Aerospace World

By Marc V. Schanz, Associate Editor

Crash Kills USAF Officer

An Air Force officer was killed in October when his civilian aircraft crashed shortly after taking off from Long Beach, Calif.

Lt. Col. Raymond Roessler, 43, of the 309th Maintenance Wing at Hill AFB, Utah, took off on the night of Oct. 4 for a flight to Henderson, Nev. Long Beach Airport tower personnel lost contact with the aircraft.

The next day, a motorist in San Bernardino County, Calif., reported an airplane crash not far from Interstate 15, and local police later recovered Roessler's body from the wreckage. The area had experienced fog, rain, and high wind.

Federal Aviation Administration officials are investigating the cause of the accident.

According to Hill officials, Roessler was on a business trip for the base, and had been meeting with contractors. He had 19 years of service.

Photo by Tony Osborne

This B-1B bomber, shown here landing at RAF Fairford, Britain, lost its No. 4 engine in the skies over Afghanistan. Maintainers were able to sufficiently repair it to allow a safe flight to this air base for complete repair.

Reaper Joins the Fight

The MQ-9, the larger and beefier stablemate of the MQ-1 Predator, is officially on the hunt in Afghanistan, the Air Force announced.

The Reaper flew its first official combat mission on Sept. 25, and was averaging about a sortie a day through mid-October. A Reaper performed its first combat strike on Oct. 27, then launched precision guided weapons for the first time Nov. 7. The aircraft has also conducted close air support and intelligence-surveillance-reconnaissance missions.

Designed to attack time-sensitive targets, the Reaper features eight times the range of the MQ-1 and can fly twice as high. It can also carry a combat load roughly comparable to that of the F-16 manned fighter.

The Air Force at present has nine Reapers in its inventory.

USAF photo by SSgt. Mike Meares

SrA. Eric Glass and Kim, his military working dog, keep an eye on a "suspect" during a training exercise at Eglin AFB, Fla., which had recently added a military dog handling track to the curriculum.

Riechers an Apparent Suicide

Charles D. Riechers, the Air Force's principal deputy assistant secretary for acquisition and management, was found dead in his Virginia home on Oct. 14, an apparent suicide.

The Air Force issued a brief statement after Riechers' death, praising his contributions to the service and saying the circumstances of his demise were under investigation.

Riechers' death came about two weeks after a report in the *Washington Post* revealed that while he was awaiting Senate confirmation for his position, he was on the payroll of the Commonwealth Research Institute, a nonprofit organization that works on engineering and technical consultations with the Pentagon.

The article said that during the period he was on the CRI payroll, he was

Brig. Gen. Paul W. Tibbets Jr., 1915-2007

Paul W. Tibbets Jr., the pilot of the B-29 *Enola Gay* that dropped an atomic bomb on Hiroshima, Japan, in 1945, died Nov. 1 at his home in Columbus, Ohio. He was 92.

Tibbets would have been noteworthy even if he had not commanded the mission that helped bring about Japan's surrender and the end of World War II. He led Eighth Air Force's first B-17 bombing mission over Nazi-held Europe in August 1942 and led the first bombing missions in support of the invasion of North Africa later that year. He acquired a reputation as being one of the best American military fliers.

Born in Illinois and raised in Florida, Tibbets became a medical student, at his father's urging, but enlisted in the Army Air Forces in 1937 to satisfy a long-held ambition to be a pilot. He earned his wings within a year. By the time America entered World War II in December 1941, he was an experienced hand.

Tibbets by 1943 had chalked up 25 combat missions in the B-17. It was in that year that Tibbets was ordered back to the US to test and shake out the new B-29 Super Fortress bomber. A year later, he had acquired more than 400 hours in that new long-range aircraft, making him the most seasoned B-29 pilot of USAAF.

In late 1944, Tibbets was read into the top-secret Manhattan Project created to research and produce an atomic weapon. The 29-year-old, promoted to colonel in January 1945, was ordered to form and equip a new B-29 unit to deliver the first atomic bombs. He organized the 509th Composite Group at Wendover AAF, Utah, a site Tibbets chose because of its proximity to the A-bomb project in New Mexico and to nearby bombing ranges.

The secret unit quickly grew to more than 1,700 men. With no direction, Tibbets invented the first nuclear bomb wing.

He had 15 factory-fresh B-29s specially configured for the nuclear role. Workmen had ripped out the gun turrets—except for the tail gun position—and armor plating. These steps lightened up each aircraft to the point that it could take off with the 10,000-pound atomic bomb. Tibbetts also had the bomb bay redesigned to accommodate the weapons.

The uranium device to be used at Hiroshima was given the nickname "Little Boy."

In March 1945, Tibbets he moved the 509th to the island of Tinian in the Marianas. On July 28, President Truman passed along an order to use the A-bomb against Japan as soon after Aug. 3 as weather permitted. Tibbets named the lead ship of the Hiroshima raid *Enola Gay* after his mother, who had supported his choice to pursue a flying career against his father's wishes.

On the morning of Aug. 6, 1945, with a handpicked crew, Tibbets flew the bomber to Japan and dropped "Little Boy" on Hiroshima within 15 seconds of 8:15 a.m., the planned release time. It is estimated that the bomb killed 80,000 Japanese.

Tibbets had exhaustively practiced the evasive maneuvers by which the B-29 would avoid the force of the bomb's blast, and none of the aircraft in the raid were lost.

On Aug. 14, Japan agreed to surrender.

In many subsequent public statements, Tibbets always declared a firm belief that the Hiroshima raid shortened the war and ended up saving lives. He regretted the loss of life in the Hiroshima attack, he said, but he never lost any sleep over his role in the first combat use of nuclear weapons.

Tibbets later advised the Air Force on nuclear tests at Bikini atoll and ran the acquisition program to develop and build the B-47 Stratojet, USAF's first all-jet swept-wing bomber. He also set up the first National Military Command Center at the Pentagon. He retired from the Air Force as a brigadier general in 1966, after nearly 30 years of service.

After retirement, he ran a jet aircraft taxi service in Europe and another in the United States, rising to be chairman of the board of Executive Jet Aviation, based in Columbus. He retired from business in 1985.

In 1994, Tibbets came out of retirement to comment on a controversial proposed exhibition of the restored *Enola Gay* by the Smithsonian's National Air & Space Museum. The museum, following the lead of academic critics of the mission, had laid plans to use the *Enola Gay* as a prop in a political horror show. It depicted the Japanese more as victims than as aggressors.

When the plans were revealed by an article in *Air Force* Magazine, a raging controversy ensued. Tibbets called the museum approach—which dwelled on the suffering of Japanese at Hiroshima and gave short shrift to the Rape of Nanking, Bataan Death March, or other Japanese atrocities—"a package of insults." The exhibition was canceled in response to public and Congressional outrage, and the museum director was fired.

Tibbets suggested that the aircraft needed no explanation and should be displayed alone, without comment. The Smithsonian eventually wound up exhibiting it from 1995 through 1998. The exhibit featured not only the airplane but also some factual information about the airplane and a videotape of Tibbets and his crew discussing the mission. The depoliticized exhibit drew four million visitors.

Tibbets was elected to the National Aviation Hall of Fame. He asked to have his ashes scattered so that no gravesite could be made into a place of protest for anti-nuclear activists.

A marriage to his first wife, the former Lucy Wingate, ended in divorce in 1955. He is survived by his second wife, Andrea, and three sons, Paul III, Gene, and James. A grandson, Paul W. Tibbets IV, at one time commanded the 393rd Bomb Squadron, one of two operational squadrons under the same unit his grandfather commanded, the 509th Bomb Wing.

Bent Spear Incident Reflects "Erosion" of Standards

Three commanders were relieved from duty and dozens of airmen faced disciplinary action in the wake of an incident in which nuclear-armed Air Force cruise missiles were flown aboard a B-52 bomber without anyone knowing it.

The actions were announced on Oct. 19, at a Pentagon press conference called by Air Force Secretary Michael W. Wynne. Wynne said that he was breaking with long-standing policy not to discuss the handling of nuclear weapons because of the seriousness of the episode, and his desire to assure the public the Air Force would take swift corrective action.

"This was an unacceptable mistake and a clear deviation from our exacting standards," Wynne said of the incident, which first came to light in September, adding that he hopes to ensure this "never happens again."

In the incident, AGM-129 Advanced Cruise Missiles were loaded onto a B-52 for a ferry flight to Barksdale AFB, La., to be prepared for retirement. The missiles were not supposed to have nuclear warheads on them. However, six missiles were loaded with their nuclear warheads, and no one from the ground or flight crew caught the mistake at Minot, and it was not discovered at Barksdale until long after the airplane landed there.

The 5th Bomb Wing at Minot AFB, N.D., was decertified from handling nuclear weapons until new commanders and safeguards could be put in place. The ferry flights were also suspended until further notice.

Maj. Gen. Richard Y. Newton III, assistant deputy chief of staff for operations, plans, and requirements, said the existing procedures for handling the weapons were appropriate and comprehensive, but that there had been an "erosion of adherence" to those procedures.

Newton said that four senior officers in total had been relieved as a result of the investigation ordered by then-Air Combat Command boss Gen. Ronald E. Keys. Moreover, four lower-level officers had been disciplined, and numerous enlisted personnel faced some sort of punishment. Relieved from duty in October were Col. Bruce C. Emig, commander of the 5th Bomb Wing; Col. Cynthia M. Lundell, the 5th Bomb Wing's maintenance group commander; and Col. Todd C. Westhauser, the 2nd Operations Group commander at Barksdale.

Newton said that numerous other actions have been taken, including the decertification of about 65 airmen from handling nuclear weapons, and that judicial proceedings have not been ruled out.

Newton added that the occurrence was an "isolated incident." A servicewide inventory of all USAF nuclear weapons was immediately performed and no discrepancies were found.

Wynne confirmed that he also ordered nuclear safety surety inspections, to be overseen by the Defense Threat Reduction Agency. A Defense Science Board evaluation of all the armed forces nuclear weapons handling operations, headed by retired USAF Chief of Staff and commander of Strategic Air Command Gen. Larry D. Welch, was also ordered by Defense Secretary Robert M. Gates.

The incident was classed as a "Bent Spear," in which there is a breakdown in control over nuclear weapons that poses no immediate safety danger.

actually working for the Air Force, not the company. The *Post* claimed that although Riechers was paid by the firm, he did not perform any work for it. The propriety of this situation was called into question.

Riechers had been in his Air Force job since January. He advised the senior leadership and worked on some of the service's high-priority efforts such as the KC-X tanker replacement and the CSAR-X rescue helicopter.

Riechers also worked on the next generation long-range strike aircraft, as well as the F-22 and F-35 programs.

GAO Turns Down JCA Protest

Raytheon's protest of the Air Force-Army choice of the L-3 Communications team to build the Joint Cargo Aircraft was denied by the Government Accountability Office in September.

The company had argued that it should have been the winner, since its C-295 proposal offered performance equivalent to the selected C-27J, but its price was 15 percent lower.

The GAO acknowledged that Raytheon's bid of $1.77 billion for the JCA program was lower than L-3's bid of $2.04 billion, but said performance was not equivalent. It found "high performance risk" in the C-295's ability to meet certain ceiling requirements and cargo load.

Raytheon had not decided by late October whether it would exercise its option to ask GAO to reconsider or take its objections to federal court.

The C-295 was offered in conjunction with its designer, European Aeronautic Defense and Space Co. The C-27J offered by Raytheon was designed by Alenia of Italy.

L-3 won the contract for 78 aircraft in June, and company officials said work had not stopped during the protest process. First deliveries to the Army are expected in 2008 and to the Air Force in 2010. Army and Air Force officials predict a need for at least 150 of the aircraft, which will replace C-12s, C-23s, and C-26s in the Army and meet a new requirement for the Air Force.

Pentagon Activates AFRICOM

The Pentagon's newest unified command—United States Africa Command—formally began operations Oct. 1.

The command began with an inaugural staff of 120 under Army Gen. William E. Ward, and will grow to around 800. Initial headquarters is in Stuttgart, Germany. According to US European Command officials, efforts are under way to find a permanent location in Africa.

AFRICOM is projected to be at full strength by October 2008.

Ward's staff is assembling the organizational structure and the mission focus as the command stands up. Unlike other unified commands, AFRICOM will integrate staff members from other parts of the US government, principally the US State Department and the US Agency for International Development. One of Ward's deputies is Mary Carlin Yates, a former ambassador to Ghana.

Super Hogs Enter the Fray

Fresh from being declared operational, upgraded A-10Cs of the Maryland Air National Guard's 104th Fighter Squadron flew their first combat missions in Iraq.

Operating in mid-September, the Warthogs dropped bombs in a strike on insurgent positions. The newly upgraded aircraft hit at enemy forces not far from Balad AB, Iraq, on Sept. 19, according to Lt. Col. Kevin Campbell, a pilot with the Maryland ANG's 175th Fighter Wing and the lead for the Air Guard's A-10C test effort.

Speaking with reporters at AFA's Air & Space Conference in September, Campbell said the precision engage-

ment Warthogs dropped two GBU-38 JDAMs on a target, destroying a building with no damage to nearby structures.

Campbell said the A-10Cs with the Maryland ANG are deployed with members of the Michigan ANG, whose 172nd FS, from Battle Creek, is the second unit that will be fully equipped with the upgraded Warthogs.

Chilton Takes Over STRATCOM ...

Air Force Gen. Kevin P. Chilton on Oct. 3 assumed command of US Strategic Command, Offutt AFB, Neb.

Chilton assumes the position last held officially by Gen. James E. Cartwright. The Marine Corps officer now serves as vice chairman of the Joint Chiefs of Staff.

The Senate confirmed Chilton for his new assignment on Sept. 28.

Rear Adm. Carl V. Mauney has been confirmed for a third star and becomes Chilton's deputy at STRATCOM.

... While Kehler Goes to AFSPC

Air Force Gen. C. Robert Kehler, who served as a STRATCOM deputy commander under Cartwright, has moved on to head up Air Force Space Command.

He was confirmed for a fourth star in August and has replaced Chilton at the Colorado Springs command.

As the STRATCOM deputy, Kehler was in charge of the space portion of its activities. He also served as acting commander of STRATCOM after the August departure of Cartwright.

Disorientation Tapped in Crash

The pilot of an F-15A that crashed off the coast of Oregon in June was spatially disoriented, according to Air Combat Command officials.

In a September report of the accident investigation's findings, ACC said Maj. Gregory D. Young suffered spatial disorientation during dissimilar air combat training with F/A-18s from NAS JRB Fort Worth, Tex.

Young, who was serving with the 142nd Fighter Wing of the Oregon Air National Guard, died when the aircraft went into the sea about 48 miles west of Arch Cape, Ore.

CSAR-X: Trying Again

The Air Force will throw open the CSAR-X combat search and rescue helicopter competition, long delayed by protests, to a new round of bids, the service's top acquisition executive said in September.

Sue C. Payton in a press briefing, said USAF had been in contact with the CSAR-X competitors—Boeing, Lockheed Martin and Sikorsky—and with Congress to make sure that all parties understand how the program is to proceed. A final version of "amendment five" of the original request for proposals was to be released by early November.

Unlike the previous attempt to restart the bidding process, the contractors can add whatever information they want to their proposal, including new test and cost data, Payton reported.

"It's a full and open input on anything they would like to propose," she said, adding that she would like to get the new proposals by the end of December. However, she said her office wouldn't rush to an award.

The Air Force is still seeking to have the first CSAR-X helicopters fielded by FY 2012, but the "day to day slip" in the program has pushed back the expected date to FY 2014, Payton noted. "We would be very impressed" with any contractor that could deliver close to the 2012 goal, she said.

Payton's acquisition staff is planning more feedback sessions than were held in the original CSAR-X competition, which was concluded in November 2006 when Boeing's HH-47 was declared the winner.

Since the award, a stop-work order has been in place on the HH-47, and Air Force officials have said there would be termination costs if Boeing is not selected in the revamped competition. The service hasn't revealed its estimate of cancellation costs.

Payton said she's bringing in experts from the Army and Navy to join the source selection process, likening the assist from other service acquisition personnel to the Army-Air Force work on the Joint Cargo Aircraft program. Both the Army and Navy have "excellent domain knowledge" on helicopters that can improve the selection process, she added.

USAF photo by SrA. Russell Scalf

Left to right, an F-22 Raptor, an F-117 Nighthawk, an F-4 Phantom, and an F-15 Eagle fly above the clouds over Holloman AFB, N.M., during the Holloman Air and Space Expo on Oct. 27. The expo showcased the 49th Fighter Wing.

The War on Terrorism

Operation Iraqi Freedom—Iraq

Casualties

By Nov. 9, a total of 3,857 Americans had died in Operation Iraqi Freedom. The total includes 3,849 troops and eight Department of Defense civilians. Of these deaths, 3,146 were killed in action with the enemy while 711 died in noncombat incidents.

There have been 28,451 troops wounded in action during OIF. This number includes 15,681 who returned to duty within 72 hours and 12,770 who were unable to return to duty quickly.

F-16 Strike Kills Top Al Qaeda Leader

An Air Force F-16 dropped two precision guided bombs on a target near Al Nussayyib, Iraq, on Sept. 25, killing Abu Nasr al-Tunisi and two other al Qaeda operatives.

Intelligence indicated that the three were meeting at a safe house when the F-16 struck with one GBU-12 and one GBU-38.

Al-Tunisi, a native of Tunisia, oversaw the movement of foreign fighters into Iraq as well as their operations, according to Multinational Force-Iraq officials. He personally led efforts responsible for more than 80 percent of suicide bombings in Iraq as well as the kidnapping of US soldiers in June 2006.

Operation Enduring Freedom—Afghanistan

Casualties

By Nov. 3 a total of 455 Americans had died in Operation Enduring Freedom. The total includes 454 troops and one Department of Defense civilian. Of these deaths, 265 were killed in action with the enemy, while 190 died in noncombat incidents.

There have been 1,754 troops wounded in action during OEF. This number includes 704 who were wounded and returned to duty within 72 hours and 1,050 who were unable to return to duty quickly.

C-5s Cleared for Bagram

A C-5 landed and took off from Bagram AB, Afghanistan, on Sept. 22, clearing the way for a tremendous increase in airlift capability to one of the main air hubs supporting Operation Enduring Freedom.

The Galaxy landed and took off without interrupting wing flying operations, a first for the airfield, according to Col. Jon Sutterfield, commander of the 455th Expeditionary Maintenance Group. Previously, landings of the Air Force's largest airlifter had required the movement of other aircraft on the flight line to accommodate the Galaxy. Runway upgrades helped make the September landing possible.

Sutterfield added that the landing was the culmination of months of effort between the Combined Air and Space Operations Center, the Tanker Airlift Control Center, and other organizations that worked to get the airfield ready. The ability to host the large airlifter enables more cargo, tools, and personnel to fly in directly to the theater and bypass main hubs when supplies are urgently needed, he added.

Spatial disorientation occurs when a pilot experiences false sensations or misinterprets cues about attitude, motion, velocity, acceleration, or position.

Next-Gen SATCOM Goes Up

A new military communications satellite with 10 times the capacity of the entire Defense Satellite Communications System constellation was successfully launched into orbit on Oct. 10 from Cape Canaveral AFS, Fla.

The first of the Wideband Global SATCOMs went into space aboard a United Launch Alliance Atlas V booster. It was 52nd consecutive successful launch by Air Force Space Command.

DSCS has served as the military's backbone for satellite communications for the last two decades. The new Wideband system will eventually replace DSCS and address an exponentially expanding demand for data transfer channels.

JCA Gunship On Tap?

The Air Force is seriously considering developing a gunship variant of the Joint Cargo Aircraft, declares Gen. T. Michael Moseley, the USAF Chief of Staff.

Speaking to reporters during September's Air & Space Conference, Moseley said JCA's size and cargo capability, coupled with the installation of a 30 mm cannon, might make it an ideal platform for Air Force Special Operations Command in forward combat zones that can't handle larger gunships.

The Air Force is forecasting a big role for JCA in the active force and Air National Guard as well as in coalitions with friendly countries.

Several meetings with foreign air chiefs have already been held regarding partnering on the JCA, Moseley said, and he envisions a coalition that will look a lot like the one that has built up around the C-130 and the F-16.

F-15s To Get New Radars

Since the Air Force isn't getting all the F-22 Raptors it needs, it is upgrading some of the radars on F-15C Eagles to augment its air-to-air portfolio.

Boeing will install Raytheon APG-63 (V)3 Active Electronically Scanned Array radars on a number of Air National Guard and active force F-15Cs. The exact number to be modified has not been determined, but Raytheon said it expects to deliver at least 48 of the systems through 2015. The aircraft to be modified will be among the 178 that the Air Force has decided to retain into the mid-2020s. Those aircraft also get data link upgrades, GPS systems, and Joint Helmet Mounted Cueing Systems.

The new AESA radars offer greater range and detail than the previous model, and allow an air and ground picture to be obtained simultaneously. The radar is based on a system developed for the Navy's F/A-18 Super Hornet.

The Air Force has already had 19 Eagles modified with the new radars. Those aircraft were recently transferred from Alaska to Kadena AB, Japan, as part of a region-wide increase in combat capability.

A contract was awarded to Boeing in October for $70 million, which will cover the installation for six ANG and one active F-15 in early 2009.

Pave Low Departs Lakenheath

The 21st Special Operations Squadron at RAF Mildenhall, Britain, was officially deactivated in October, as the unit sheds its MH-53 Pave Low helicopters in preparation for fielding the new CV-22 Osprey.

The unit was part of the 352nd Special Operations Group at Mildenhall. The Oct. 9 deactivation meant around 250 airmen left the 352nd, which previously fielded about 1,000 people. Prior to the deactivation, the 21st was the Air Force's only special operations helicopter unit in Europe.

The 21st is expected to reactivate at Cannon AFB, N.M., which became an Air Force Special Operations Command installation in October. There the unit will fly the CV-22.

Nolan Herndon, Doolittle Raider

Maj. Nolan A. Herndon, a member of the famed Doolittle Raiders, died Oct. 7 in Columbia, S.C., at the age of 88.

Herndon was navigator-bombardier on one of the B-25 bombers that took off from USS *Hornet* on April 18, 1942 to strike targets in Japan. Led by then-Lt. Col. Jimmy Doolittle, the raid was launched four months after the Japanese had struck Pearl Harbor.

Herndon, a native of Greenville, Tex., enlisted in the US Army Air Corps in 1940 after two years of college and was commissioned a second lieutenant about a year later.

Alone among the raiding bombers—the rest of which crash-landed or whose crews bailed out in China—Herndon's aircraft landed in Russia. He maintained in interviews that the aircraft was on a secret mission, the nature of it not disclosed to him. Doolittle biographer C.V. Glines said he could never get "a straight answer" on this.

Arrested in the Soviet Union, Herndon and the rest of crew No. 8 managed to escape a year later.

Herndon was awarded the Distinguished Flying Cross for his part in the mission. With his death, 12 Raiders survive.

C-17 Shutdown Looms—Again

Boeing has been making long-lead parts for C-17 airlifters despite not having any new orders, but will stop doing so next month if it doesn't see clear signs that the Air Force—or Congress—plans to buy more.

John B. Sams Jr., Boeing's vice president for Air Force systems, said that by January, Boeing will have to decide whether to keep funding long-lead suppliers with its own money or start turning off the production line again. It has done so once before, but Congress added 10 C-17s to the Air Force's budget.

Briefing reporters at AFA's Air & Space Conference in September, Sams said Boeing has invested "hundreds of millions" of dollars keeping the C-17 line going, in hopes that there will be another order. The Air Force has shopped an idea to Congress that would delete 30 C-5 aircraft from a major re-engining and upgrade program and go for 30 new C-17s instead. However, the service has also maintained that it has no money to order more of the airplanes.

A Boeing official allowed that many of the parts built are not useless white elephants if no new orders come through, and will be usable as parts for the 190-strong C-17 fleet USAF will eventually field under the program of record.

Sams said that, as of mid-September, the Air Force had taken delivery of 169 C-17s.

The C-17 fleet achieved an 85 percent mission capable rate in 2006—the highest rate for manned USAF aircraft, Sams pointed out. Worldwide, the airlifter has a departure reliability average around 93 percent and maintenance hours per flight hour have decreased 66 percent since 1994.

Boeing has also pitched to the Air Force a C-17B variant that could operate off even shorter and more austere runways—such as beaches—with additional centerline landing gear and a new flap system to deliver more slow-speed lift. Such an aircraft could be ready for delivery in 2014, Sams said. Sensors developed in other programs would allow C-17B crews to select a suitable landing spot without an advance team checking out soil compaction and other conditions ahead of time.

However Air Mobility Command chief Gen. Arthur J. Lichte said at the conference that he sees no budgetary opportunities to buy C-17Bs. He won't allow any money to be taken away from buying new tankers, which is USAF's top acquisition priority, and said USAF wouldn't be able to afford the unique support equipment needed for just 10 or so C-17Bs.

If the C-5 upgrade program doesn't meet requirements though, Lichte said USAF might well buy more C-17s, and the B model might be more attractive.

F-22 Drops Small Bomb

The F-22 test force at Edwards AFB, Calif., successfully released a GBU-39 Small Diameter Bomb from the internal weapons bay of a Raptor for the first time in September.

The test was considered a major milestone in the fighter's development. The drop proved the SDB would separate from the fighter cleanly, and may be employed operationally. Testing of the SDB is part of the Increment 3.1 upgrade to the fighter.

Once the weapon is cleared for operational missions, it will enable the Raptor to attack quadruple the number of targets it can strike on a single mission. The fighter is currently limited to two 1,000-pound Joint Direct Attack Munitions but will be able to carry eight 250-pound SDBs. In that

Index to Advertisers

MIA Airmen of World War II, Vietnam Are Identified

A dozen long-missing airmen have recently been identified and their remains returned to their families for burial, the Defense POW/Missing Personnel Office announced in October.

First Lt. David P. McMurray, of Melrose, Mass.; 1st Lt. Raymond Pascual, of Houston; 2nd Lt. Millard C. Wells Jr. of Paris, Ky.; TSgt. Leonard J. Ray, of Upper Falls, Md.; TSgt. Hyman L. Stiglitz, of Boston; SSgt. Robert L. Cotey of Vergennes, Vt.; SSgt. Francis E. Larrivee, of Laconia, N.H.; SSgt. Robert J. Flood, of Neelyton, Pa.; and SSgt Walter O. Schlosser, of Lake City, Mich., all of the US Army Air Forces, were identified through DNA analysis of remains collected in 2003 from an excavation site in Westeregeln, Germany.

Ray and Flood were buried in Harford County, Md., and Dry Run, Pa., respectively, in early October. The burials of the other servicemen were to be performed at Arlington National Cemetery near Washington, D.C.

The men were part of a B-24 crew lost during a mission over Germany in 1944. Captured records revealed that the bomber had crashed near Westeregeln, in what would later become East Germany. The site was identified for investigators in 2001 by German citizens.

Remains recovered in 2006 from Viti Levu Island in Fiji have been identified as those of 1st Lt. James W. Blose. His remains were interred in Hermitage, Pa., on Sept. 29.

Blose, flying a P-39D Airacobra, was lost in April 1942. After taking off from Viti Levu on an alert mission, he flew at mountaintop level to avoid bad weather and never arrived at a divert airfield. Searches at the time were unsuccessful, but wreckage discovered in 2004 by a Fijian turned out to be Blose's aircraft.

In October, the POW/Missing Personnel Office announced the identification of the remains of A1C George W. Long, of Medicine, Kan., who was lost in 1968 near Da Nang, South Vietnam.

Long was part of a C-130 crew evacuating Vietnamese from the Kham Duc Special Forces Camp. The aircrew reported taking heavy ground fire on takeoff, and a forward air controller in the area reported seeing the aircraft explode in midair shortly thereafter. The crash site was excavated in 1994 after a DOD team interviewed local citizens about the incident.

Long was buried in September in Medicine, Kan.

The remains of Maj. Robert G. Lapham, of Marshall, Mich., were buried Oct. 19 at Arlington National Cemetery. They were recovered after teams from the Joint POW/MIA Accounting Command and Vietnam surveyed and excavated the crash site in Quang Tri Province, Vietnam, at least seven times between 1993 and 2006.

Lapham, flying an A-1G Skyraider, was lost in February 1968 on a mission to defend a Special Forces camp that had come under attack. Lapham crashed shortly after completing a strafing pass. Other aircrews reported seeing no parachute.

configuration, it will still be able to carry two AMRAAM radar guided air-to-air missiles and two AIM-9 Sidewinder heat-seeking missiles.

RESE's Pieces Fly

A hypersonic vehicle with five payloads affixed to a Navy rocket made a successful six-minute flight on Sept. 20 at White Sands Missile Range, N.M.

The Re-Entry Structures Experiment, or RESE, reached an altitude of 95,000 feet at Mach 5 before it descended to the desert in two pieces. Several experiments were flown during the mission, including a new acoustic protection system, a reconfigurable hardware architecture for responsive satellites, two thermal sensors, a high-temperature material test, and a flexible circuitry trial.

Andy Williams, the RESE program manager, said the team is focusing on conducting another experimental flight, operating at speeds between Mach 10 and 12, sometime next year.

The vehicle was designed and developed by the Air Force Research Laboratory's Space Vehicles Directorate at Kirtland AFB, N.M.

Tilt-rotor Testing Wraps Up

A test team at Edwards AFB, Calif., wrapped up developmental flight testing on the CV-22 Osprey tilt-rotor aircraft in late September.

Next up is operational testing at Hurlburt Field, Fla., where the CV-22 is already in use by Air Force Special Operations Command.

The CV-22 Integrated Test Team, which includes Bell Helicopter, Boeing, Naval Air Systems Command, the Marine Corps, Air Force Materiel Command, AFSOC, and the Air Force Operational Test and Evaluation Center, stood up in 2000 and began testing with two Ospreys in 2002. The team gained a third Osprey in 2005 and has flown a total of 2,000 hours on all three.

The CV-22 is expected to enter operational service with AFSOC in 2009.

Army Buildup Accelerates ...

The Army announced in October that it will speed up by a full two years the addition of 74,000 soldiers to its ranks.

It said it would do this to relieve strain on forces that have been repeatedly deployed to Iraq and Afghanistan.

Gen. George W. Casey, Army Chief of Staff, confirmed the plan in a speech to the Association of the United States Army, saying Defense Secretary Robert M. Gates has approved the quickened pace to bring end strength to 547,000 soldiers by 2010, not 2012 as originally intended.

The Air Force is grappling with

USAF photo by MSgt. Mike Kaplan

As a part of the exercise Silver Flag in October, a B-52 with a Litening pod demonstrated that it can gather and upload imagery for communications networks.

the composition of its strategic airlift component, and is analyzing how the planned increase in the Army and Marine Corps force structure will affect its lift requirements.

... While Soldier Costs Zoom

The Army confirmed in October that the cost of outfitting individual soldiers is going up, from about $17,500 today to as much as $60,000 by 2015.

Taking into account advanced armor, high-tech ballistic eye wear, earplugs, clothing, and other accessories, the average soldier shoulders more than 80 items before heading into battle.

Some new equipment—already in prototype mode—would turn a soldier into an "F-16 on legs" by adding advanced data links and other high technology, researchers said.

Pemco Protests Repair Contract

The Air Force's award of a $1.1 billion, 10-year KC-135 Stratotanker maintenance contract to Boeing in September has been protested by Pemco Aviation, loser in the contest.

Pemco filed a protest with the GAO, arguing that Boeing violated both the law and Air Force competition rules.

Based in Birmingham, Ala., Pemco previously split the work on the KC-135 maintenance and modifications account with Boeing since 2000. Boeing initially hired Pemco as a subcontractor, but decided to bid solo on this contract.

The GAO has until Dec. 28 to respond to the protest.

Senior Staff Changes

PROMOTION: To Lieutenant General: Glenn F. **Spears.**

CHANGES: Brig. Gen. Floyd L. **Carpenter,** from Dir., Airman Development & Sustainment, DCS, Manpower & Personnel, USAF, Pentagon, to Vice Cmdr., 8th AF, ACC, Barksdale AFB, La. ... Brig. Gen. (sel.) Sharon K.G. **Dunbar,** from Dir., Manpower & Personnel, AMC, Scott AFB, Ill., to Dir., Manpower, Orgn., & Resources, DCS, Manpower & Personnel, USAF, Pentagon ... Brig. Gen. David L. **Goldfein,** from Cmdr., 49th FW, ACC, Holloman AFB, N.M., to Dep. Dir., Prgms, DCS, Strat. P&P, USAF, Pentagon ... Brig. Gen. (sel.) Dave C. **Howe,** from Dep. Dir., Instl & Mission Spt., USAFE, Ramstein AB, Germany, to Dir., Log., Instl. & Mission Spt., USAFE, Ramstein AB, Germany ... Brig. Gen. Michelle D. **Johnson,** from Dir., Public Affairs, OSAF, Pentagon, to Dep. Dir., War on Terrorism, Jt. Staff, Pentagon ... Brig. Gen. Duane A. **Jones,** from Dir., Log., USAFE, Ramstein AB, Germany, to Dir., Global Combat Spt. DCS, Log., Instl. & Mission Spt., USAF, Pentagon ... Brig. Gen. Robert C. **Kane,** from Dep. Dir., Ops & Tng., DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon, to Vice Cmdr., 18th AF, AMC, Scott AFB, Ill. ... Maj. Gen. John W. **Maluda,** from Vice Cmdr., 8th AF, ACC, Barksdale AFB, La., to Dir., Cyberspace, Transformation, & Strategy, Office of Warfighting Integration, Chief Info. Officer, OSAF, Pentagon ... Brig. Gen. Darren W. **McDew,** from Vice Cmdr., 18th AF, AMC, Scott AFB, Ill., to Dir., Public Affairs, OSAF, Pentagon ... Lt. Gen. (sel.) Edward A. **Rice Jr,** from Vice Cmdr., PAF, Hickam AFB, Hawaii, to Cmdr., US Forces Japan ... Maj. Gen. Darryl A. **Scott,** from Cmdr., Jt. Contracting Cmd., Multinatl. Force-Iraq, CENTCOM, Baghdad, Iraq, to Dep. Dir., Defense Business Transformation Agency, Pentagon ... Brig. Gen. Mark O. **Schissler,** from Dep. Dir., War on Terrorism, Jt. Staff, Pentagon, to Dir., Cyber Ops., DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon ... Brig. Gen. Lyn D. **Sherlock,** from Dir., Office of Intl. Security Ops., Political-Mil. Affairs Bureau, OSAF, Pentagon, to Dep. Dir., Ops. & Tng., DCS, Air, Space, & Info. Ops., P&R, USAF, Pentagon ... Brig. Gen. Marvin T. **Smoot Jr.,** from Dir., Manpower, Orgn. & Resources, DCS, Manpower & Personnel, USAF, Pentagon, to Dir., Manpower, Personnel, & Svcs., AFMC, Wright-Patterson AFB, Ohio.

COMMAND CHIEF MASTER SERGEANT CHANGE: Stephen C. **Sullens,** to CCMS, ACC, Langley AFB, Va.

SENIOR EXECUTIVE SERVICE RETIREMENT: Leif E. **Peterson.**

SES CHANGES: Richard V. **Howie,** to Dep. Dir., Log., AMC, Scott AFB, Ill. ... Joseph M. **McDade,** to Dir., Airman Development & Sustainment, DCS, Manpower & Personnel, USAF, Pentagon ... William C. **Redmond,** to Executive Dir., Air Force Safety Center, Kirtland AFB, N.M. ■

The Cost of Restoring the C-5 Goes Upward

The cost of the program to re-engine and upgrade the C-5 Galaxy has breached the 15 percent overrun level, mandating a notice to Congress, and throwing the program's future into question, USAF reported in September.

The service pegged the cost of the Reliability Enhancement and Re-Engining Program, or RERP, at $146.7 million per aircraft, for a program cost of $17.5 billion—roughly $5 billion more than the service had planned to spend on it. Some worst-case estimates put the cost at more than $20 billion. The cost increase constituted a Nunn-McCurdy breach, which requires the Air Force to notify Congress and either certify that the program is still required or explain how it will meet the need some other way.

Shortly after the Air Force released its cost estimates, Lockheed Martin issued a statement guaranteeing it could perform the RERP for a firm fixed price of $83 million per airplane. However, Lockheed's estimates do not include the engines or other logistics costs that USAF would have to bear.

Gen. T. Michael Moseley, Chief of Staff, told reporters at AFA's Air & Space Conference in September that "terminating the program is not off the table." Aeronautical Systems Center at Wright-Patterson AFB, Ohio, is checking the math to find out why Lockheed Martin's estimates and those of USAF are so far apart, Moseley said.

Legislation enacted last year limits USAF's options with the C-5. Under the law, USAF must complete testing of RERP-modified aircraft before it can retire any of the Galaxys. That is scheduled to happen in 2010, but the only alternative—buying more C-17s—may disappear if the C-17 production line closes before then. Senior USAF officials said they would seek legislative relief from the legal conundrum in order to have meaningful alternatives.

The Air Force hasn't calculated the exact costs of terminating the RERP. If the program is terminated, specific costs would be determined once a date is established, service officials said.

Stay Strong, Stay Awake

As part of its never-ending quest to find a safe way to keep pilots and special operations crews alert on long missions, the Air Force has been experimenting with muscle-building proteins.

A study of airmen volunteers is under way to see how whey protein affects both muscle mass and serotonin levels. Too much serotonin increases the sense of fatigue and reduces alertness.

The protein powder contains the amino acid leucine, known to affect serotonin. USAF officials told the Associated Press in October that volunteers taking the supplement are examined after physical tests and after long periods without sleep.

The small research project tracks volunteers over eight weeks, testing participants weekly and monitoring diet and exercise patterns.

The service has also researched supplements such as rose root and citrulline malate, which also aid alertness and reduce fatigue. ■

News Notes

■ Lt. Gen. Michael W. Wooley, the commander of Air Force Special Operations Command, was inducted into the Order of the Sword during a September ceremony. The award is the highest honor presented by enlisted personnel and given to commanders who show consistent concern and advocacy for the well-being of the enlisted force. Wooley has led AFSOC since July 2004 and is retiring Jan. 1.

■ USAF will permit sergeants in the E-5 to E-7 range to re-enter their old career fields, if there's a demand for them. To qualify for the 2008 NCO Limited Reclassification program, they must have had a valid skill level in their secondary specialty within the last four years. The Air Force Personnel Center said about 70 specialties are open.

■ Lockheed Martin will build and fly an "X-plane" to test new structures and materials under a contract awarded by the Air Force Research Laboratory in October. The program will prove out advanced prototyping of composite materials, toward reducing parts count and preventing corrosion and structural fatigue. The contract is for the second phase of the Advanced Composite Cargo Aircraft Flight Demonstration program.

■ A new flight school for the Iraqi Air Force opened on Oct. 1 at Kirkuk AB, Iraq, and began training Iraqi pilots with the assistance of USAF personnel. The school is part of a broader effort to return Kirkuk to the IAF, according to members of the 52nd Expeditionary Flying Training Squadron. The initial class had 10 students and two Cessna 172 aircraft. The school hopes to graduate about 160 pilots a year.

■ Rolls Royce will build 370 AE 1107C-Liberty engines for Marine Corps and Air Force V-22 Osprey tilt-rotor aircraft, under a $700 million contract from the Naval Air Systems Command. The agreement covers engines for 148 aircraft plus 74 spares. Deliveries are scheduled to run through 2013.

■ Basic trainees arriving at Lackland AFB, Tex., in October found something new in their duffel bags. They were among the first to receive the new Airman Battle Uniform, replacing a uniform that had been similar to what Army members wear. More than 800 recruits each received four sets of ABUs in the first week of October.

■ Four B-2 bombers deployed from Whiteman AFB, Mo., to Andersen AFB, Guam, in October for a four-month stay. Bombers have been rotating in and out of Guam for about four years. The B-2s replaced B-52s from Barksdale AFB, La. Officials with the 36th Operations Group at Andersen said the stealth aircraft bring unique capabilities and training opportunities to the base.

■ The Raven B UAV now is operating in Southwest Asia. The small UAV, with a five-foot-five-inch wingspan, is used by the 380th Expeditionary Security Forces Squadron for reconnaissance, surveillance, and force protection activities. The four-pound aircraft can take still photos or live video from the time of launch to recovery.

■ Air Force Reserve Command's first F-22 group was activated at Elmendorf AFB, Alaska, in October, with the standup of the 477th Fighter Group. The initial cadre of the 477th FG was 35 people, expected to go up to 163 by next October. At full strength, the unit will field 160 air reserve technicians and 266 traditional Reservists.

■ Boeing has begun modernizing the B-52 fleet with the Combat Network Communications Technology upgrade at its Wichita, Kan., facility. The CONECT modification is a computing, communication, and display upgrade that allows crews to send and receive real-time digital information during missions. The first modification is expected to take 11 months.

■ A ground-based interceptor made a successful test intercept of a ballistic missile warhead in September, announced the Missile Defense Agency. The interceptor was launched from Vandenberg AFB, Calif., on Sept. 28 and targeted a threat-representative missile fired from Kodiak, Alaska.

■ The last class of the Basic Boom Operator course taught at Altus AFB, Okla., graduated Oct. 5. The course has now moved to the Career Enlisted Aviator Center of Excellence at Lackland AFB, Tex. The Altus boomer school graduated 105 classes and 1,288 students.

■ Members of the 36th Rescue Flight, a helicopter outfit at Fairchild AFB, Wash., helped rescue a 77-year-old man stranded in the Idaho wilderness in October. Two hunting guides issued a distress call that a co-worker was injured and stranded in the Selway-Bitterroot Wilderness. Rescuers flying a UH-1N Huey carried out the rescue from the 7,300-foot-high site despite a balky hoist and jagged terrain surrounding them.

■ The last Defense Support Program satellite was launched from Cape Canaveral AFS, Fla., Nov. 10 aboard a Delta IV heavy evolved expendable launch vehicle. The satellite, the 23rd DPS, was readied aboard the rocket in late September. The DSP, first orbited in 1970, was designed to detect ballistic missile launches.

■ A simulator that reproduces flight line sights and sounds was added in October to the Air Force Expeditionary Center at Ft. Dix, N.J. The Aircraft Maintenance Production Simulator prepares maintenance leaders for the flight line by using projection screens, aircraft sounds, and networked laptops that allow student input and interaction. The device is used in the center's Mobility Operations School.

■ Boeing delivered a refurbished E-4B National Airborne Operations Center aircraft to the Air Force after completing programmed depot maintenance at its Wichita, Kan., facility in September. USAF has only four such aircraft in the fleet. ■

UNSN photo by Petty Officer 2nd Class Michael B. Lavender

USAF RED HORSE airmen and Navy Seabees in a joint training exercise at Kadena AB, Japan, in September. More than 87 Seabees participated in the rapid runway repair exercise and trained with Kadena's RED HORSE engineers on a variety of tasks, from repairing craters to foreign object removal and ordnance detonation.