Readiness Center. She said, "I've watched this group work together, not just on the Sept. 11 instance but on the Khobar Towers bombing, on hurricanes, and on the [National] Guard crash [last year in Georgia]. In September, they worked day and night to get the accountability and to keep the families informed."

With the deployment of US forces to the war front, other elements of the personnel structure came into play. At one time, personnel officials airlifted cumbersome, van-mounted computer systems to de-

ployed units to provide basic services at remote locations. More recently, however, new technology has made the vans obsolete. Today's front-line forces are served by Personnel Support for Contingency Operations teams.

"We don't use vans any more," said SSgt. Hope Hernandez, a PERSCO expert at AFPC. "We came out with a laptop computer system that is more portable. It works with phone lines. We have a secure system that goes with it and gives it modem access."

With this mobility, the personnel function doesn't just follow the troops to war. Now, it often is one of the first elements on the scene. "A two-man PERSCO team carries a laptop in," said Kelley, "often with the first forces that land at a bare-bones base."

Once they have established some communications connectivity, these individuals can lash up to a telephone line and start passing information to proper places. It's a flexible system; workers can download data to a disk, and if they can get to a secure Internet drop, they can transfer the data via the Internet as well.

"We use a rule-of-thumb ratio of one PERSCO member per 150 airmen," said Kelley. "So the first two on the ground can handle up to about 300 airmen for accountability purposes. The next element would be flown in later. It would be a four-person team with another laptop with them and include an officer and three NCOs. So now you have six people on the site, and they can expand into what we call a mini-military personnel flight and start handling things such as promotions, schools, and other day-to-day personnel operations, at least at a low level for people on the site."

As the force grows larger, another two-person team can come in. It doesn't bring in a system but brings additional expertise. Then in a fourth element, comes a field grade officer to provide enough rank to deal with senior leadership and answer tougher questions.

Business as Almost-Usual

As the Readiness Center and PERSCO teams deal with the more immediate demands of the war, other personnel elements continue business as usual, with a few added complications.

"We're still running promotion boards that we had already programmed," said Col. Dale Vande Hey, director of personnel program management. "But because of Stop-Loss, we do separations and retirements in a different mode. And in the area of accessions, our mind-set is different with the opportunities to bring more people back on active duty."

Shortly after the Sept. 11 attacks, the Air Force ordered a 30-day stay on separations and retirements for members in all specialty codes. After the initial freeze period, the restrictions were to be eased and only those in skills considered critical to the mission were to be held longer. The Stop-Loss order allowed for the separation of members already in the process of leaving and for appeals in other cases. Vande Hey said people volunteered to stay if needed.

Not only present but former members wanted to help, and after a long drought in recruiting and retention, the Air Force moved to accommodate as many as it could. "Before Sept. 11, you had to meet particular requirements [to come back]," said Vande Hey. "Our approach now is to look at it with a broader view and be more receptive to bringing people back in if they meet the needs of the Air Force."

"The center has set up a call-in center through our operations directorate, where we are collecting the names of people who want to come back," he added. "Rather than just turning them off by saying they don't fit the specific requirements, we will take their names, look at their backgrounds, and see if we can make a fit."

Capt. John J. Thomas, AFPC's chief of public affairs, said, "We're not only looking at people coming back to active duty. If they are interested in going back to the reserves or even to civil service, we have links set up for them. We're looking at the Total Force."

Impulse Vs. Commitment

One of the center's problems has been to distinguish between people who are caught up in the feelings of the moment and those willing to commit to the long haul. Maj. Gen. Michael C. McMahan, AFPC commander, said, "I believe in the sincerity of the individuals calling in,

but it is really not just whether they want to come back into the military or not. I have received some calls personally from individuals that I know and the reaction is fairly consistent. They say, 'I want to do something. You tell me what you need me to do, and I will do it.'"

"Our challenge is to determine the currency of their knowledge and where they can make the largest contribution," said McMahan. "Are they physically fit or should we encourage them to serve their nation and the Department of Defense through civilian jobs? We also have a surge in civilian positions. Or if they are physically fit, and able to be worldwide deployable, where can we utilize them?"

He added, "As each individual comes in, ... and we encourage those who sincerely want to rejoin the military to please contact us, ... we are looking for those people who can fill the most critical needs. If someone requires technical training or special training, then we also have to make sure we have the training capacity to bring them on. That is a more complicated issue because, in trying to become very efficient, we have drawn down our training infrastructure in both tech training and pilot training. Those are challenges that are long term and if, in fact, we see that we have an increased requirement, we will have to determine our best way to get those long-term training issues taken care of."

"I think that there has been an immediate reaction and a bow-wave effect at the beginning," stressed McMahan. "But I also think that this surge in patriotism has great potential for being positive for a long time."

The events of Sept. 11 also focused new attention on the Air Force's efforts to make personnel functions more accessible to individual members. About two years ago, AFPC launched the virtual Military Personnel Flight, an electronic replica of the traditional base "people" office. The idea was to allow members access to personnel data from their home or office computers. It let them check their records and initiate some of the actions that formerly required in-person visits.

The vMPF opened shop at about the same time the center was revamping its personnel data system, how-

ever, and that initially limited the number of functions that could be carried out by members. Despite some early glitches, the new Military Personnel Data System now is up and running, and the vMPF program is expanding to include more functions, cover more people, and meet the new needs of deploying troops.

"MilPDS provides the data and the vMPF personalizes it," said CMSgt. Deborah Fuqua, chief of Knowledge Management, which oversees the vMPF. "We take the data and present it so that the individual on the flight line can look at his own records without going to the base personnel flight."

"When it first came on, vMPF was purely for active duty," noted Fuqua. "Then, in February, the Reserve and Guard added four specific programs. We keep adding applications and many of those also are specific to Reservists and Guardsmen."

Lt. Col. Nellie Riley, chief of the field activities division, said, "The vMPF will be vitally important for those troops who are deploying and going to where they can have connectivity through the net. They will be away from their home bases but still be able to get into the system and use it."

"We also are starting to look at how we could make vMPF beneficial to deployed commanders out in the field. The vMPF is a creative idea, and we continue to look at other creative ways we can use it."

More Important Now

Collecting and storing accurate information has gained new importance since the September attacks. "One thing to note is that the MilPDS upgrade of the system had no significant difficulties through all that's happened since Sept. 11," said Capt. Geoffrey Perkins, chief, MilPDS testing and requirements. "Even though we had been having problems, they haven't hampered our ability to mobilize and deploy people, to continue to pay people, and all that."

"And we keep looking at everything that might help. For example, having the members check their emergency data online at the vMPF could cut down on what they have to do in the mobility processing line when they are deployed," he said. "They could log on from home and check their mobility status, see that

their families' home addresses are correct on their emergency data cards, and things such as that."

Like Perkins, other personnel officials emphasized ways in which members themselves can help. TSgt. Steve Shortland, NCO in charge in personnel readiness operations, suggested one. "A key area that has been a point of emphasis for some time is a program called duty status," he said. "In addition to 'present for duty' we have myriad duty status codes that the member's orderly room or command support staff can update when he or she goes TDY or on leave or whatever it may be. That program needs work. What we find is that our effectiveness rate is about 65 to 70 percent."

"We have installed a number of programs to try to improve that, but the bottom line is that it's the member's responsibility to get that duty status updated when he or she is anything other than present for duty. On Sept. 11, we had folks whose duty status reflected them as present for duty when, in actuality, they were TDY or on leave. That program is getting better, and I think that Sept. 11 helped prove our point that it is important and does give us visibility to the accountability of the force."

"As we get past the initial surge," said AFPC head McMahan, "it is a good time for members to do a self-assessment and ask themselves, 'Are all my records up to speed? Are all my personal requirements taken care of, all my bills paid? Do I have my communications lines set up through my command structure and to my family?' Those are the types of things that we have gotten very good at over the past decade because we have had so many individuals deploy on contingency operations. That does not mean that we won't have challenges. But we have made great progress, we're working very hard, and I believe that we are in very good shape." ■

Bruce D. Callander, a regular contributor to Air Force Magazine, served tours of active duty during World War II and the Korean War. In 1952, he joined Air Force Times, serving as editor from 1972 to 1986. His most recent story for Air Force Magazine, "Their Mission Is To Help," appeared in the December 2001 issue.

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Air Force leaders talk about Afghanistan and beyond.

The Winning Combination of Air & Space

**Gen. John P. Jumper, USAF
Chief of Staff**

US air and space power works, big time. That was a bottom-line message from Gen. John P. Jumper, USAF Chief of Staff, at AFA's National Symposium, held Nov. 16 in Los Angeles.

In the first 40 days of Operation Enduring Freedom, said Jumper, the Air Force deployed 14,000 airmen, with thousands more carrying out support missions at home. Included among those are USAF space forces, both forward deployed and in reach-back positions. USAF aircraft flew 3,000 missions, many from the most difficult base conditions imaginable.

The Taliban hold on Afghanistan was shattered within weeks. The Air Force team showed it is even tougher and more capable today than it was during Operation Allied Force in the Balkans in 1999.

"We should all be very proud of what our warriors have accomplished," said Jumper.

By Peter Grier

Jumper also acknowledged the value of special operations spotters on the ground. "Having people on the ground to precisely locate targets has made us orders of magnitude better," he said.

The Afghan operation was a triumph of both aviation and space systems and operations. In Jumper's view, when air and space combine, "we can find, fix, track, target, engage, and assess anything of significance on the face of the Earth."

The job of service air and space warriors is to combine their skills and talents to provide top commanders the means to win decisively in conflicts of both today and tomorrow.

"This is ... the essence of transformation, to leverage the nation's technology to create the maximum asymmetrical advantage," said Jumper.

Right now, such crosscutting capability exists in bits and pieces. It is up to the Air Force to pull it together—air and space assets, manned and unmanned capabilities.

Those at the tip of the spear do not care where their information comes from, said the Chief of Staff. To the special operator who is trying to help guide a bomb to a target, it is of no consequence that the target's coordinates came from a satellite, E-8 Joint STARS aircraft, or Predator unmanned aerial vehicle. He simply wants the target destroyed—and fast.

"And he is most grateful for those of us in uniform who can think across boundaries, who can think across capabilities, who can, in a single word, integrate," said Jumper.

Integration should start with a clear concept of operations. In other words, those who equip the force should think about how they are going to fight, before they decide what to buy to fight with.

That is not the way things work now. The Air Force continues to be a service of "heavy equipment operators," said Jumper, consciously quoting Gen. Michael J. Dugan, a predecessor USAF Chief of Staff. Everyone is wedded to a particular platform or program. To an F-15 pilot, every problem looks like a MiG-21. To a bomber specialist, there is little that cannot be solved with Mk 82s.

Captains and lieutenants are supposed to be zealots about their specialty, said Jumper. Their lives can depend on it. But true integration

will require different ways of thinking at higher pay grades.

Right now, there is precisely "zero" money allocated against an Air Force budget program element that is labeled "integration."

"Integration is left as a by-product of the program, of the platform. ... What we are trying to do is create an intellectual construct that will take us away from that," said Jumper.

That construct might well be task forces that attack broad problems and come up with specific solutions. The Global Strike Task Force, for instance, is a means for trying to figure out ways around the access crunch that could constrain USAF's ability to position itself far forward in a crisis.

To be effective, such integration has to take place on a number of levels, said Jumper. One of them is the horizontal integration of manned, unmanned, and space elements—something Jumper refers to as the "sum of the wisdom."

The point is to provide the integration that enables a warfighter to put a cursor over a target. That would involve satellites, Joint STARS, and even ground radars working together to track one target up mountains, down valleys, through camouflage, and in the dark.

"Create that network in the sky that will pass the information around," said Jumper.

Tankers, for instance, are supposed to be close enough to the battlespace to provide convenient refueling, while remaining out of harm's way. Perhaps they should carry a pallet of electronics that enables them to translate one sort of Link message format to another, said Jumper. Hang electronic scanning arrays on their sides, and the tankers could suck up signals and beam them back somewhere else for processing.

Or use Global Hawk, orbiting at 70,000 feet, as a surrogate low Earth orbiting satellite.

Then infuse the whole system with the urgency and intelligence of a tactical targeting system. It should be able to take a blip from a satellite, sort through intelligence databases, task an airborne Joint STARS crew to take a closer look, reposition Predators, decide the blip is a Scud missile, get an operational "go," and then send the data into the cockpit of a patrolling B-1B bomber.

"Why don't we do that?" asked Jumper. "We could be doing that today."

It comes back to thinking about how the Air Force is going to fight before deciding what to buy. Currently, the acquisition process is overly risk averse. Program managers are afraid of making the smallest mistake. Operators are not involved.

That is going to change, said Jumper. Operators are going to have a say in acquisition. Requirements people from the different major commands will work together. Acquisition staffers are going to work in requirements offices.

"We are going to accept a failure or two, and we are going to create a system that allows us to trade requirements on the fly to take advantage of new technologies," said the Air Force Chief.

This fall Jumper attended the final game of the World Series. He said he was in uniform and a young woman who had lost her husband in the collapse of the World Trade Center came over to him.

With tears in her eyes, she asked Jumper to "get that guy" who had caused America so much pain and suffering.

"We have the power in this room to 'get that guy' and all the other guys that are out there, if we have the courage to think across stovepipes, if we have the tenacity to think about the effect rather than the medium," the Chief told AFA.

Air Force Secretary James G. Roche

It's now more urgent than ever that the Department of Defense and the Air Force take advantage of the technology of the new century, said Secretary of the Air Force James G. Roche.

Most current Air Force systems were designed and built to meet the threat of the Cold War, and that era now seems a long, long time ago.

On the space side, that means service leaders will have to drive plans, doctrine, and systems to fully incorporate the promise of space power. Air- and space-integrated 24-hour intelligence, surveillance, and reconnaissance is only one of the future capabilities the Air Force needs.

"Of particular interest to General Jumper and me is how will we re-

Jumper Calls Afghan Operation "Best Example of Joint Warfare"

In the early days of the war, much commentary focused on the relative merits of air and space power vs. land or sea forces. That is not an argument the Air Force needs to be drawn into, according to its Chief.

He pointed out that the early air campaign was "the very best example of joint warfare going on today." Navy fighter-bombers, flying off Navy carriers, were refueled from Air Force tankers, many of them flown by Air National Guard and Air Force Reserve Command crews.

Space and surveillance assets from all the services worked together to produce target information for all US aircraft.

Special Forces teams on the ground helped spot targets and avoid collateral damage. Some of those ground troops were airmen—Air Force special tactics teams.

"We should rejoice in each other's specialties among our services and not be drawn into arguments about who could have won the war all by themselves," said Jumper.

spond with the lethality and precision to pop-up targets in seconds or minutes, not hours, not days," said Roche.

Service leaders also need to accelerate efforts to develop a fulfilling career in Air Force space as part of an overall attempt to attract and retain the best people in today's technology-driven world. Such efforts should include development of career progression, educational opportunities, and other tangible measures of affirmation.

Budgets will not be unlimited. The Air Force needs to be efficient and cost-effective in all that it does, said its civilian leader, in part by looking at best business practices in acquisition programs and operations. The lesson of the evolved expendable launch vehicle, where the Air Force is partnering with two prime contractors that are pursuing alternative approaches, might be worth following.

Finally, the Air Force needs to provide more incentives to industry for innovation, said Roche.

In the end, the US Air Force needs to be master of air and space. It needs to be a seamless force for the 21st century. It needs to be able to find, fix, track, target, engage, and assess any target anywhere in the world, within seconds. It has to recognize that "strike" means creating the right effect at the right place at the right time, regardless of adversary efforts to deny access.

"We also recognize that space capabilities play an important role in

every strike scenario," said Roche. "It has to be seamless."

Gen. Lester L. Lyles, Air Force Materiel Command

Air Force Materiel Command faces a metamorphosis, said Gen. Lester L. Lyles, AFMC commander.

For one thing, AFMC transferred Space and Missile Systems Center, an acquisition and development organization, to Air Force Space Command, an operational unit.

For another, AFMC has made its own horizontal integration moves. Early in 2001, Lyles and the then-assistant secretary of the Air Force for acquisition, Lawrence J. Delaney, established "enterprise commanders" to consider the needs and problems of an area of warfighting as opposed to those of a single program.

Enterprise commanders now exist for space, aeronautics, command and control, and air armament. These commanders realized quickly, said Lyles, that they needed "another construct and we call it an enterprise integration council."

The council enables "them to get together and look at effects or capabilities for the warfighter, not just in the aeronautical enterprise or the command-and-control enterprise or the space enterprise, but how you bring them all together to solve problems," said Lyles.

The move is beginning to pay off. This fall AFMC presented Air Combat Command with an integrated roadmap on how to do time-critical targeting. The plan combined the

attack part of this problem with the command-and-control challenges. It discussed trade-offs between various programs and capabilities. It offered gap-filler items in case particular programs failed in development.

"That one example to me was very heartening," said Lyles. "It shows that we can do it."

To work technological challenges to horizontal integration, AFMC has reinvigorated developmental planning—the art of looking at technology and user requirements and thinking continuously about how to provide needed effects.

But there is at least one large aspect of horizontal integration that has yet to be addressed, said Lyles—the role of industry. Defense firms are organized in terms of platforms. How will they deal with an Air Force acquisition community more oriented toward thinking about the creation of effects and capabilities?

"We need your help to figure out how we bring industry into this picture and also give us the ability to look at things horizontally," said Lyles. "That might be even the most daunting challenge."

Lt. Gen. Roger G. DeKok, Air Force Space Command

The Air Force needs a transformation in the way it thinks about air and space forces, said Lt. Gen. Roger G. DeKok, vice commander, Air Force Space Command.

DeKok talked in particular about the evolution of the US space effort and how that might apply to Jumper's vision of the Air Force future.

US military space capabilities were born as the result of a traumatic national shock, DeKok pointed out. While nothing like the horrendous events of Sept. 11, the Soviet Union's launch of Sputnik in 1957 was nonetheless a scary wake-up call. The US found that someone else had achieved a scientific breakthrough first—and it didn't like it.

"The threat of nuclear attack and the fear of losing the space race was the genesis of the space dominance that we enjoy today," said DeKok.

As NASA proceeded with manned spaceflight, the Air Force worked the military side of the equation. In the 1960s the Corona program created the first satellite with the ability to look deep into enemy territory.

In 1963, the first early warning satellite, MIDAS, demonstrated the ability to detect ballistic missile launches anywhere in the world.

The defense satellite communications programs of the mid- to late-1960s enabled the US to channel strategic communications from fixed bases through space.

Exploitation of the technology was never the sure thing that it seems in hindsight. Finding enough money was always a problem.

Still, DeKok said, "those early achievements gave way to the kinds of capabilities that we enjoy in space today."

Those space capabilities are split into four categories, according to the AFSPC vice commander. Force enhancement provides capabilities to warfighters. Space support gets systems into space in the first place and supports them once they are there. Force application today is represented by the ICBMs, which transit space. Finally there is space control, to assure continued US access to space systems while denying a similar advantage to adversaries.

Thus military space is not about systems, missions, or organizations. "It is about the capabilities that we provide in the battlespace," said DeKok.

In terms of recent development, Desert Storm did for space power what World War I did for airpower. While the fight against Iraq was far from a space war, it did teach very valuable lessons in the ability of space systems to make a difference.

Since then AFSPC has worked hard to better integrate space capabilities into the operational and tactical level of the fight. In Operation Enduring Freedom, B-2s flying from Missouri receive weather and intelligence communications en route from space-based platforms. They drop bombs guided by global positioning system satellites, a system whose ground control is based in Colorado Springs, Colo.

"Now we are concentrating less on platforms and more on effects," said DeKok.

The effects AFSPC is now focusing on include optimizing accuracy of shooters, maintenance of situational awareness of the battlespace, vigilance against such ground threats as theater ballistic missiles, and minimization of in-theater footprints.

Taking a New Approach to Air, Space, and Aerospace

These remarks by the new Chief of Staff, Gen. John P. Jumper, refer to the report of the 2000-01 Space Commission, which was chaired for most of its existence by Donald Rumsfeld, then a private citizen but now the Secretary of Defense. The panel's final report called for major changes in the organization of US military space activities and agencies.

"I carefully read the Space Commission report. I didn't see one time in that report, in its many pages, where the term 'aerospace' was used. The reason is that it fails to give the proper respect to the culture and to the physical differences that abide between the physical environment of air and the physical environment of space.

"We need to make sure we respect those differences. So I will talk about air and space. I will respect the fact that space is its own culture, that space has its own principles that have to be respected.

"And when we talk about operating in different ways in air and space, we have to also pay great attention to combining the effects of air and space because in the combining of those effects, we will leverage this technology we have that creates the asymmetrical advantage for our commanders."

To realize the full potential for space systems of tomorrow, the bureaucratic fences that divide requirements shops from developers and operators will have to be ripped up, said DeKok.

With the realignment of Space and Missile Systems Center into Air Force Space Command, some of that has already been done.

"In a way, this is going back to the future. This is going back to the time that existed in the '60s and '70s, before the establishment of Air Force Space Command," said DeKok.

Still, space warriors who understand both acquisition and operations are rare indeed. The service needs to develop more who understand the importance of Jumper's horizontal integration imperative.

"So we've got some big evolutionary steps in front of us. They involve major cultural shifts and they involve changes in the way we train and educate our people at all levels," said DeKok.

Lt. Gen. Brian A. Arnold, Space and Missile Systems Center

On the space side, the defense business today is already facing a number of basic challenges, said Lt. Gen. Brian A. Arnold, commander, Space and Missile Systems Center.

The first is excess capacity, particularly in the commercial launch market. Not long ago, predictions held that US firms would soon be launching a payload into orbit every other week. That hasn't occurred.

"This lack of a solid market, I believe, will likely lead to consolidation," said Arnold.

The second is foreign competition, involving everything from Ariane in space launch to Alcatel in communications. A related development is foreign ownership of US space companies.

Arnold asked, Will there be more foreign linkages and partnerships for the future?

Third is the impact of acquisition reform and partnering, which aims at pushing the contractor to absorb more risks and costs.

Last is the challenge of attracting human capital. Both the Defense Department and civilian firms need to begin to attract younger engineers by showing the excitement of working on the leading edge of technologies. In the 1960s, the challenge of landing a man on the moon caused a generation of engineers to flock to space work.

"We need to rekindle that same level of excitement in this country in space engineers," said Arnold. ■

Peter Grier, a Washington, D.C., editor for the Christian Science Monitor, is a longtime defense correspondent and regular contributor to Air Force Magazine. His most recent article, "In the Shadow of MAD," appeared in the November 2001 issue.

By Frances McKenney, Assistant Managing Editor

Orientation on AFA

"AFA is probably more important today than at any time in this association's history," declared Thomas J. McKee, Air Force Association National Chairman of the Board.

He was addressing AFA's annual orientation for region presidents and state presidents in October. All of the region and 33 of the state leaders attended the two days of information sessions at AFA headquarters in Arlington, Va. McKee pointed out that now more than ever AFA must explain to the public the need for air and space power. "Work your area and your grassroots area, because that's where the strength of this association lies," he said.

AFA's other national officers then explained their roles and objectives. Several staff members described the functions of AFA's departments. Ken Goss, government relations director, said that AFA competes with 15,000 other associations and nonprofits in Washington in getting its message to Capitol Hill. AFA members must cultivate their Congressional delegation, through such activities as Congressional breakfasts and contacts with senior staffers, to help the association gain access to them, he said. "The work in the field that you do opens the door."

Susan Rubel of Member Services announced that as of October, AFA members could tap into a job bank listing more than 200,000 jobs from 9,000 companies. It is operated by a San Diego-based company that strives to match veterans with employers. (From www.afa.org, go to Membership Benefits, then to the Career section and the Online Career Center link.)

Gen. Robert H. Foglesong, USAF vice chief of staff, also addressed the region and state presidents.

Topics on the second day of information sessions included AFA field operations and leadership development. Dennis F. Mathis, Texas state president, spoke about Community Partners. Ronald H. Love, Delaware state president, talked about the community-base relationship. John F.

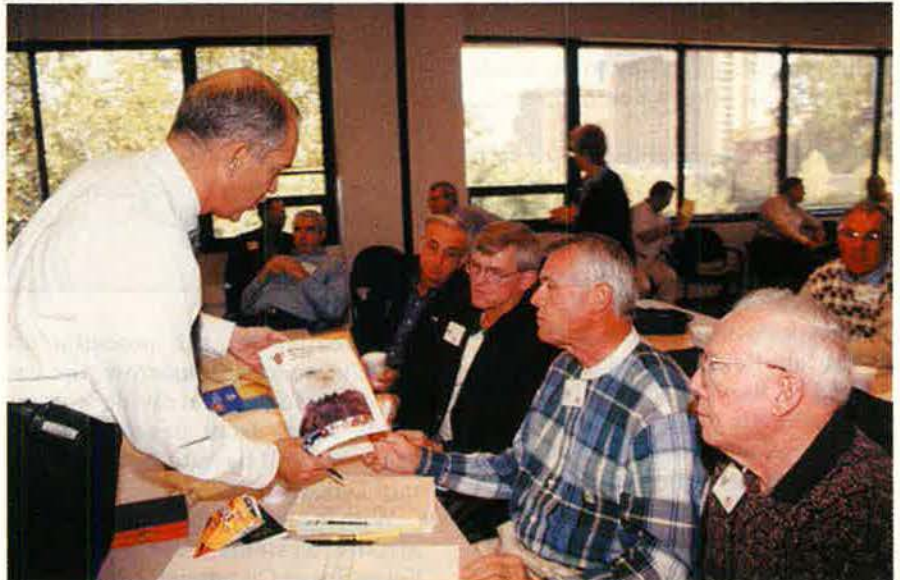


Photo by Paul Kennedy

At the combined Region and State Presidents meeting, AFA Chairman of the Board Thomas McKee shows the AFA 2002 Statement of Policy and Top Issues booklet to (l-r) State Presidents Joseph Sutter (Tennessee), Richard Gaddie (Nebraska), and John Miller (Missouri) and Region President William Lafferty (Southwest Region).

Wickman, from California, covered state awards programs. Utah's Brad Sutton talked about implementing Aerospace Education Foundation programs. Kathleen Clemence, Nevada state president, and William Howard, state president from Indiana, spoke on veterans programs and veterans affairs.

At the Front Gate

After the attacks on New York City and the Pentagon, security forces at Luke AFB, Ariz., began working 12-hour shifts at a heightened state of alert.

To boost their morale, the base turned to the **Frank Luke (Ariz.) Chapter** to provide the airmen with refreshments.

Chapter members responded with dozens of doughnuts, gallons of Gatorade, and more than two dozen pizzas. In late October, they dropped off at the front gate a special meal of roast beef, baked chicken, and side dishes of potatoes, green beans, and bread—enough to feed about 20 people.

Harry Bailey, chapter president, said chapter members have rounded up food four times as of mid-November and planned more pizza runs. He said security forces personnel do the actual distribution of the food, and the deliveries cover both the day and night shift and augmentees. The chapter pays for the food with funds raised through an annual golf tournament and other activities and is trying to enlist local businesses in supporting the effort.

According to Bailey, both the security forces commander, Maj. Tracy Meck, and chapter member CMSgt. Kevin J. Isakson, who is the command chief master sergeant to the 56th Fighter Wing commander, have expressed appreciation for the chapter's support of Luke's security forces.

Miles and Miles

The **Charlemagne (Germany) Chapter** sponsored its aerospace education vice president in running the Terry Fox 1,000 Kilometer Challenge, held in September at Geilenkirchen AB, Germany.

MSgt. Charles D. Watkins joined another USAF service member and eight Canadian air force personnel in making the run. They completed the team effort in relays over a four-day period, beginning Sept. 13. For Watkins, that meant running 6.2 miles about every eight hours, for a total of 100 km (62 miles).

Because of security concerns, team members ran on base (between 11 a.m. and 3 a.m.), doing two three-mile loops, accompanied by a support van to clear the streets.

Watkins is a communications technician by training and is superintendent, NATO E-3A AWACS operations. In between running, he was preparing NATO crews to deploy to Tinker AFB, Okla. (The NATO AWACS aircraft were to assist in combat air patrols over the continental US, freeing USAF AWACS for duties elsewhere.) Watkins normally runs 35 to 40 miles per week but began training four months ahead of time by running six miles twice a day.

Terry Fox runs take place worldwide and are organized to raise funds for cancer research. Fox was a 22-year-old Canadian with bone cancer who raised money for cancer research by running 3,339 miles in 143 days—despite an artificial leg—from Newfoundland to Ontario in 1980. He died in 1981.

In Geilenkirchen, Watkins said he ran through rain, sleet, and wind but enjoyed the experience because of support from the Canadians and others who came out to shake hands with the runners and wish them luck.

Callahan Scholarship Recipient

At its September meeting, the **Red River Valley (N.D.) Chapter** presented SMSgt. Daniel W. Rohrbach II with AEF's Capt. Jodi Callahan Memorial Graduate Scholarship.

Rohrbach, who had been the chapter's vice president last year, is studying for a master's degree in administration from Central Michigan University. At Grand Forks Air Force Base, the 20-year USAF member—who originally trained in heating, ventilation, and air-conditioning—is chief enlisted manager with the 319th Support Group headquarters.

Rohrbach helped the chapter launch its membership drive a year ago by signing up six members in one month. This eventually led the chapter to an Arthur C. Storz Sr. Membership Award.

AEF awards the \$1,000 scholarship to a USAF active duty or full-time Guard or Reserve AFA member studying for a master's degree in a nontechnical field. The award is named for the late Capt. Jodi L.



Sen. Michael Enzi and Rep. Cliff Stearns receive the W. Stuart Symington Award from retired Gen. Michael Ryan (at right), former USAF Chief of Staff and now an AFA national director. As co-chairmen of the Air Force Caucus, the Congressmen shared AFA's highest civilian honor for national security.

Callahan, who was an AEF trustee and AFA under-40 national director.

Combat Breakfast

The **Alamo (Tex.) Chapter** hosted a Combat Breakfast in November at a local VFW post in San Antonio. It served as the culmination of a week-long celebration of the US military, sponsored by the San Antonio Chamber of Commerce.

Guest speaker at the event—attended by more than 140 Community Partners, civic leaders, and military representatives—was T.R. Fehrenbach. His book on the Korean War, *This Kind of War*, had earlier been selected as the USAF Chief of Staff's book of the quarter. Fehrenbach is a native of the Lone Star State and a resident of San Antonio.

The Alamo Chapter announced at the breakfast that it has established a scholarship for military excellence in Fehrenbach's name at the University of Texas, San Antonio.

Earlier that month, the chapter held an awards banquet at Lackland Air Force Base, with AFA National President John J. Politi and M.N. "Dan" Heth, Texoma Region president, as special guests. The evening of awards presentations honored recipients of AFA national-level awards (listed in the November 2001 issue) as well as 31 individuals who received Charlotte and Carlton Loos Civilian Awards.

In addition, C.N. "Buster" Horlen received the Gen. Claire Chennault Patriotism Award. Kaye Biggar, chapter secretary, took home the Foulois First Flight Award. Charlotte Loos

was named AFA Texas Person of the Year. CMSgt. Carlos Massiatte of the 433rd Airlift Wing was named Airman of the Year. Teacher of the Year went to Gail Combs of Randolph (AFB) High School.

Outstanding at the DLI

When Maj. Gen. John F. Regni, 2nd Air Force commander, visited the Defense Language Institute at Presidio of Monterey, Calif., in October, a huge crowd of students assembled to hear him speak. Regni used the occasion to acknowledge the value of AFA membership and to present the **Monterey Bay Area (Calif.) Chapter's** annual Stanley J. Hryn Trophy.

A1C Luke J. Vogel received the honor, recognizing him as the outstanding Air Force student at the DLI. Regni, whose duties include overseeing operational aspects of technical training in Air Education and Training Command, joined Hryn and Harold Oberg in making the presentation. Hryn is the chapter's first and current president and a founding member. Oberg is the chapter's aerospace education vice president.

Vogel was training as a cryptologic linguist for assignment to Ft. Gordon, Ga., and had no background in Arabic before arriving at the DLI. He credited his language proficiency with two to four hours of studying every night and having gathered advice from previous DLI Arabic language students.

He went on to tutor other students in Arabic at the school, according to

Oberg, and was a flight commander and led a physical conditioning staff team.

A larger version of Vogel's trophy lists names of previous recipients and remains on display at the DLI's 311th Training Squadron.

Fore!

More than 100 golfers from Offutt AFB, Neb., and the nearby community teed off at the base's Willow Lakes Golf Course in August to raise \$11,000 for the **Ak-Sar-Ben (Neb.) Chapter's** educational programs.

Although no one managed a hole in one on this Robert Trent Jones-designed course, all par three holes had prizes for such a possibility, including a new Toyota and \$5,000.

Among the players were James M. McCoy, former AFA national president and chairman of the board; Robert M. Williams, national director; Richard Gaddie, state president and a member of the **Lincoln Chapter**; William H. Ernst, Ak-Sar-Ben Chapter president; and several community leaders. From the military community, golfers included Rear Adm. John T. Byrd, US Strategic Command director of plans and policy, and CMSgt. Donald S. Ingram, president of Offutt's Chiefs Group (as well as a chapter member). In addition, several local businesses donated the entrance fees for a dozen enlisted personnel.

Ernst, the tournament's primary organizer, gives most of the credit for its success to John G. Bookout, chairman of the chapter's education foundation. Funds raised this year will allow the chapter to award a dozen scholarships and grants to Offutt's enlisted personnel and local AFJROTC and AFJROTC cadets, Ernst said.

Veterans Day in Georgia

The **Carl Vinson Memorial (Ga.) Chapter** hosted a Veterans Day 5K run in Warner Robins, Ga.

More than 80 runners and walkers participated in the event that featured a formal Veterans Day ceremony with an honor guard, a 21-gun salute, and a keynote address by former Vietnam War POW James E. Sehorn. A captain and F-105D pilot in December 1967 when he became a Prisoner of War in North Vietnam, Sehorn was repatriated in March 1973.

The Veterans Day events also honored a local resident, retired SMSgt. Rufus T. Clopton. He had been a POW-forced laborer in the Pacific for more than three years during World War II.

The 5K raised \$1,000 for a POW/MIA monument at the Museum of Aviation in Warner Robins.

Also in Georgia, AFJROTC cadets at Etowah High School in Woodstock used a \$250 grant from AEF to help produce a video that was the highlight of the school's Veterans Day activities. It featured interviews with a dozen veterans from World War II to the Gulf War, including two from the **Dobbins (Ga.) Chapter**.

WWII vet Woodrow W. Fry and Vietnam War vet William F. Bryant Jr. spoke about their wartime experiences in the video, called "Operation Honor." An L-1 crew chief, Fry was stationed at Bellows Field, Hawaii, when the Japanese attacked Pearl Harbor on Dec. 7, 1941. Bryant was an electronic warfare officer who flew on 100 combat missions over North Vietnam.

AEF funds the AFJROTC Grants, which are managed by Air Force JROTC Headquarters. In 2001, AEF awarded approximately \$15,000 in grants to high school units to fund a variety of aerospace education activities.

More AFA/AEF News

■ **Two Phoenix Sky Harbor (Ariz.) Chapter** members received awards at a combined reunion of the 416th Night Fighter Squadron (WWII) and 416th Tactical Fighter Squadron (Vietnam). Ronald R. Green, a pilot during the Vietnam War with 292 combat missions, and Thomas Damiano, a World War II flight engineer, received certificates for meritorious achievement.

Have AFA/AEF News?

Contributions to "AFA/AEF National Report" should be sent to *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Phone: (703) 247-5828. Fax: (703) 247-5855. E-mail: afa-aef@afa.org. ■

Correction

The college in West Virginia where an AFJROTC leadership school was held was incorrectly identified in October's "AFA/AEF National Report." It is Concord College.

Unit Reunions

reunions@afa.org

3rd BG (WWII), April 14-19 in San Antonio. **Contact:** Bill Robinson (713-201-3174) (wdrobinson55@juno.com).

18th FBW Assn, all wars, including attached and support units. Sept. 5-8 at the Doubletree Suites Hotel in Seattle. **Contact:** Dick Lundquist, 10134 Halloran Rd., Bow, WA 98232 (360-766-8912) (rtlund@sos.net).

40th BW, Smoky Hill and Forbes AFBs, KS (1952-64). Oct. 10-13 in Fort Worth, TX. **Contact:** Roe E. Walker, 9653 Airpark Dr., Granbury, TX 76049 (817-578-3369) (rewalker@flash.net).

58th FG (WWII) and 58th Fighter-Bomber Gp (Korea), including the 69th, 310th, and 311th Sqs. and 210th Mexican Sq. April 30-May 4 at the Clarion Airport Hotel in Tucson, AZ. **Contact:** Ellis Stanley, 2645 Chandafern Dr., Pelham, AL 35124-1425 (205-663-4236).

91st Recon Sq (LR) Photo, Panama, Trinidad, or later. March 12-14 in Savannah, GA. **Contact:** Fred Ferrer, 3960 Bothwell Ter., Tallahassee, FL 32311 (850-402-9526) (afhonor@aol.com).

319th FIS (1942-77). Oct. 8-11 in Branson, MO. **Contact:** David G. Headen, 319th FIS Assn., PO Box 615, Mortons Gap, KY 42440 (270-258-5633).

351st BG Assn, Eighth AF, Polebrook, UK (WWII), June 27-30 at the Cincinnati Airport Marriott Hotel in Hebron, KY. **Contact:** Clint Hammond, PO Box 281, Mechanicsburg, PA 17055 (717-766-1489).

364th FG, Honington, UK (WWII). Sept. 17-21 at

the Radisson Market Square in San Antonio. **Contact:** Dan Leftwich, 6630 Caldero Ct., Dayton, OH 45415 (937-890-3641).

387th BG (M), Ninth AF. Sept. 18-21 in Dayton, OH. **Contact:** Paul R. Priday, 420 Eaton St., London, OH 43140 (740-852-6694).

Chambley AB, France. May 10-12 at the Menger Hotel in San Antonio. **Contact:** C.R. Timms, PO Box 293, Fair Play, SC 29643 (864-888-4133).

Normandy and ETO (WWII) US and Canadian veterans. Tour from New York to the UK and France, beginning May 17. **Contact:** Sy Canton, Executive Director, Normandy-European Theater of Operations Reunion Group (WWII), 5277B Lakefront Blvd., Delray Beach, FL 33484 (561-865-8495).

Seeking **American veterans who enlisted underage** for a possible reunion. **Contact:** George R. Brouse, 100 Village Ln., Philadelphia, PA 19154 (800-595-1006).

Seeking former members of **Class 43-B** at Douglas, AZ, for a reunion. **Contact:** Robert Einig, 1290 Sebastian Lakes Dr., Sebastian, FL 32958 (561-581-3757) (R-Einig@att.net). ■

Mail unit reunion notices four months ahead of the event to "Unit Reunions," *Air Force Magazine*, 1501 Lee Highway, Arlington, VA 22209-1198. Please designate the unit holding the reunion, time, location, and a contact for more information. We reserve the right to condense notices.

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Pieces of History

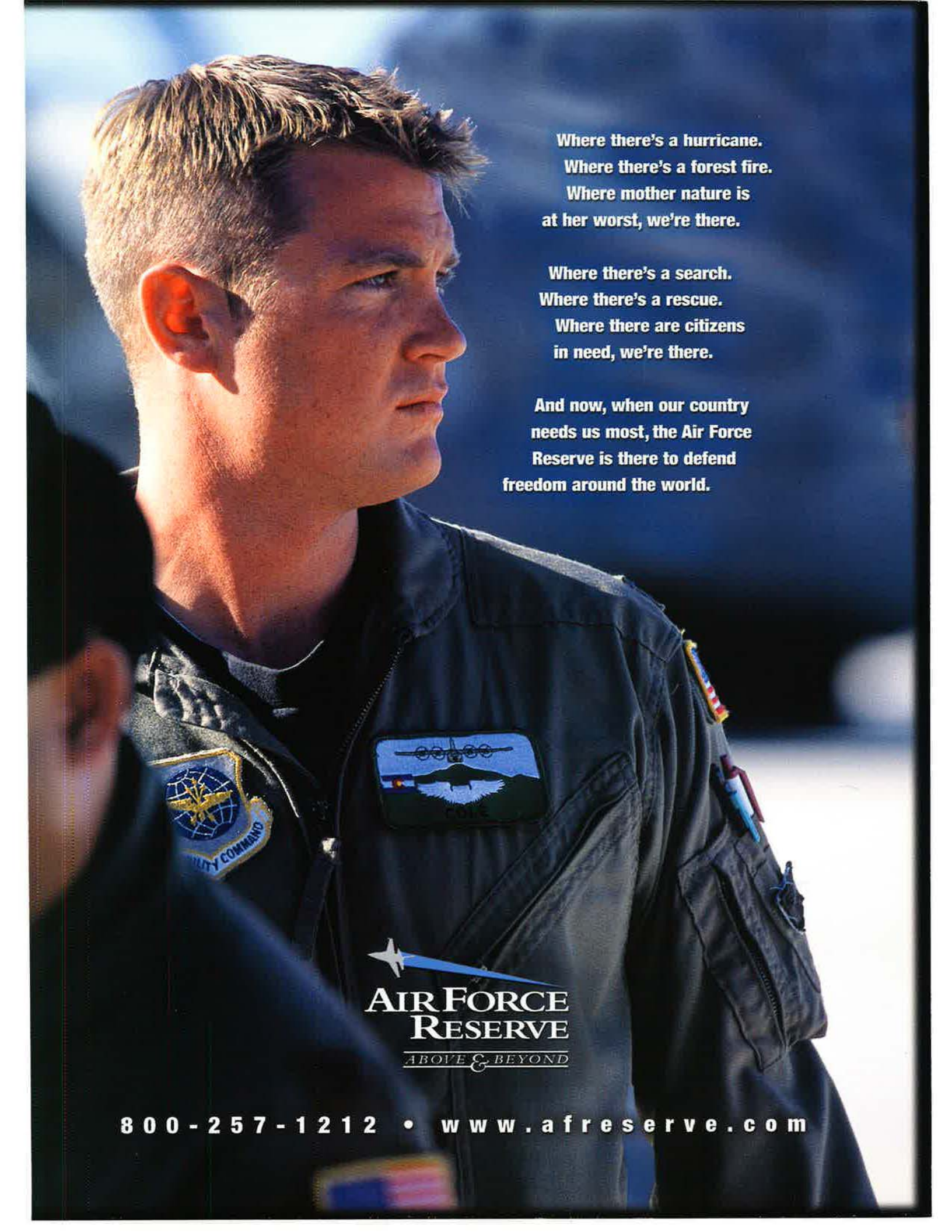
Photography by Paul Kennedy

A Big Lift



A display at the US Air Force Museum highlights the C-46 Commando as well as civil engineers who were often tasked with building runways for the transport. Originally designed as a commercial passenger airliner, the C-46 was modified for the Army Air Forces. It was more powerful (2,000 horsepower in each of its two engines), larger, and able to carry more troops and cargo

than the more famous C-47 Skytrain. The C-46 also towed gliders. It served in every theater during World War II but became most famous for airlifts over "the Hump" in the Himalayas, resupplying the Nationalist Chinese and Allied troops after the Japanese closed land and sea access to China. The C-46 went on to serve in the Korean War and turned up again for the Vietnam War.

A man in a dark flight jacket is shown in profile, looking towards the right. The jacket has several patches: a circular patch on the left chest with a globe and the text 'QUALITY COMMAND', a rectangular patch on the right chest depicting a biplane flying over a landscape, and a small American flag patch on the right shoulder. The background is a bright, slightly blurred outdoor setting.

Where there's a hurricane.
Where there's a forest fire.
Where mother nature is
at her worst, we're there.

Where there's a search.
Where there's a rescue.
Where there are citizens
in need, we're there.

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