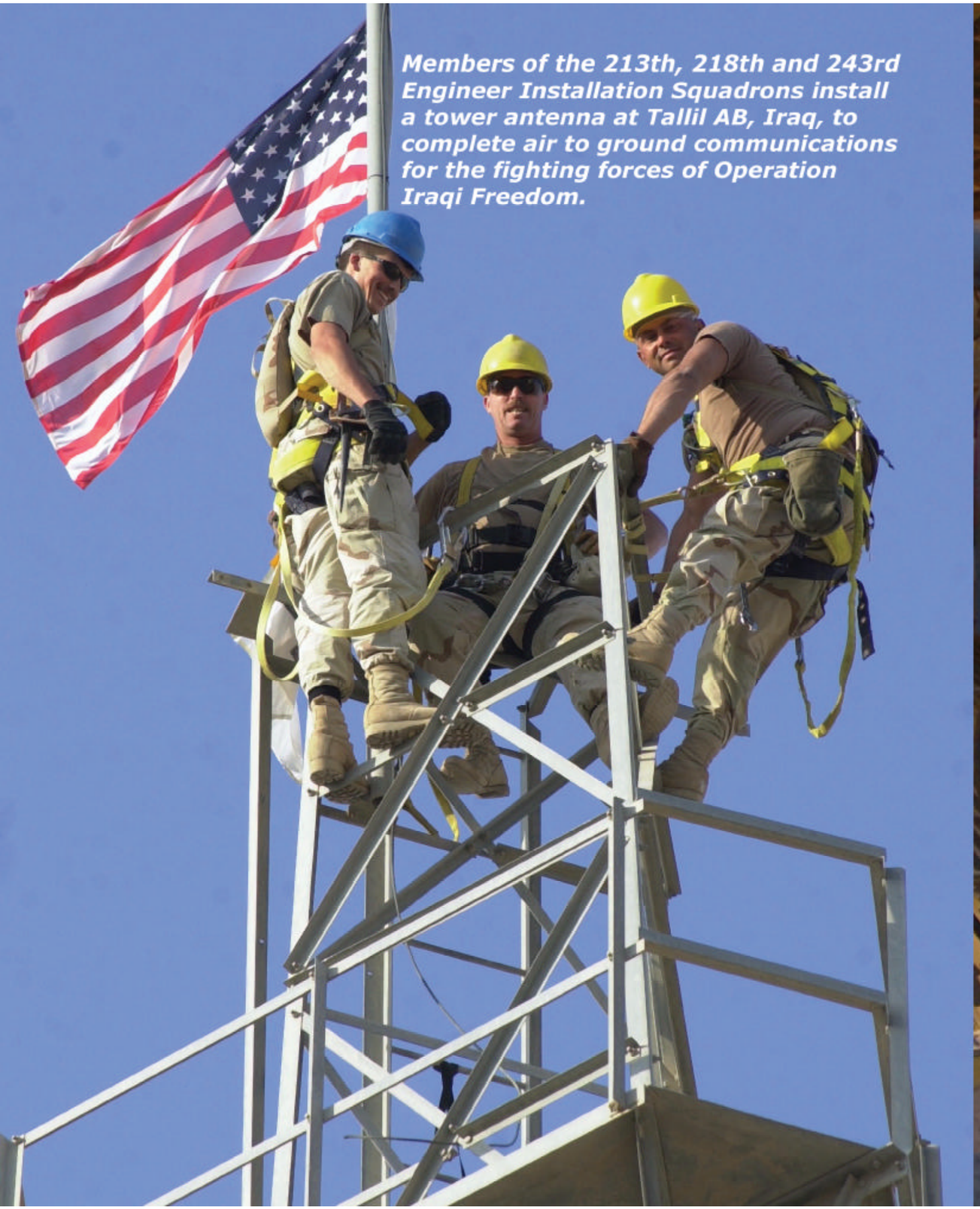

Members of the 213th, 218th and 243rd Engineer Installation Squadrons install a tower antenna at Tallil AB, Iraq, to complete air to ground communications for the fighting forces of Operation Iraqi Freedom.

AIR FORCE MATERIEL COMMAND

LEADING EDGE

October 2003

Above and beyond

Defending America: AFMC's Reserve, Air National Guard

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AFMC
AIR FORCE MATERIEL COMMAND

Mission Focus

***On the cover:** Loadmasters from the Air Force Reserve Command and members of the 85th Maintenance Squadron and 56th Rescue Squadron, Naval Air Station Keflavik, Iceland, unload an HH-60G Pave Hawk helicopter from a C-5 Galaxy upon arrival at Lungi, Sierra Leone, July 13, 2003. (Air Force photo by Tech. Sgt. Justin Pyle. Cover design by Ms. Libby Van Hook.)*

Cover stories

This issue highlights the Air Force Reserve and National Guard, two organizations crucial to making the Defense Department Total Force policy work and making up AFMC's Reserve Component. AFMC relies heavily on the men and women who bring a wealth of knowledge and experience to the job, while maintaining their readiness and value to the warfighter. Turn the page to read the many ways they answer the call to duty.

Mission Progress

Features

Departments Briefs

The Texas horned lizard carries extra "baggage" around Tinker AFB, Okla. Read about it on Page 12.

AFRL high-energy laser simulator moves to Arizona

KIRTLAND AIR FORCE BASE, N.M.— An F-16 high-energy laser weapon simulator that allows pilots to practice using lasers to destroy targets was transferred recently from Air Force researchers here to the Fighter Weapons Training Branch in Mesa, Ariz.

The high-energy laser fighter, or HEL Fighter, was developed by the Air Force Research Laboratory Directed Energy Directorate and Air Combat Command Theater Aerospace Command and Control Simulation Facility experts, and allows pilots to become familiar with high-energy laser weapons, using simulated weapons in tactical engagements against airborne and ground targets. Additionally, it will help develop tactics, techniques and procedures for new fighter laser systems.

— Reported by AFRL Public Affairs

FAA approves UAV flights in national airspace

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — On Aug. 21, the Federal Aviation Administration helped the Air Force's Global Hawk Unmanned Aerial Vehicle, a high-altitude, long-endurance reconnaissance aircraft, take a major step toward routine flight in U.S. airspace by granting the program a national certificate of authorization.

The decision, a first for any UAV system, will permit the Air Force to shorten normal processing and approval time for Global Hawk flights from approximately 60 to as short as five days. It also will allow the UAV to cross various FAA regions more easily during training and military exercises.

— Reported by ASC Public Affairs

AFRL/IF demonstrates wireless intrusion sensors

ROME, N.Y. — The Air Force Research Laboratory Information Directorate and the Air Force Information Warfare Battlelab have teamed to initiate a wireless intrusion detection demonstration project at Westover Air Reserve Base, Mass. Labeled "Project Martin," the initiative provides the directorate with funds to demonstrate its wireless intrusion detection sensor technology in an operational Air Force network.

The demonstration site is where the combat information transport system program office recently installed its first operational wireless network and conducted a full-scale evaluation of the network.

— Reported by AFRL Public Affairs

AFRL, partners develop payload-saving technology

KIRTLAND AIR FORCE BASE, N.M. — Air Force Research Laboratory scientists, working with their CSA Engineering, Boeing and Delta Velocity Corporation partners, may have found a way to preserve spacecraft payloads during takeoff.

Launched on a sounding rocket off the coast of Virginia from Wallops Island Flight Facility Aug. 20, AFRL's Vibro-Acoustic Launch Protection Experiment, or VALPE-2, carried new "active isolation and acoustic mitigation" technology that counteracts vibrations produced by the rocket motor and sound waves during launch. It uses something much like a home stereo speaker to do it.

Hybrid active-passive vibration isolation is a more advanced process that reduces vibrations at a ratio of 10 to 1.

VALPE-2 is also the first flight of a new AFRL composite structure called ChamberCore. Built by Delta Velocity, this technology may also reduce unwanted sound.

— Reported by AFRL Public Affairs

A Czechoslovakian L-39 Albatross landed at Edwards AFB, Calif., Aug. 21. (Courtesy photo)

Czech jet at Edwards vying for place in inventory

EDWARDS AIR FORCE BASE, Calif. — Edwards became the temporary home to a Cold War icon Aug. 21, when the Czechoslovakian L-39 Albatross touched down joining the Air Force Flight Test Center's cadre of weapon systems.

The aircraft, arriving from Teton Aviation in Driggs, Idaho, is slated to fulfill several missions at Edwards during a six-month trial period. The test center will evaluate the L-39's flight capabilities, maintenance reliability and cost performance in support of flight.

There are currently several missions being investigated for the L-39, one of which is as a partial replacement for the now-retired T-39 fleet.

Based on the "transformation in testing" philosophy — keeping costs at a minimum, examining all options and assets available, using commercial off-the-shelf resources and streamlining the acquisition process — AFFTC decided on a limited-time, fixed-cost service contract for an aircraft capable of carrying out mission requirements.

This Czech-built trainer and light-attack jet initially went into full production, as the standard military jet trainer in 1972 for the Soviet Union and other Warsaw Pact countries. More than 3,000 were built there and exported to more than a dozen countries.

After six months, the center will make a decision on the Albatross. If all goes as planned, the long-term vision is to bring in two L-39s to support AFFTC's testing and training missions.

— Reported by AFFTC Public Affairs

A move toward PEO reorganization

Transformation: ‘It’s all about the mission’

Gen. Greg Martin
AFMC Commander
&
Dr. Marvin Sambur
Assistant Secretary of the Air Force, Acquisition

■ ***Editor’s Note: This is the first appearance of* Mission Focus*, a standing magazine feature designed to communicate Gen. Martin’s vision. This month’s focus, a joint commentary, explains what emerged from a recent PEO restructuring meeting.***

It was a truly extraordinary gathering that should give hope to all who are eager to join us in taking Air Force acquisition and sustainment to ever-higher levels of excellence.

On Sept. 12, we met in Washington with virtually all the senior leaders in acquisition. The current program executive officers, product and logistics center commanders, acquisition capabilities directors, and logistics and science and technology leaders from the Pentagon, joined us to begin mapping out the implementation of the recently announced reorganization of our PEO structure.

Specifics of the implementation will be announced soon, as we continue to deal with the details that inevitably surface when a large organization retools itself to adapt to new and quickly changing realities.

But there were clear messages that came out of this meeting:

■ **Everything we are doing has one aim — to make the Air Force better.** In the world of acquisition, that means delivering what we promise, when we promise.

■ **Our focus is on the mission.** The mission is successful execution of our acquisition programs. In order to do so, we must ensure that we have embraced the concept of Agile Acquisition, characterized by speed and credibility. Everything that distracts from that mission must be avoided. Anything that detracts from that mission must be eliminated or fixed.

■ **The leadership of SAF/AQ and Air Force Materiel Command are united as never before in charting the course ahead.** There will be no "pride of authorship" on good ideas. Attempts to divide us into camps will not be tolerated and will fail. There is one, joint agenda and we will move forward together with a single focus and single purpose — to provide our warfighters with the very best systems, systems of systems and capabilities.

We were struck by the atmosphere of cooperation and dedication as we begin down this new path. We are convinced that this reorganization will facilitate several important goals. Among those goals are:

■ **Improved support to the warfighter, in terms of both acquisition and sustainment.**

■ **Increased collaboration between SAF/AQ and AFMC.** We must become one team.

■ **Better alignment of accountability.** As the PEOs are dual-hatted as product center commanders, they will have both the responsibility and the control of resources necessary to do the job.

■ **More clearly focused roles — PEOs will focus on execution of acquisition.** Logistics center commanders will focus on execution of sustainment.

■ **Streamlined management with clear chains of command.**

At our leadership meeting last month, it was clear that we don't have all the answers. We need to better define when our systems pass from being acquisition programs into being primarily sustainment efforts. There is no easy formula for that.

Also, we have to work to more fully integrate our great science and technology capabilities into the entire acquisition and sustainment life cycle.

We have defined a top-level implementation strategy as a two-phased approach. Under Phase 1, all acquisition programs will be assigned to, and be the responsibility of, a PEO.

Phase 1, via an IOC/FOC construct, begins Oct. 1 with the first realignment. We have set Jan. 31, 2004, as the target completion of FOC.

Phase 2 will align the management of our weapon systems according to core competencies (all acquisition efforts under the PEOs and all sustainment efforts under the air logistics center commanders). There is no doubt this is a challenge, but we can make this happen.

Finally, we need to do more to reach outside of the acquisition community to our users — the warfighters. We must form true partnerships with the warfighter to build trust, understand tradeoffs and deliver what is truly needed.

None of this will be easy. As Gen. John Jumper, our chief of staff, frequently says about complex plans, "There’s a zero percent chance that we will get this 100 percent right."

But that's OK. We simply cannot wait to act until we have answers to every possible "What about this?" and "What about that?"

Instead, we've started down the path that looks the most promising and makes the most sense. We'll constantly evaluate our progress and we won't be afraid to make mid-course corrections.

As we embark on this transformation, we draw confidence and no small amount of pride from our great acquisition workforce. The record is clear. When it comes to acquiring and sustaining capabilities that ensure decisive victory, no one comes close to our Air Force. The results of recent operations in Kosovo, Afghanistan and Iraq are just the most visible examples of what we can accomplish.

The record is clear. When it comes to acquiring and sustaining capabilities that ensure decisive victory, no one comes close to our Air Force.

Everyone involved in Air Force acquisition and sustainment should know this: We are not reorganizing out of some sense of desperation. We all are rightly proud of what we accomplish.

But we cannot be satisfied or complacent. By reforming our bureaucracy and energizing our culture, we can unleash still more of the potential of our acquisition community.

As this transformation moves quickly from planning to execution, we will do our best to keep everyone informed as to our expectations and our plans for future steps. For now, our chief expectation is that everyone, no matter where in the acquisition chain they work, will remember this — "It's all about the mission."

Mr. Chris Carrington and Mr. Eddie Wright, sheet metal mechanics at Robins AFB, Ga., install rivets into a C-130 panel. PEO restructuring will allow air logistics centers’ workers to focus on sustainment, while product centers concentrate on development. (U.S. Air Force photo by Ms. Sue Sapp)

A Glimpse at PEO Reorganization

“We are not fixing anything that is broken. Instead, we are moving to improve warfighter support.”

Advantages

■ Streamlined decision-making, improved speed and credibility, and increased accountability
■ PEOs (most senior acquisition generals) are closer to the programs they oversee, their respective system program directors and the workforce supporting the programs
■ Allows the Air Force to deliver capabilities more quickly and to make the best use of its resources
■ Air logistics centers can focus on depot responsibilities and sustainment engineering, making them more productive and efficient

Product Centers

■ **Program executive officer for aircraft** (except the JSF and F/A-22) — Aeronautical Systems Center commander, Wright-Patterson AFB, Ohio
■ **PEO for weapons** — Air Armament Center commander, Eglin AFB, Fla.
■ **PEO for command, control and combat support** — Electronic Systems Center commander, Hanscom AFB, Mass.

Below the center commander, two positions will be created:
■ Deputy for Acquisitions Execution (general officer or SES civilian) — help oversee acquisition execution
■ Deputy for Support — help manage the day-to-day operations of the center

Logistics Centers

■ System program directors with programs in the sustainment phase report to the ALC commander
■ ALC engineers can focus more on sustainment engineering than on modernization
■ ALCs continue to be responsible for depot maintenance and supply chain management, as well as remain engaged in the acquisition process for maintenance and supply planning
■ ALC commanders no longer Designated Acquisition Commanders, allowing more concentration on depot and sustainment issues

Timeline

Phase 1: All acquisition programs assigned to a PEO
■ Initial operating capability — All existing PEO and product center DAC programs mapped to the new PEO portfolios
- Oct. 1, 2003 — Air Armament Center
- Dec. 1, 2003 — Aeronautical and Electronic Systems centers

■ Full operating capability — All acquisition programs, including ALC DAC programs, mapped to the appropriate PEO portfolios. FOC will occur between Jan. 31 and March 31, 2004.
Phase 2: Realign management of weapon systems according to core competencies, with acquisition efforts under the PEOs and sustainment efforts under the ALC commanders. The goal for completion is Oct. 1, 2004.

Air Force Reserve

Air National Guard

Guard, Reserve hold valued place in AFMC Total Force family

1st Lt. Gailyn Whitman
AFMC Public Affairs

The U.S. Constitution requires Congress to provide for "organizing, arming and disciplining the Militia." America's freedom was fought for and won with support from this group of volunteers, and the same holds true today.

During Operations Enduring Freedom and Iraqi Freedom, that group is made up of Guard and Reserve forces — who comprise nearly 50 percent of America's total fighting force.

Where similarities part ways

When these forces are called to fight for freedom, Air Force Materiel Command supports 19 Air National Guard units, six Reserve Combat Logistics Support Squadrons and more than 3,000 Individual Mobilization Augmentee Reservists, the largest IMA program in the Air Force, according to officials.

Each of these forces has similarities, but their organizations are vastly different.

According to Lt. Gen. Daniel James, Air National Guard director, because the ANG is part of the National Guard Bureau, he does not exercise command authority over the units. In contrast, Lt. Gen. James Sherrard, Air Force Reserve Command commander, has that authority over the Reserve forces.

Another difference involves who controls these entities — the ANG is a state resource but the reserves fall under the federal umbrella, Gen. James said.

Like the Reserve, the Air Force funds the ANG, but the ANG maintains a state mission and units report to their respective governors.

When called for duty

In times of national emergency the president can call up Guard members. A governor does not have authority to call on the Reserve but can call on the ANG in times of crisis.

"This provides an incredibly flexible resource especially in regards to the homeland security mission," Gen. James said. "Homeland defense is a natural mission for the Guard. We have been doing it for nearly 360 years."

In the broad scope of things, ANG forces are active members of the Air Force's expeditionary force. Each ANG unit is assigned to an Air and Space Expeditionary Force rotation.

Gen. James said the ANG is committed to supporting the AEF construct.

Made up of two parts

On the other side of the AFMC house, the Air Force Reserve is comprised of two different types of reservists.

According to Col. Marcus Caudill, AFMC director of command reserve forces, there are traditional reservists who, like the ANG, train one weekend a month and for two weeks during the summer, and IMA reservists, who were designed to back fill deployed active-duty forces.

Within AFMC, the six Reserve Combat Logistics Support Squadrons are considered traditional Reserve units, but that is where the similarity ends.

The CLSS units are always on call, supporting the AEF whenever and wherever they are needed, said Mr. Bert Nyberg, CLSS functional area manager. These units are on what is called "enabler status."

They are in place to back-up and support the active-duty units when the maintenance support is more than the active-duty component can provide.

Col. Caudill said traditional Reserve units are assigned to an AEF rotation, while IMA reservists are not part of the rotation, but support the AEF through volunteer mobilization.

"Air Force Reserve Command can be proud of its AEF contributions," said Gen. Sherrard. "Since Sept. 11, more than 26,000 Reservists were called upon to support the Global War on Terrorism. Many of these men and women were AFMC IMAs, whose hard work and dedication made it possible for AFMC to better meet the needs of our warfighters."

The active-duty force drives requirements for IMA reservists, and IMA reservists support every center and every depot within the command, according to Col. Caudill.

Most of the IMA force is managed at the command reserve office, but a functional manager oversees a select group of IMA reservists whose expertise remains in critical demand. This group includes doctors, lawyers, medical specialists, chaplains and intelligence specialists who can be moved to where the need is greatest.

On being involved

According to Gen. James, the current operations tempo is such that the Guard and Reserve need to be involved to maintain their compatibility with and value to the warfighter.

"The Guard and Reserve are an important part of the AFMC Total Force family," said Col. Dennis Elvin, Air National Guard advisor to the commander.

Guard members are equally trained and skilled when deployed. Most will not be able to tell the difference between a Guard member and active-duty Air Force member, he said. The only significant indicator is that the Guard member will be much older than his or her rank would indicate.

Col. Caudill agrees, "IMA reservists don't stand out, they blend in. They are a natural member of the Total Force team."

What the future holds

What does the future hold for Guard and Reserve forces?

Gen. James said, "I see the ANG remaining relevant as a full partner in the Total Force. As we adapt with the Air Force, we will acquire the new missions and transformational unit concepts such as the blended wing JSTARS unit at Robins Air Force Base, Ga., that will be required in the near future.

"I definitely see the ANG involved in the technological battlespace, especially information operations, because it would be a natural fit based on the citizen-airman concept of leveraging civilian skills to accomplish missions," he continued.

The AF Reserve is also looking to make better use of its IMA reservists by tapping into their civilian skills, said Col. Caudill. Such an option would allow for flexibility in the IMA program.

There are differences between the ANG and the Air Force Reserve. But, when it comes to defending America like their forefathers did, both are committed members of the AFMC Total Force family.

Individual Mobilization Augmentee Maj. Bruce Ellis drives the mobile vehicle during a U-2 Dragon Lady sortie at Air Force Plant 42, Palmdale, Calif. Maj. Ellis is one of two reservists at Plant 42 working on the U-2 program. (Air Force photo by Tech. Sgt. Sean Houlihan)

Eye in the sky

Dedicated IMAs help keep Dragon Lady flying high

Over the past several months, the U-2 Dragon Lady, the Air Force's only manned high-altitude surveillance and reconnaissance aircraft, has been in the news for flying sorties over Iraq, collecting important intelligence information first for U.N. weapons inspectors and then for the war.

The active duty owns, operates and maintains the 34 U-2s in the inventory on a daily basis, but that doesn't mean Air Force Reserve Command is in the "black" for this once top-secret program. In fact, two Individual Mobilization Augmentees are involved in providing direct support to the program during depot-level repair and testing of new equipment at Air Force Plant 42, Palmdale, Calif.

Col. Rob Rowe, Individual Mobilization Augmentee to Col. David Walker, 412th Operations Group commander, Edwards Air Force Base, Calif., is one of two Lockheed Martin test pilots at the plant. Lockheed Martin built the aircraft. The other reservist involved in the program is Maj. Bruce Ellis, IMA to Lt. Col. Nils Larson, Plant 42 commander.

Col. Rowe is the first pilot to fly a U-2 after it goes through depot-level repair. He has worked at Lockheed for the last nine years after serving 13 years as an active-duty pilot, logging more than 6,000 hours as a test pilot on various airframes, including 3,000 hours in the U-2.

Maj. Ellis, an American Airlines pilot, served on active duty for 14 years, accumulating more than 1,110 hours in the U-2. Because he no longer maintains his proficiency as a pilot, his job is to drive the chase car during takeoffs and landings to assist the pilot, who has limited visibility from the cockpit.

Invaluable resources

Their active-duty flying experience and corporate knowledge combine to make both men invaluable resources for helping Plant 42 accomplish its mission, Col. Larson said.

"Rob is a very talented test pilot," Col. Larson said. "It is no surprise Lockheed hired him for this job. He is an incredible value to the operations side of the house due to missions as both a test pilot and operational flier. Being a colonel in the Reserve, he also sees where the Air Force comes from as the customer and can explain certain things to both Lockheed and the Air Force to accomplish our goals.

"With the U-2 being a low-density, high-demand asset, there is always a problem with manning. Bruce is able to commit a decent amount of time toward the mission and is flexible to help when needed. During our busy times, when half the people are out of the office, he comes in to be the supervisor of flying and picks up additional duties for other members of the unit."

Looking toward the future

Col. Ellis is acutely aware of his unique position and is trying to pave the way for future Reserve involvement in the program.

"This is a great job opportunity, and hopefully my involvement will blaze the way to get Reserve pilots into the cockpit of the Dragon Lady," he said.

Col. Ellis arrived at Plant 42 in the spring of 1998 while on active duty and has been an IMA since 2000. He admits to going through an adjustment period after leaving the U-2 cockpit but knows the decision was the best for not only him but also his family. His civilian job requires him to be away from home an average of 14 days a month. To maintain his proficiency as a U-2 pilot, he would have to spend more than his usual four days a month at the plant.

Even with the U-2 being in for depot repair or testing of new equipment, the typical mission lasts from six to eight hours. For Col. Ellis, that means a normal day consists of a launch or recovery either in the early morning or late night depending on when the flight originates. He spends the time in between reading flying operations files, airfield restrictions and safety instructions.

Placing trust in one another

As an IMA, it is also Col. Ellis' responsibility to sit in on mission briefings and to perform the pre- and post-flight inspection on the Dragon Lady.

Col. Ellis said pilots put a lot of trust into the hands of the mobile.

"With only five pilots assigned here and being a former pilot myself, there is a great deal of trust and respect that we have for each other," he said. "We are all trained to the same standards. I provide input from a pilot's perspective, but it is still up to the pilot to make the decision to go or not go."

The decision to take off after the U-2 has just undergone depot-level repairs falls upon Col. Rowe and another former Air Force pilot, Mr. Eric Hansen. Col. Rowe said he and Mr. Hansen do not have any safety concerns about a first flight because they have a lot of confidence in the Lockheed and Air Force maintenance technicians to make sure the aircraft is within technical specifications before the flight.

In addition to flying aircraft after undergoing maintenance, Col. Rowe performs missions to test and monitor new multi-sensor photo, electro-optic, infrared and radar imagery collecting equipment as well as intelligence data equipment that Lockheed and other manufacturers have developed for the Air Force.

Top: Former Air Force U-2 pilot turned Lockheed Martin pilot Mr. Rob Rowe has his helmet secured by pilot equipment technician Mr. Mark Schroeder before a U-2 sortie at the plant. Mr. Rowe is currently the Individual Mobilization Augmentee to Col. David Walker, 412th Operations Group commander, Edwards AFB, Calif. Bottom: Members of the Air Force Reserve are involved in providing direct support to the U-2 Dragon Lady program during depot-level repair and testing of new equipment at Air Force Plant 42, Palmdale, Calif. (Air Force photo by Tech. Sgt. Sean Houlihan)

"The U-2 has been in the fight for a long time," said Col. Rowe of the aircraft that was first produced in August 1955. "There is a real good feeling when you're part of something new and improved for the end user — the 9th Reconnaissance Wing, Beale AFB, Calif."

Col. Rowe said the Lockheed engineers and Air Force program managers enjoy an excellent working relationship. He is able to use his active-duty experience and Reserve position to help maintain that strong bond. However, he is quick to point out that when something comes up involving Lockheed while he is on military duty at Edwards, he stays out of it so there is no potential conflict of interest.

The U-2 program has been in existence since the 1950s because of a high-quality product, a good relationship between Lockheed and the Air Force, and well-trained and experienced people. With the dedicated service of people like Col. Rowe and Maj. Ellis, the program will flourish for years to come.

— Tech. Sgt. Sean Houlihan, AFRC Public Affairs
(Story courtesy of Citizen Airman *magazine.)*

Tech. Sgt. Robert Powell, 270th Engineering and Installation Squadron ground radio technician, installs a permanent telephone switch at a base in Qatar. Sgt. Powell's team, made up of eight other individuals, constructed the manholes and tunnels needed to run the telephone lines into the base. (Air Force photo)

Getting wired: Guard engineering, installation units lay communications groundwork

1st Lt. Gailyn Whitman
AFMC Public Affairs

When trying to describe Air Force Materiel Command and its role supporting the Air National Guard, most people think of aircraft, weapons development and maintenance. AFMC prides itself on its research and sustainment roles, but it also takes its responsibility to 19 ANG engineering and installation units seriously by focusing on new deployment strategies.

AFMC's Guard units, which make up 95 percent of all the engineering and installation units within the Air Force, span the United States. There are units from Willow Grove, Pa., to Everett, Wash., with many points in between.

The Engineering and Installation Squadrons support the Air Force and other Defense Department organizations by providing the underground wiring and excavation necessary to install communications equipment at deployed locations. These teams set up communications networks for both classified and unclassified communication.

> *"These are highly trained, highly skilled, heavy brainpower units. There are not a lot of them, but there is an enormous demand for them."*
>
> Maj. Gen. William Lutz

"These are highly trained, highly skilled, heavy brainpower units," said Maj. Gen. William Lutz, Air National Guard assistant to the AFMC commander. "There are not a lot of them but there is an enormous demand for them."

The EIS teams deploy to design and engineer communications systems tailored to meet customer specifications. Most of the equipment used is purchased off the shelf and the deployed team must learn the system before they can install it, Gen. Lutz said.

One such deployment took place in Qatar from Feb. 4 to July 2.

Tech. Sgt. Robert Powell, 270th EIS ground radio technician, and eight others deployed to Qatar to install a permanent telephone switch at a base there. Sgt. Powell's team was responsible for building the manholes and tunnels necessary to run the telephone lines into the base.

"We developed our own engineering and installation community in Qatar," said Sgt. Powell. "There were at least six different units from different states there. It was a good opportunity to meet the other members of the EIS team."

Sgt. Powell also noted that he enjoyed the work despite extreme heat and sandy conditions.

According to Col. Dennis Elvin, ANG advisor to the AFMC commander, the continuing Global War on Terrorism will require a constant process of mobilization and demobilization for the EIS teams. When cable needs to be laid, the Guard makes it happen.

> *During Operations Enduring Freedom and Iraqi Freedom, AFMC deployed more than 300 EIS personnel to several areas around the world in response to the Global War on Terrorism.*

To make that happen in a less stressful and more efficient manner, teams such as Sgt. Powell's now get to their destination via a "phased deployment process" orchestrated by a deployment team at headquarters AFMC.

The deployment cell was developed to ensure the EIS teams are deployed efficiently, said Gen. Lutz. It's there to assure the right people for the job are deployed at the right time and only for as long as it takes to complete the job at hand.

One team will deploy to engineer the project and design the system. When that team establishes the requirements, another team deploys to ensure the trenchers arrive on schedule and dig holes before installers arrive to run the wiring.

"The people in this deployment cell ensure the equipment is there before the ditch diggers get there and the ditch diggers get their job done before the installers arrive," said Col. Elvin. "This way you don't have people tripping over each other and encumbering the combatant commander with people sitting around waiting for their job to get started.

Members of the 241st Engineering and Installation Squadron, repair communication damage made by U.S. forces when they captured the Baghdad Airport. (Air Force photo)

Tech. Sgt. Steve Verrill (left) and Master Sgt. Julie Caswell, both of the 243rd Engineering and Installation Squadron, dig trenches at Tallil Air Base, Iraq. Trenchers arrive in advance to dig holes before installers lay wiring. (Air Force photo)

"More importantly," said Col. Elvin, "the EIS teams stay home with their families and continue working in their communities until they are needed in the battlespace."

> *During the last year the team managed more than 680 deployments. Because there are so few engineering and installation specialists many of the Guard members will mobilize two or more times a year.*

Phased deployment ensures that the EIS teams called up are not deployed to sit unnecessarily. Deploying a guardsman for too long affects employer support for the Guard. For this reason, AFMC works hard to foster relationships with civilian employers. This cell helps that happen, said Col. Elvin.

Three or four people manage the deployment system. During the last year, the team orchestrated more than 680 deployments. Because there are so few engineering and installations specialists, many Guard members will mobilize two or more times in a year.

During Operations Enduring Freedom and Iraqi Freedom, AFMC deployed more than 300 EIS personnel to areas around the world.

The EIS team completed more than 150 communications projects at 12 different bases and installed more than $15 million of material while executing more than 100,000 Guard days in support of operations.

Lt. Gen. Daniel James, ANG director in Washington, D.C., said, "EIS personnel responded to our nation's call. They were ready, reliable and relevant to the success of the military operations since Sept. 11, 2001."

AFMC provides critical assistance to Guard, Reserve

Capt. Andy Middione, an Individual Mobilization Augmentee, conducts a pre-maintenance standardization and evaluation program inspection at the Aerospace Maintenance and Regeneration Center, Davis-Monthan AFB, Ariz., on an F-16 being regenerated for delivery to Fallon Naval Air Station, Nev. AFMC supported Guard and Reserve forces by servicing and upgrading aircraft from the air logistics centers for use in combat. (U.S. Air Force photo)

During Operations Enduring Freedom and Iraqi Freedom, Air National Guard and the Air Force Reserve provided nearly 50 percent of the fighting force. During these operations, ANG officials activated more than 20,000 airmen while the Air Force Reserve mobilized more than 26,000.

To facilitate success, Air Force Materiel Command ensured these forces were equipped with the technology necessary to face and defeat the enemy. This included making sure the Reserve and Guard aircraft were serviced or upgraded and released from the air logistics centers in a timely manner.

According to Maj. Gen. William Lutz, ANG assistant to the AFMC commander, the Guard owns 40 percent of the Air Force inventory, including all types of aircraft except the B-52, B-1 and B-2, making the ANG the single largest air logistics center customer.

For AFMC to achieve its ALC goals, a nine-member Guard team works full time as a liaison between guard fighter squadrons and the ALCs to help get ANG planes out of the depots and back into the fight.

"The liaison program is working well," Gen. Lutz said. "We conducted customer support visits with teams from the depot, program offices and the Guard Bureau. The teams went to the individual units and explained the depot process and got ideas as to what the depots can do to better serve their ANG customers."

Leadership has noticed the benefit of this cross communication. According to Gen. Daniel James, ANG director in Washington, the Guard saw significant logistics changes in the way AFMC meets the needs of the Guard.

At Ogden ALC, Hill Air Force Base, Utah, the A-10 Thunderbolt II Systems Program Office assigned a lead engineer who has increased communication with the ANG logistics office. The result was an increase in the quality of the Guard A-10s returning to the field.

"AFMC and the aircraft depots continue to strive to meet and often exceed the warfighter's needs," Gen. James said.

Additionally, AFMC depots surged to meet the needs of ANG C-130 units returning from Operation Iraqi Freedom. The ANG's C-130 fleet required numerous isochronal inspections due to frequent use in theater, Gen. James said. The periodic inspections look for engine wear and damage aggravated by the Middle East's sandy conditions. AFMC's depots stepped up to perform some of these critical inspections, allowing guard units to focus on local reconstitution efforts while continuing OIF taskings.

Not only did the depots inspect the ANG C-130s, they also surged to complete engine overhauls, from 14 planned in August to 22.

In addition to depot sustainment operations, AFMC experts provided technology to the Air Force Reserve Command and ANG. One such advance was installing LITENING II targeting pods on Guard and Reserve F-16 and A-10 aircraft.

According to Maj. Gen. John Batbie, Air Force Reserve Command vice commander, acquiring the LITENING II targeting pod marked the greatest jump in combat capability for reserve F-16s in years. After the Gulf War, the ability to employ precision-guided munitions, specifically laser-guided bombs, became an apparent requirement for future conflicts.

"The pod affords warfighters the capability to employ precisely targeted laser-guided bombs effectively in both day and night operations, any time at any place," Gen. Batbie said.

The A-10s and F-16s primarily conducted counter-Scud operations in Western Iraq, said Gen. James. Their secondary role was providing close air support for deployed special operations forces.

Older A-10 and F-16s have flown beyond their life expectancy. AFMC experts can predict potential trouble areas that these aging aircraft might have.

The ability to predict break points in the fleet before they happen saves a tremendous amount of money, keeps the aircraft viable and saves lives, said Gen. James.

Gen. James is pleased with the viability of Guard aircraft. Maintainers supporting the Global War on Terrorism are in a challenging environment, but with AFMC's help and responsiveness, they keep their aircraft in the fight.

"Without the help, focus and commitment of the people from AFMC we would not be able to operate the way we do," he said. "The skill and capability of our Guard units is enhanced by the product AFMC gives us."

— 1st Lt. Gailyn Whitman, AFMC Public Affairs

Airmen provide link between AF, communities

1st Lt. Gailyn Whitman
AFMC Public Affairs

Staff Sgt. Chris Mynahan, 243rd Engineering and Installation Squadron, does repair work at Tallil Air Base, Iraq. Sgt. Mynahan was a part of the effort to rebuild the communications damage made when U.S. forces overtook the area. (U.S. Air Force photo)

Combat affects more than the soldiers, sailors, Marines and airmen who serve their country. Often left behind are husbands, wives, children and parents.

Those serving in the Air National Guard or the Air Force Reserve also leave jobs, co-workers and their attachment to the community.

Air Force Materiel Command supports 19 ANG engineering and installation squadrons, six reserve combat logistics support squadrons and more than 3,000 Individual Mobilization Augmentee reservists.

These airmen are a large part of the AFMC family that supported the Global War on Terrorism, both at home and abroad, said Maj. Gen. William Lutz, Air National Guard assistant to the AFMC commander.

Guard and Reserve forces are the direct link to the community. Volunteers go through school, work and play in the community and the community becomes invested in the Guard and Reserve, said Gen. Lutz.

"When our Guard and Reserve forces are mobilized for war, their communities must also respond and become a part of the mobilization. That may mean working some overtime to cover a Guard member's shift or a grandmother watching her grandchildren so that the child's parent can do his or her job as a Reservist. It brings the community into the fight," Gen. Lutz said.

Gen. Lutz is a traditional guardsman from Mississippi. He serves approximately 170 days per year supporting AFMC and the ANG.

The remainder of the year, Gen. Lutz serves as a trial judge responsible for four counties north of Jackson, Miss. In this capacity, he hears domestic relations issues and presides over non-jury trials.

Just as Gen. Lutz is deeply rooted in his community, the men and women of the engineering and installation squadrons represent a wide variety of roles throughout the American landscape. They range from teachers and police officers to scientists and engineers.

"Guard mobilization personalizes the war effort for American communities," said Gen. Lutz. "It keeps the community in support and understanding when America goes to war."

According to Lt. Gen. Charles Coolidge, AFMC vice commander, "Everybody is an emissary, everybody is an ambassador when we go to war. Nobody is a better ambassador than a guardsman that has to be mobilized. When the Guard locks and loads for war, the entire community is engaged."

The same held true for Air Force Reserve forces during Operations Noble Eagle, Enduring Freedom and Iraqi Freedom. Nearly 600 IMAs were mobilized within a short period of time to provide coverage and support for active duty AFMC people deploying overseas.

Each IMA brings the knowledge of a military and a civilian job skill, said Col. Marcus Caudill, director command reserve forces.

Recently, AFMC called upon one of its IMAs to provide his expertise in an unusual capacity.

Maj. John Tree, requirements directorate lead for operations and strategy, used his skill as a product brand manager for a major breakfast food corporation. While activated, he aided the information technology directorate with marketing their e-business programs to airmen. He provided advice to promote the new program and help airmen better understand the new self-service initiatives.

"The Reserve forces in AFMC are more than just part of the team, they are very much integrated into the game plan," said Maj. Gen. Ed Mechenbier, mobilization assistant to the AFMC commander.

Gen. Mechenbier works in Dayton, Ohio, as a vice president of development at a national contracting company. He performs his military duties as mobilization assistant to the commander nearly 200 days per year.

Just as Gen. Mechenbier and Gen. Lutz lead double lives with strong ties to both the military and their local communities, men and women throughout AFMC continue to be connected between the armed forces to America's citizens.

"Our forces' dedication and volunteerism is the glue that holds this great country together," said Gen. Mechenbier.

IMAs ensure troops have munitions they need

Tech. Sgt. Sean Houlihan
AFRC Public Affairs

For the Air Force to accomplish its mission — to fly, fight and win — its takes ammunition, and lots of it.

Since the Global War on Terrorism began, Air Force officials report the service has dropped or fired more than 34 million pounds of munitions off of airframes ranging from the Vietnam-era B-52 to the state-of-the-art Predator Unmanned Aerial Vehicle.

Making sure forces in the field have the munitions they need to take on al Qaeda and Taliban forces in Afghanistan, and that these munitions are in top-notch condition, is a big job. Among those tasked with that responsibility are Individual Mobilization Augmentees of the Air Force Reserve Ammunition Team, stationed at Tier 1 Army ammunition depots.

"The work accomplished by the 123 IMAs on the team provides the support structure to make the Air Force mission of dropping bombs on target possible," said Capt. Jeffrey Hoffman, AFRAT program manager, Hill Air Force Base, Utah.

"In addition, they fill voids within active-duty munitions squadrons, fulfilling the basic needs of the squadrons preparing the large number of munitions shipments that are required to support Operation Enduring Freedom," he said.

Capt. Hoffman said within the first 90 days of OEF, reservists assisted in the shipment of more than 100 C-5 Galaxies, C-17A Globemaster IIIs and civilian 747s filled with more than 5,100 short tons of munitions heading to storage areas in the theater of operations. With the AFRAT members augmenting shipping operations stateside, active-duty people were free to forward deploy.

Handling surging demands

While some team members helped ship munitions, others were at the Tier 1 depots of Tooele Army Depot, Utah; McAlester Army Ammunition Plant, Okla.; Crane Army Ammunition Activity, Ind.; and Blue Grass Army Depot, Ky., pulling munitions for inspections and repairs and returning them to serviceable condition.

"When the Air Staff and leadership at the Ogden Air Logistics Center at Hill AFB, Utah, look for help during a crisis situation, they know our work force of skilled and knowledgeable NCOs is capable of handling surges in munitions taskings and is available at a moment's notice," said Chief Master Sgt. Dave Colella, ammunition control point superintendent.

"The NCOs on the AFRAT team have experience working under the more stringent standard operating procedures of the Army and Navy depots, allowing them to meet shipping requirements for the most heavily used munitions in the inventory," he said.

Since the beginning of Operation Enduring Freedom, the team has supplied warfighters with 2,303 Joint Direct Attack Munitions bomb bodies; 3,367 general-purpose bombs; 4,000 wind-corrected munitions dispensers; 9,273 MK-107 impulse carts; 1.4 million rounds of 7.62 mm M-16 rounds and other munitions in various quantities.

"AFRAT has provided direct support to the Air-to-Surface Munitions Directorate's Readiness Division at Hill during Operations Enduring Freedom, Northern Watch, Southern Watch and now Iraqi Freedom, which gives you some idea of how successful and important the program is," said Chief Colella.

"Since AFRAT's inception, initially on a test basis in March 1995 and becoming fully operational in 1997, the team has returned more than $1 billion worth of munitions to the warfighters in a 'ready-to-go' operational condition," he said.

"Eight years ago when we were struggling to get the AFRAT program started, when active-duty people and even many reservists were skeptical of or even hostile toward IMAs — who would have thought it would produce this much return on investment," said Brig. Gen. Rosanne Bailey, director of the Aeronautical Enterprise Program Office, Aeronautical Systems Center, Wright-Patterson AFB, Ohio.

"This just goes to show what you can get from linking up motivated, capable people with work they know is important to the Air Force and nation," she said.

Following a career path

Chief Colella said AFRAT provides a career path for people who decide to leave active duty and join the Reserve. On average, members of the team have 18.5 years of service. The corporate knowledge of the ammo career field these people have is invaluable and saves training dollars while offering career opportunities outside active duty.

For Tech. Sgt. Leo Cummings, becoming a member of AFRAT afforded him the opportunity to advance professionally and still be a part of the Air Force. Sgt. Cummings, a former member of the Indiana Air National Guard, heard rumors that his unit was going to lose its fighter mission, and the possibility of cross-training was something that didn't appeal to him.

"AFRAT has allowed me to stay with the ammo career field and be an active part of Operation Enduring Freedom," he said. "Now I have hands-on experience at a depot shipping munitions overseas."

The AFRAT scope of responsibility has far exceeded its original objectives of providing 100 percent condition verification of preferred ammunition stored in the Army depot system. Tier 1 Army depots store training and the first 30 days of war reserve munitions. IMAs are mobilized to augment ammo depots during operational surges to help with priority worldwide munitions taskings.

Day-to-day operations

Chief Colella said IMAs have moved from depots to various installations throughout the United States providing day-to-day operational coverage depending on the requirements and needs of warfighters.

On any given day, IMAs may be converting Cluster Bomb Unit-87s to a newly designed wind-corrected munition dispenser CBU-103 at Blue Grass. At Toole, AFRAT-salvaged Navy impulse cartridges marked for demilitarization are being refurbished to use in the B-1B in the delivery of Joint Direct Attack Munitions over Afghanistan, thus averting a serious mission shortage of cartridges. JDAMs are a weapon of choice due to their precision and destructive capability.

At Hill AFB and Lackland AFB, Texas, starter stock capabilities in standard air munition packages and standard tank, rack and pylon packages are being built to be loaded onto C-130s for worldwide rapid response capability. The IMAs at Eglin AFB, Fla., work in the test wing, augmenting active duty personnel or running the precision-guided munitions shop as well as the line delivery function.

The ammunition control point at Hill is responsible for monitoring the workload, assigning members to each base, controlling funding and ensuring overall management of the program.

Ready when called upon

Airmen on the team also complete time compliance technical order maintenance on munitions to improve their accuracy. Recently, six AFRAT members, four Raytheon contractors and a Defense Department civilian formed a short-notice, high-priority team to repair Maverick missiles at a forward Central Command location.

In the first eight days of the operation, the team trained, coordinated logistics support, procured equipment and tools, scheduled airlift and departed for the AOR. During the first 40 days, the team completed back plate installations on 400 missiles in three Middle Eastern countries and departed within two days of the beginning of Operation Iraqi Freedom.

"The mission proved to be a big success with modified missiles being used immediately in Operation Iraqi Freedom," said Senior Master Sgt. Robert Smith, team chief. He said the team saved thousands of dollars by doing the needed repairs at forward locations instead of moving the missiles to other locations.

"When combatant commanders call for munitions to be in place at a certain time and place, AFRAT plays a large part of making sure those requirements are met each and every time," Chief Colella said, "and we will continue to do so in the future."

Tech. Sgts. James Shears (foreground) and Thomas Robinson talk about the safety precautions required when working around stored MK-82 and MK-84 munitions. Both men are Individual Mobilization Augmentees with the Air Force Reserve Ammunition Team who have been activated to help the 649th Munitions Squadron at Hill AFB, Utah, ensure weapons are available for the war on terror. (U.S. Air Force photo by Staff Sgt. Sean Houlihan)

Pfc. Thomas Reed, with Alpha company of the Ohio Army National Guard's 112th Engineer Battalion, checks an identification card at Wright-Patterson AFB, Ohio. He is one of nearly 800 soldiers who are augmenting force protection operations throughout Air Force Materiel Command. (Photo by Mr. Spencer Lane)

ANG giving welcomed relief to security forces

2nd Lt. Michael Varaly
AFMC Security Forces

Nearly 800 Army National Guard soldiers arriving at Air Force Materiel Command installation gates in February 2002 might have been a surprise to some, but to security forces members across AFMC it was welcomed relief. That relief shows in improved morale for security forces members.

Across the Air Force, more than 9,000 soldiers answered a call to duty on Air Force installations via an agreement between Army National Guard and Air Force officials who were seeing their security forces members stretched too far past what was comfortable, according to Col. LeRoy Walters, AFMC Security Forces director.

"We work as a team; however, there are some clear differences between the responsibilities of security forces and Army National Guard," Col. Walters said. "In compliance with service memorandum of agreement, our guardsmen cannot perform law enforcement duties. The Army National Guardsmen augment our installation force protection efforts, allowing security forces to maintain current high deployment rates and an opportunity to catch up on some mandatory training."

The Army National Guard's presence has changed current security forces members' outlook, according to Chief Master Sgt. Brian Van Alstine, 377th Security Force Squadron security forces manager at Kirtland Air Force Base, N.M. "For the first time in nearly 12 years, with minor exceptions, we are out of 12-hour shifts and into 8-hours shifts," he said.

"Across the board, scheduling changes are greatly improving security forces members' morale," said Col. Walters.

Just as the morale of security forces members from AFMC and around the Air Force has taken an upward swing, the Guardsmen's expertise has helped the Air Force members improve their skills.

"Many of the Army National Guard soldiers are civilian police officers," said Airman 1st Class Todd Hancock, 377th Security Forces Squadron at Kirtland. "They're able to share their civilian training with us which helps make us more effective."

Just as the day-to-day duties of the security forces members are enhanced, working with the Army is also setting the foundation for continued efforts in future conflicts. "Seeing how they perform their ground combat skills and how we train for ours also helps us learn more about the way we can fight together in the future," said Airman Hancock.

"All military services have worked very hard since 1989 to integrate our capabilities," said Col. Walters. "This is another step in that integration where we can appreciate the capabilities that each of the services carries to the fight."

As the Army National Guard members continue their tours at Air Force installations, Sgt. Van Alstine said the line separating the services is blurring.

"Our 124 Army National Guard soldiers have been very positively received by the local community," he said. "We have become one team."

When duty calls, IMAs step up to the plate

The tragic events of Sept. 11, 2001, required our nation to go to war and call on the Total Force family for support.

One vital aspect of that Total Force is the Individual Mobilization Augmentee program, according to Col. Marcus Caudill, AFMC director of command reserve forces. IMAs enable the command to continue its job when active duty military members are called away. AFMC's reserve office brings more than 3,000 IMAs to the command, making it the largest program in the Air Force.

Following the events of Sept. 11, Secretary of Defense Donald Rumsfeld approved a partial mobilization of the U.S. IMA reserve force. Initially, AFMC mobilized 585 IMAs to support the command, according to command officials.

Called to duty

Maj. Gary Drake, a senior operations analyst at Eglin Air Force Base, Fla., worked 179 man-days with the Special Operations Forces Systems Program office and its Task Force Warlord Study, designed to improve the gunfire accuracy of the AC-130U gunship. He said the result of the study was an unambiguous, robust and meaningful accuracy model and testable gunfire specification, resulting in fewer test sorties required and the ability to get the weapon into the hands of the warfighter with speed and accuracy.

According to Col. Caudill, Maj. Drake played an important role for the science and engineering community, but what about IMA support for those active-duty members who deployed?

Making an impact

At Hill AFB, Utah, 21 percent of the 75th Logistics Readiness Squadron personnel are IMAs and they are making a significant impact, said Col. Caudill.

Currently, the IMA force is coordinating, supporting and directing Hill's mobility operations.

Senior Master Sgts. Martin Guerra and Nolan Critchlow and Master Sgt. Donna Wooten activated in March 2003 for one year at Hill as part of a team redesigning the entire mobility bag issue process. The team designed and constructed a new processing line equipped with state-of-the-art computer stations and local area network.

The team's efforts were highlighted as a AFMC "Best Practice" by the AFMC deployment staff assistance visit team in June 2003.

Taking the lead

One would think that being an IMA would reduce any chance to command an active-duty unit at a home station or in a deployed environment, but Col. James Hogue took command of the 88th Mission Support Group located at Wright-Patterson AFB, Ohio, in March 2003.

Col. James Hogue, commander of the 438th Air and Space Expeditionary Group in Shahbaz AB, Jacobabad, Pakistan, surveys security posts with the Pakistan Air Force following a heavy rain fall. (Courtesy photo)

Col. Hogue, former IMA to the director of the Aeronautical Systems Center Mobility Systems Program Office, applied for the opportunity to replace Col. Terrence Feehan, former 88th Mission Support Group commander. They worked together while awaiting Col. Feehan's orders for deployment.

Col. Feehan never received deployment orders, but he did move to another position, leaving his 88th command position empty until a new commander arrived.

Col. Michael Belzil, commander 88th ABW, saw this as an opportunity to put Col. Hogue's training to good use.

Col. Hogue remained the Mission Support Group commander until July 2003. Then he volunteered to deploy, and is currently commander of the 438th Air and Space Expeditionary Group located in Shahbaz Air Base, Jacobabad, Pakistan.

The colonel also acts as U.S. Military Community Commander for the base — a rare opportunity for an IMA reservist.

These three examples are just a small representation of support that IMA's have brought to the AFMC family.

"The AFMC IMAs are more than just part of the Total Force team, they are seamlessly integrated into accomplishing every facet of the mission," said Maj. Gen. Ed Mechenbier, AFMC mobilization assistant to the commander.

Making the system flexible

Currently, the reserve office is putting together a business system to organize deployment qualifications for IMAs, providing more flexibility and saving money, said Col. Caudill. The new system will list both civilian and military skills.

Gen. Mechenbier added, "The typical IMA costs $63 per hour. Imagine trying to bring in a contractor or full time employee with the requisite skills for that money. The IMA is truly a specialist who brings both their military skills and civilian expertise to the work place. It's a unique workforce and a truly valuable asset."

— 1st Lt. Gailyn Whitman, AFMC Public Affairs

AFFTC school launches propulsion short course

EDWARDS AIR FORCE BASE, Calif. — To control an explosion, to harness a driving force — for a select few, learning the "thrust" behind this essential contribution to flight is being offered once every six months at the U.S. Air Force Test Pilot School here.

The school opened its doors in September for the second time in history to 20 students with a desire to learn about Air Force propulsion systems, making the course available to enlisted, officers and government civilians with an engineering or technical background. The 11-hour course starts with an overview of engine impact on readiness, then progresses through different engine types and missions, and a look into the what, why and how of major engine components. It is targeted at people working with propulsion systems.

For information on the next propulsion short course or to enroll, contact 2nd Lt. Lindell Pearson at 661-277-9867 or email lindell.pearson@edwards.af.mil.

— Reported by AFFTC Public Affairs

SSG co-sponsors country's largest IT conference

MAXWELL AIR FORCE BASE, GUNTER ANNEX, Ala. — More than 5,500 government employees, students and industry partners attended the largest Air Force information technology conference in the country — the 17th annual Air Force Information Technology Conference held here Aug. 24-28.

Four keynote speakers focused on future IT requirements in support of national defense. Maj. Gen. Dale Meyerrose, Headquarters U.S. Northern Command, provided the keynote address on Air Force communications and information.

Standard Systems Group and the city of Montgomery sponsored the conference, the 17th in a series that began in 1983.

— Reported by SSG Public Affairs

Wargamers gather for Rome Conference

ROME, N.Y. — More than 60 outside participants joined Air Force Research Laboratory researchers during the Connections 2003 Wargaming Conference held here July 15-18.

The 11th annual conference, held in Rome for the first time, attracted wargaming enthusiasts from three countries. Attendees included representatives from the U.S. Air Force Academy, Checkmate, U.S. Naval War College, U.S. Army and General Staff College, Center for Naval Analyses, Sandia National Laboratories, the Defense Advanced Research Projects Agency, Center for Strategic Leadership at the Army War College and several commercial wargaming leaders and developers.

The conference agenda included a series of lectures and seminars, as well as Defense Department and commercial wargame demonstrations.

— Reported by AFRL Public Affairs

U.S. Air Force Museum photo

U.S. Air Force Museum dedicates Global Hawk

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — An unmanned aircraft that is helping secure and expand the U.S. military's information dominance over adversaries in the war on terrorism formally joined the U.S. Air Force Museum's collection during an Aug. 8 dedication ceremony.

Officials from the museum, Northrop Grumman and Aeronautical Systems Center at Wright-Patterson participated in the dedication of a full-scale reproduction of the RQ-4A Global Hawk Unmanned Aerial Vehicle.

Although still in development, Global Hawk has already served operationally in Operation Enduring Freedom in 2001 and Operation Iraqi Freedom in 2003. Global Hawk has logged more than 3,000 flight hours, with more than half of that total on combat missions.

— Reported by U.S. Air Force Museum Public Affairs

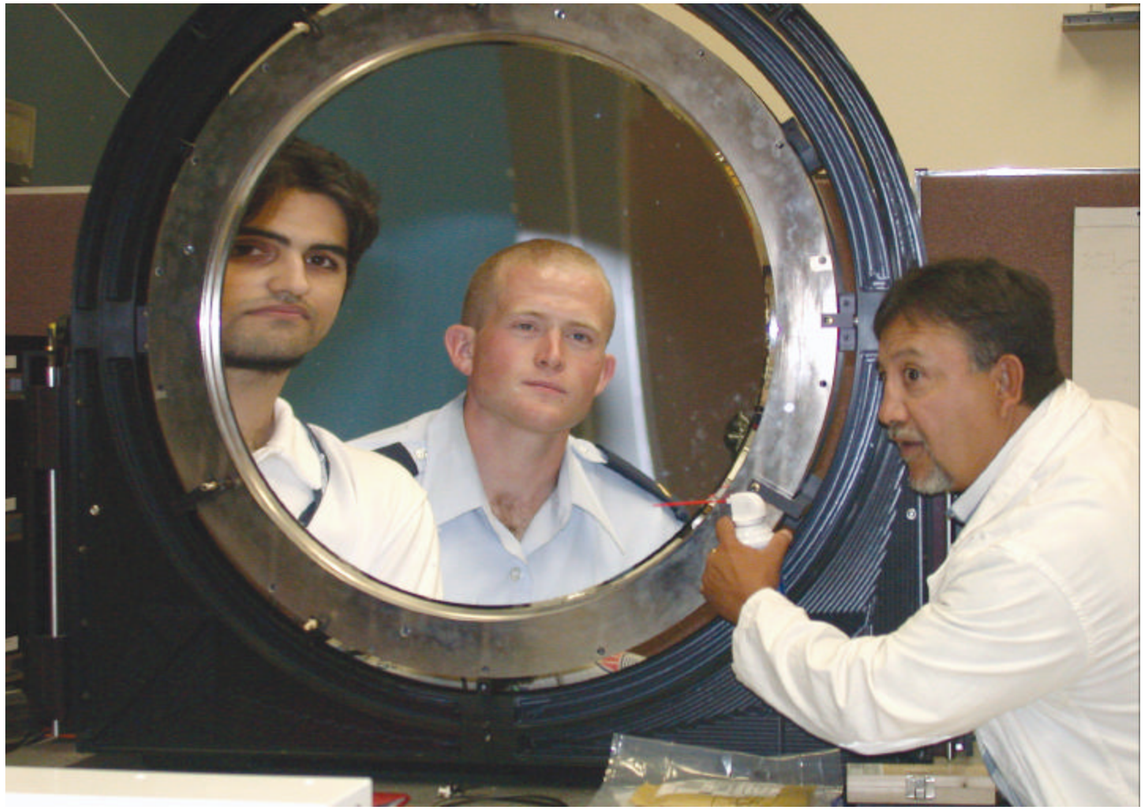
AFMC establishes new test, evaluation center

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — Air Force Materiel Command officials announced Aug. 20 that a new developmental test and evaluation enterprise will stand up early in fiscal year 2004 that combines several AFMC test and evaluation functions under one commander.

Similar to the previous Air Force Research Laboratory restructuring that brought many labs under a single structure, the Air Force Development Test and Evaluation Center will bring Arnold Engineering Development Center at Arnold AFB, Tenn., and the Air Force Test Pilot School at Edwards AFB, Calif., under one organizational roof. Additionally, two test facilities currently reporting to Eglin AFB, Fla., but physically located at Wright-Patterson — the landing gear test facility and the live fire test facility — are included in the new organization.

The organization will come under the command of Brig. Gen. Perry Lamy and is initially slated for a one-year trial.

— Reported by AFMC Public Affairs



Dr. Richard Carreras (right) aligns, pressurizes and cleans a prototype thin-film membrane mirror. Reflected in the mirror are co-workers, 2nd Lt. Ethan Holt, the film mirror project officer, and Mr. Nima Jamshidi, (left), a Purdue University student employee. (U.S. Air Force photo by Ms. Deb Mercurio)

Lab reflects mirror technology

A milestone in telescope-mirror technology, completed recently by Air Force scientists at Kirtland Air Force Base, N.M., is leading to lightweight, space-based telescopes much larger than NASA's Hubble Space Telescope.

Rather than use a heavy glass mirror, researchers at the Air Force Research Laboratory's Directed Energy Directorate were able to produce a 1-meter-diameter (about 3.25-feet) mirror, made of a thin-film membrane material. This optical-quality polyimide mirror, about the thickness and flexibility of kitchen plastic wrap, was more than three times larger than the biggest membrane mirror previously possible.

The optical quality of the membrane material was exceptional, as judged by the uniformity of its thickness, which did not vary by more than about one-millionth of an inch, according to officials.

Shifting from glass mirrors was necessary because of the limited cargo capacity of space shuttles and other rocket boosters. Replacing glass with thin-film meant that a mirror could be brought to space in a folded or rolled configuration and then unrolled or expanded like an umbrella once in space, officials said.

"Our goal is to produce a telescope mirror with a diameter of 10 meters, or nearly 33 feet," said 2nd Lt. Ethan Holt, the film mirror project officer in the directorate's surveillance technologies branch. "A surveillance telescope that size in orbit 124 miles over the earth would really improve our ability to image enemy and friendly assets and capabilities."

Dr. Richard Carreras, the branch's technical advisor, said, "The larger the mirror, the greater its ability to see, or resolve, objects on the ground. For example, a 10-meter telescope in Los Angeles would be able to tell the difference between a basketball and a volleyball as far away as Washington, D.C."

Large space-based telescopes could also be used to focus the energy from lasers, another potential application for this technology, officials said.

— Ms. Deb Mercurio, AFRL Public Affairs

B-2 test program drops live, 5,000-pound weapons

For the first time in testing history, the B-2 Global Power Bomber Combined Test Force at Edwards Air Force Base, Calif., released two newly upgraded 5,000-pound live weapons in August.

The release was conducted over the Utah Test and Training Range at Hill AFB, Utah, marking the first successful drop of live GBU-28 B/B series weapons — the last dedicated flight for the developmental test and evaluation phase of the program.

"The purpose of this testing was to accomplish effective air operations by improving the capabilities of the B-2 with air-to-surface munitions able to strike deeply buried targets through adverse environmental conditions," said 1st Lt. James Cole, 419th Flight Test Squadron engineer.

Testing began in March with the release of an inert GBU-28 B/B at China Lake Naval Air Warfare Center, Calif. Data from the March release was analyzed by the Air Force SEEK EAGLE Office at Eglin AFB, Fla., Lt. Cole said. Following its approval, the program entered the next phase of testing.

The next testing phase was conducted in April with the actual release of a developmental test vehicle — an inert GBU-28 B/B with an integrated guidance system.

Integrating the GBU-28 B/B weapons system into the B-2 did not require extreme modifications, Lt. Cole said.

"There were no physical modifications done on the B-2 rotary launcher assembly," he said. "There was only a small software change made to the mission independent data file in order to integrate the weapon onto the B-2."

The live drop in August consisted of several testing points — which are engineering objectives set by the B-2 test team — goals to be achieved during the mission. A total of three passes across the target at the Utah range were needed to obtain these GBU-28 B/B testing points.

"The first dry pass was flown to simulate an actual release, allowing the pilots to become familiar with the routes, targets and timing needed to accomplish the mission," Lt. Cole said. "The dry pass ensured the chase plane, which was an F-16 from Edwards Test Operations, was in the right position for the photographer to document the releases."

The second pass released the first of two live GBU-28 B/Bs, using auto global positioning satellite-aided targeting, which is used to update and refine target information to send to the weapon. The final pass released the second live GBU-28 B/B, completing this entire phase of testing.

According to Maj. Todd Copeland, 419th FLTS project pilot, the B-2 is the only aircraft in the inventory capable of in-flight radar targeting updates. "This version of laser-guided weapons offers a graduated level of precision, enabling weapons to strike on target in any weather," he said. "The real combat multiplier is that, from a weaponeer's point of view, this enhanced weapon can be employed by both fighter and bomber aircraft to strike hardened targets with a common frame of reference. The flexibility of the GBU-28 B/B will benefit both bomber and fighter pilots."

Many organizations, notably Northrop Grumman, Raytheon, Boeing, the B-2 System Program Office, the Precision Strike System Program Office and the 419th FLTS, continue to conduct testing and evaluation in order to increase the capabilities of the B-2.

After tests are completed at Edwards AFB, the Operational Test and Evaluation team at Whiteman AFB, Mo., will begin operational testing using the GBU-28 B/B. The overall program is scheduled for completion by the end of 2004.

— 2nd Lt. Brooke Davis, AFFTC Public Affairs

New technologies have transformed handheld Global Positioning System receivers from weighing more than 15 pounds to as small as 2 pounds. From left to right, Airman 1st Class Dalford Corley, Staff Sgt. Matthew Law, Airman 1st Class Ronald Yarnell, Marine Master Sgt. Jay O'Neil and Capt. Mark Robey, GPS committee chairman at Robins AFB, Ga., compare two defense advanced global positioning system receivers — considered by many to be the wave of the future for warfighter navigation. (U.S. Air Force photo by Ms. Sue Sapp)

Lighter, faster, better:

Innovation, technology transform GPS receivers

Fifteen years ago, the only version of a handheld military-rated global positioning system receiver weighed 17 pounds and cost an estimated $34,000 per unit.

Today, innovation and technology has transformed the receiver into a lightweight 2-pound device, costing less than $2,000.

Wave of the future

The defense advanced global positioning system receiver, known to the GPS community as DAGR, may be the wave of the future for warfighter navigation and is bringing together subject matter experts from across the country to discuss its capabilities and the status of its fielding.

Members of the integrated logistics support-working group came together at Robins Air Force Base, Ga., recently to discuss DAGR logistics support.

Replacing current equipment

"The DAGR will soon replace the precision lightweight GPS receiver, which is now being used in Iraq and Afghanistan," said Mr. Willie Jackson of the Army GPS section.

In order to make this replacement, the plan was to field an affordable modernized handheld GPS receiver with increased anti-jam and anti-spoof capabilities for the Defense Department to replace legacy equipment and significantly lower costs.

First Lt. Thomas Cooke of the Space and Missile Command GPS User Equipment Branch at Los Angeles AFB, Calif., said that currently two contractors have been awarded first article production contracts for the DAGR.

The award was made last November and the first lot of 180 units per company was delivered May 30 for government testing. The second lot was delivered in August, with a final contractor selection to be announced in September.

Capt. Mark Robey, DAGR ILS manager, said the purpose of the DAGR integrated logistics support working group and the conference was to get all of the support players together to talk about supportability issues.

"GPS subject matter experts from the Army, Air Force, Navy, Marines, Joint Service System Management Office, as well as from the Space and Naval Warfare Systems Center, San Diego, came together to discuss issues like the logistics schedule, impacts on the program, as well as the importance of logistics in fielding these to the end user," he said.

Joint team effort

Capt. Robey said the Army spearheaded the program, and the Air Force took over the reins for program management and specification development.

"What we see today is the joint team has come together to make sure this product can be supported when it is fielded and the user gets the best product possible," he said.

"When we leave this conference our goal is to make sure we end up with the best product for our warfighters," said Mr. Jackson. "That's what's near to my heart, being one who has worn the uniform."

The global positioning system is a highly accurate system, using satellites to provide worldwide, continuous, real-time, all-weather precision positioning and velocity information to users operating equipment in a passive mode. The main factors in choosing a contractor are cost, ease of navigation, sensitivity of antennae and first fix time.

— Ms. Lanorris Askew, WR-ALC Public Affairs

Tinker joins others to delve into world of resident species

With baggage in tow, researchers get chance to examine lives of Texas horned lizards

A Texas horned lizard is outfitted with a backpack that carries a jellybean-sized transmitter which reports its location. Mr. Joe Hackler, an Oklahoma State University graduate student, makes the backpacks with his grandmother and stains them in red dirt before attaching them to the lizards as part of an Environmental Management Directorate tracking project. (Air Force photo by Ms. Margo Wright)

Imagine strapping on a backpack that allows others to watch your every move. For several Texas horned lizards that call the Urban Greenway at Tinker Air Force Base, Okla., home, this is just another day in their lives.

These tiny backpacks come as a result of a partnership between Tinker and the Williams Natural Gas Company, U.S. Department of Agriculture Wildlife Services, University of Oklahoma and Oklahoma State University. The cooperative efforts aim to study the horned lizard and safeguard its home near the Greenway. These groups pooled resources and manpower to accomplish the research.

"Williams bent over backwards to help us," said Mr. John Krupovage, natural resources program manager at Tinker. "To offset disturbance to an area in which they were replacing a pipeline, they paid for research equipment so we could learn more about the horned lizard's behaviors and better understand how other projects on base could impact the species."

This small, quick reptile is often called a horned toad or horny toad because of the horns on its head and its flat, toad-like shape. It begins the day basking in the sun to raise its body temperature. By afternoon, it moves into the shade to cool off.

To fool predators, it makes use of light and dark camouflage and can flatten to the ground to avoid making a shadow. In less than a minute, it can vanish by burrowing up to three inches deep in loose sand and soil. If really put to the test, this creature will puff up, hiss and squirt blood from a gland on its eyelids.

In mid-May, Tinker volunteers and OSU researchers began collecting 10 to 20 horned lizards for the project.

Each horned lizard is outfitted with a tiny canvas backpack carrying a radio frequency transmitter. The biologists use locators and antenna to track the lizards' whereabouts as they move around the base. These locations are then pinpointed using global positioning systems to map their routes. The biologists also implant a microchip the size of a grain of rice into the lizards' bellies so they can identify individual lizards.

"The understanding we get from the research will allow us to manage the horned lizard and its habitat so the species can continue to thrive," Mr. Krupovage said.

> ***"We're part of a complex ecosystem. Everything is interconnected and species rely on one another. One missing part can disrupt and destabilize the whole system that supports humans, as well as the critters within it."***
>
> **Mr. Ray Moody**

Natural resources biologist Mr. Ray Moody said, "We want to know the status of the horned lizard population here. What type of habitats do the lizards prefer here? How far does their home range extend? Where do they hibernate at Tinker and how deep? Information is available on the horned lizard in Texas, but less is known about the species in Oklahoma and specifically at Tinker."

As more is learned about the horned lizard here, Tinker will share information in a database maintained by the Oklahoma Natural Heritage Inventory at OU. They, in turn, share the information with researchers throughout the world.

Oklahoma law classifies the Texas horned lizard as a sensitive species, which protects it from collectors or hunters.

By protecting the habitat of sensitive plants and animals, Tinker maintains mission-critical access to the land, water and air. Access restrictions could increase if the status of the lizard was raised from sensitive to threatened or endangered.

"Will the ecosystem come crumbling down if we lose one sensitive species? Probably not, but there could be far-reaching effects," said Mr. Moody. "We're part of a complex ecosystem. Everything is interconnected and species rely on one another. One missing part can disrupt and destabilize the whole system that supports humans, as well as the critters within it."

The decline of the horned lizard since the 1950s may be due to a variety of factors, including loss of its habitat, insecticide use, introduction of non-native fire ants and the decrease in the native harvester ants that are the main diet of the horned lizard.

Also, until forbidden by law, humans were collecting horned lizards as pets.

— OC-ALC Environmental Management Directorate

Mr. Joe Winn (left) and Mr. Joe Wise, maintainers at Aerospace Maintenance and Regeneration Center, Davis-Monthan AFB, Ariz., apply protective coating to an F-16 before putting it in storage in the Arizona desert. (Courtesy photo)

At AMARC, auxiliary air power is right next door

What humbly began as one of the many Army Air Force fields designated to store post-World War II reserve aircraft in 1946 has evolved into the Defense Department's sole auxiliary air power storage and regeneration facility.

The Aerospace Maintenance and Regeneration Center, known as AMARC, is one of Air Force Materiel Command's specialized centers called home by approximately 4,365 aircraft, including assets belonging to the Air Force, Navy, Army, Marines and Coast Guard. This aircraft warehouse, located on Davis-Monthan Air Force Base, Ariz., occupies 2,600 acres of southwest desert where low humidity and minimal rainfall provide the optimum climate for preservation.

AMARC's mission to sustain the warfighter is divided into four main production divisions, according to Col. Lourdes Castillo, AMARC commander.

Storage division experts preserve and re-preserve aircraft, protecting the airframe and internal components from weathering elements, he said. Aircraft division experts accommodate customer withdrawals of aircraft from desert storage and prepare them for flyaway.

People working in AMARC's commodities division remove parts and assemblies from the center's reserve of aircraft and ship them to support the active inventor, Col. Castillo said. Last, but not least, disposal division employees dispose of aircraft at the owning service's direction.

Last fiscal year, the services reached into AMARC's stockpile of fighters, cargo carriers, trainers and utility helicopters and requested that 99 aircraft be regenerated, according to Col. Castillo. The acquisition value of these aircraft is more than $520 million, Col. Castillo said.

He said AMARC's multi-skilled workforce, many of whom are former service members, regenerate these aircraft. Crews are trained to work on more than 70 different types of aircraft, repair or overhaul systems. They modify aircraft to current standards by conforming to time compliance and technical orders to make sure the aircraft are airworthy before being released.

AMARC supports Air Combat Command's Full Scale Aerial Target program at Tyndall AFB, Fla., and Holloman AFB, N.M., Col. Castillo said. AMARC flight test crews also fly Vietnam-era F-4 aircraft to Mojave, Calif., for a contractor installed drone package which converts the F-4 into a realistic airborne threat. This provides training assets facilitating highly confident and proficient, combat-trained pilots.

AMARC experts will complete regeneration on 28 F-16s by the end of August as part of the Air Force's F-16 Peacegate program, he said. Air Force officials have already taken delivery of 13 F-16s to replace test support aircraft at Edwards AFB, Calif., and Eglin AFB, Fla. Navy officials will acquire 14 F-16s to return to the air as an aggressor squadron at Fallon Naval Air Station, Nev.

Additionally, Col. Castillo said AMARC's highly technical workforce, in partnership with the Ogden Air Logistics Center experts at Hill AFB, Utah, are assisting with A-10 structural inspections, repairs and modifications in support of Service Life Extension Program 1, formally known as Hog-Up.

Foreign military sales is another growing source of workload for AMARC. U.S. State Department negotiations with America's allies allow for U.S. aircraft to be withdrawn to support a foreign government's growing operational requirements, the colonel said.

Priority reclamation programs within AMARC are keeping the services' active inventories flying and at the same time paying high dividends to the U.S. taxpayer, Col. Castillo said. This fiscal year, technicians have reclaimed and returned 14,518 parts to support the warfighter. The combination of parts and aircraft withdrawn represents a return on taxpayer investment of $1.2 billion.

The desert climate also facilitates the outdoor storage here of more than 400,000 line items of production tooling and special test equipment for B-2, B-1B, A-10, C-5, C-141, F-4, and EA-6B aircraft, eliminating the commercial storage costs, according to Col. Castillo.

The colonel said it's evident that AMARC does not qualify to be known as either a "boneyard" or a "graveyard" by its concept, mission and operation. A national resource, AMARC will continue to respond to the Air Force's current and future initiatives to keep the aging fleet operational and the warfighter airborne and ready for the fight.

— By Ms. Terry Vanden-Heuvel and 2nd Lt. Daniel King, AMARC Public Affairs

Detecting hazards from above

Edwards helps unearth buried waste

Three organizations at Edwards Air Force Base, Calif., are teaming up to test and demonstrate what could be the future of buried hazardous waste detection, ultimately improving the Air Force's compliance with Defense Department and Environmental Protection Agency regulations.

NASA Dryden Flight Research Center, Marine Heavy Helicopter Squadron 769 and the Edwards environmental management directorate worked together on this technology demonstration to detect hazardous waste sites from the air, said Ms. Jeannette van den Bosch, NASA Airborne Science Facility sensor manager and coordinator of this demonstration.

"The most important part of this whole demonstration was that all of us collaborated on a specific mission with the possible outcome of making Edwards a safer place to work and live," she said.

According to Ms. van den Bosch, this is an unusual demonstration where one of Edwards' Air Force missions — to detect hazardous waste in compliance with Defense Department's Environmental Restoration Program — uses Marine CH-53E helicopters fitted with equipment owned by a private commercial company. The National Aeronautics and Space Administration provided the science and sensor integration expertise.

"Our main goal with this is to determine if the sensor can detect hazardous waste sites around the base," Ms. van den Bosch said.

According to the Defense Department Environmental Restoration Program Web site, the program was established because the U.S. military depends on the use of national lands and water to conduct training and other military operations vital to national defense.

This demonstration has not been a cut-and-dry operation, according to Ms. van den Bosch. In March 2001, Mr. Stephen Watts, Edwards Environmental Restoration Program project manager, contacted Ms. van den Bosch to question the availability of NASA sensors to detect unexploded ordnances, small areas of soil temperature differences and buried trenches, pits and canisters.

Although NASA has superspectral thermal infrared sensors with the appropriate spectral resolution, Ms. van den Bosch said the sensors lacked the spatial resolution to detect such small targets.

In August 2001, Ms. van den Bosch contacted Mr. Watts with the information that a commercial company, Oilton, had an infrared sensor and proprietary software package that could possibly detect such targets.

Ms. van den Bosch contacted the HMH 769 to investigate the feasibility of using Marine Corps aircraft for the demo and to determine the procedures involved with getting approval to fly.

In December 2002, Ms. van den Bosch said the Naval Air Systems Command granted airworthiness to the integration process and in March 2003 message traffic was sent to the Commandant of the Marine Corps in Washington to obtain permission to fly the mission.

"We're just happy we can help Edwards Air Force Base," said Marine Maj. Rick Ostermeyer, CH-53E project pilot. "We all live and work here; we're just doing our part to make it safer."

Ms. van den Bosch said she was excited to receive the approval.

After almost three years of planning and filing paperwork, the demonstration sorties were finally flown. Ms. van den Bosch said the sorties included a daytime sortie to validate the Oilton instrument global positioning system and two other sorties after sunset to maximize the temperature difference of the targets for detection purposes.

"This demo is an example of how the alliance can work between Edwards and NASA," said Ms. van den Bosch.

The alliance is a policy established between Edwards and NASA to share assets and capabilities to assist each other in mission accomplishments. Although not technically a part of the alliance, Ms. van den Bosch said the Marine Corps contribution to the demonstration was invaluable, and the project could only be accomplished with the collaboration of all three government entities.

— Airman 1st Class Wes Auldridge, AFFTC Public Affairs

Ms. Jeannette van den Bosch, NASA Airborne Science Facility sensor manager, and Marine Maj. Rick Ostermeyer, CH-53E helicopter pilot, look at radar equipment. NASA Dryden Flight Research Center, Marine Aircraft Group 46 Detachment Bravo and Edwards Environmental Management Directorate worked together on an equipment demonstration to detect hazardous waste sites from the air. (Air Force photo by Airman 1st Class Wes Auldridge)

Major outwits interservice chess foes

Engineer checkmates 21 rivals, advances to NATO tournament

A former Hill Air Force Base, Utah, engineer outmaneuvered 22 Defense Department competitors to claim second place in the Interservice Chess Championships Aug. 3-8 at Marine Corps Base Camp Lejeune, N.C.

Maj. Douglas Taffinder, now chief engineer for the Human System Program Office's chemical, biological, radioactive and nuclear division at Brooks City-Base, Texas, faced four opponents each from the Army, Navy, Marine Corps and Air Force and checkmated all but one. He then headed to the NATO tournament Sept. 8-12 in Copenhagen, Denmark.

Long hours, stiff competitions

Tech. Sgt. Leroy Hill from Schriever Air Force Base, Colo., took the interservice tournament's top trophy.

Maj. Taffinder headed to the interservice tourney after capturing first place honors in the Air Force Chess Championships held at Lackland Air Force Base, Texas, July 14-18.

After saying he was disappointed in not winning the interservice tournament, Maj. Taffinder admitted that the love of competition helped earn him his titles.

"There was one game (in the Air Force-level championships) that dragged on for five hours, and I watched my opponent drip sweat on the chessboard," he said. "It's the competition that I love about the game."

Game offers continual learning

Before making it to the Air Force championship, Maj. Taffinder had to advance at both base- and command-level tournaments.

He said tournaments are nothing new to him because he's been playing chess all his life. Maj. Taffinder played his first tournament in 1976.

"My dad taught me how the pieces moved (as a child) and about a week later he couldn't compete with me," he said. "It's kind of hard to tell what first attracted me to the game…probably because checkers was too easy."

In addition to his many tournaments, Maj. Taffinder is also a member of both the United States and International Chess federations. And although he considers himself to be good at it, he says the game is a continual learning process.

"I have to work at it," he said. "I don't consider myself a natural. I'm still beginning to understand the basics."

Maj. Douglas Taffinder, an AFMC engineer, formerly assigned to Hill AFB, Utah, and now at Brooks City-Base, Texas, considers his next move on the chessboard. Maj. Taffinder took second place at the Interservice Chess Championships held in August at Marine Corps Base Camp Lejeune, N.C. From there, he advanced to the NATO tournament in Copenhagen, Denmark, in early September. (Air Force photo by Ms. Beth Young)

Control, aggresive play yield success

Maj. Taffinder has no lucky charms or pre-game rituals. He said his secret to success on the chessboard is being aggressive and controlling the play as much as he can.

"Sometimes when I play chess it starts resembling an old Russian military campaign — you have to be ruthless when you play," he said. "If you let up on someone at all, they'll find some way to counterattack."

— Ms. Beth Young, OO-ALC Public Affairs, and Tech. Sgt. Carl Norman, AFMC Public Affairs, contributed to this report

Above: Airman 3rd Class Julio Rodriguez steps out of "842" in 1963. Mr. Rodriguez recently visited the same plane at Robins AFB, Ga. (Courtesy photos)

Two old friends reunite at Robins

An unplanned meeting brought two old 'soldiers' together recently. This is Mr. Julio Rodriguez's story.

When I was an airman 3rd class in 1963, I was assigned to the 516th Troop Carrier Wing at Dyess Air Force Base, Texas.

In August, I was introduced to my first C-130 aircraft — a brand new gleaming, 1962 E model with large numerals on the forward fuselage.

It would take me to places I had only heard of — like the Panama Canal Zone, Iceland, Norway, Spain, Germany, Cuba, California, Hawaii, Midway Island, Eniwetok Atoll, Kwajelien Atoll, Guam, Philippines, south Vietnam and old Formosa (Taiwan).

We didn't have the cargo handling systems we have today. Everything had to be pushed and shoved and rolled on Johnson Bars — not fun. But when you're 18 years old, it was all a new experience.

I still have a piece of old coral that I brought back from Kawajelien in 1964 when we were on our way to the Philippines in support of an F-100 fighter squadron from Clovis, N.M., destination — DaNang Air Base, Vietnam, just after the Gulf of Tonkin issue. It was "842" that carried it back for me.

Recently, I was fortunate to be able to see my old "842" once again, still hacking the mission after 40 years.

Her gleaming skin is now painted, but for a few minutes I felt that old twinge of joy at seeing the aircraft that took me to many places in the beginning.

I retired from active duty after 21 years in the Air Force and began working at Robins Air Force Base, Ga., as a civilian.

I was always wondering if I would ever see "842" again. I figured that surely she would have been crushed a long time ago or have been a casualty of war or corrosion.

I've been to 78 countries around the world, but I bet "842" has been to most of the countries in the world during its tour of duty.

I wish to thank Lockheed Aircraft Company for building 62-1842, and I want to thank the folks who brought it to Dyess so that this "Old Sarge" would have some fond memories years later.

I also want to thank the Air Force for taking care of it all these years, and allowing me to place my hand on its radome once again.

As a person ages, fond memories are seldom experienced again, but for Airman 3rd Class Julio Rodriguez August 2003 was just like August 1963.

And it doesn't get any better than that!

Robins group wins 9th Outstanding Unit Award

ROBINS AIR FORCE BASE, Ga. — The 5th Combat Communications Group received its ninth Air Force Outstanding Unit Award when Air Combat Command officials recently announced its top units.

This is the group's ninth AFOUA in its 39-year history. One of only 18 units in ACC to receive the award, the group was nominated for the period covering June 1, 2002, to May 31.

During the award period, the group deployed more than 700 airmen to 30 separate deployment locations in four different theaters of operations. However, the group's documented success during Operation Iraqi Freedom is what dominated the award-winning package.

During OIF, one of the group's successes was creating and fielding three small, light, initial communications element packages. The packages provided field commanders a light and lean first-response element that provided initial communications. Five-man teams set up the packages at Tallil and Kirkuk Air Bases in Iraq, providing initial communications until larger groups of airmen with equipment that could handle more users reached the two locations.

The group also sent larger, follow-on theater deployable communications equipment to Southwest Asia. Each of the four mission squadrons deployed and the group pulled remaining people to form a blended squadron at Kirkuk.

Group airmen providing air traffic and control landing systems directly supported more than 6,000 combat flying hours and 2,300 sorties at Tallil and Kirkuk. They supported combat flying operations for more than 150 different combat aircraft and coordinated movements for nearly 1,000 military and civilian aircraft.

— Reported by WR-ALC Public Affairs

AFRL chief scientist, team receive Pioneer Award

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — The Aerospace and Electronics Systems Society of the Institute of Electronics and Electrical Engineers recently awarded the 2003 Pioneer Award to Dr. William Brown, Air Force Research Laboratory Sensors Directorate chief scientist, for technical contributions and leadership roles in establishing fine resolution synthetic aperture radar. Mr. Russell Boario and Dr. Jack Walke, fellow researchers and pioneers, were also honored.

As a team, the trio combined efforts of more than 30 years of advocacy, collaboration, research and development culminating in the first successful flights in 1974. Fine resolution synthetic aperture radar is now operational in nearly all Air Force combat aircraft.

Since 1999 as chief scientist, Dr. Brown has provided leadership and guidance for the development of sensors for air and space reconnaissance, surveillance, precision engagement and electronic warfare systems, while serving on various technical committees. These include the Defense Department's Defense Science Board Studies and the Project Michigan Summer Study. He is chairman of the board for the International Symposium on Remote Sensing of Environment, and continues work as a consultant to government and industry.

— Reported by AFRL Public Affairs

AFRL announces seven 2003 Fellows recipients

WRIGHT-PATTERSON AIR FORCE BASE, Ohio — The Air Force Research Laboratory has named the addition of seven of its top scientists and engineers to the status of AFRL Fellow. The newly appointed Fellows for 2003 are:

● **Mr. Wayne Bonser**, information directorate, Rome Research Site, N.Y. Mr. Bonser has been selected for his role as a national leader in the development and application of software radio technology with countless transitions and transfers. His insight that growth in hardware complexity was hindering rapid progress in new waveforms was used to shift development toward the innovative idea of software-defined radios.

● **Dr. Gail Brown**, materials and manufacturing directorate, Wright-Patterson. Dr. Brown has been recognized for cutting-edge research on superlattice materials for the next generation of infrared sensing. Her research has resulted in significant advancements in the fundamental physics, design parameters, and growth processes for type-II superlattice materials.

● **Dr. Raymond Gordnier**, air vehicles directorate, Wright-Patterson. Dr. Gordnier was selected in recognition of his exceptional and sustained scientific contributions to the field of multidisciplinary computational sciences. His specific areas of expertise include the simulation of unsteady aerodynamics and fluid-structure interactions, critical elements in the understanding of air vehicle containment and performance.

● **Dr. Kirk Hackett**, directed energy directorate, Kirtland AFB, N.M. Dr. Hackett has been recognized for his significant technical contributions and visionary technical leadership in the areas of high power microwaves and non-lethal weapons development. His research has been crucial to the development of active denial technology.

● **Mr. William McQuay**, information directorate, Wright-Patterson. Mr. McQuay was chosen for producing significant advancements in modeling and simulation technologies and collaborative sciences. He has a distinguished record of contributions in modeling and simulation that dates back to the early days of computer-based simulation of electronic phenomena, and continues through today's use of simulation to support operational decision makers.

● **Dr. Robert Pugh**, space vehicles directorate, Kirtland. Dr. Pugh's contributions to AFRL have made a major impact on the nation's defense by providing radiation-hardened space electronics to ensure robust protection of space capabilities, and effective aerospace persistence in a hostile space environment.

● **Dr. Jeffrey Zabinski**, materials and manufacturing directorate, Wright-Patterson. Dr. Zabinski was honored for opening new research areas, such as the creation of tribology in extreme environments and microelectromechanical systems nanotribology research programs. His understanding of the fundamentals of tribology and thin film deposition has led to the discovery of new materials and processes that have revolutionized friction and wear technology.

— Reported by AFRL Public Affairs