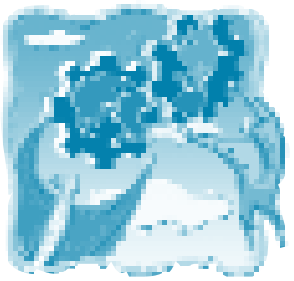


In the News

U.S. TRANSPORTATION COMMAND NEWS SERVICE (OCT. 20, 2005)

CARGO TRACKING TECHNOLOGY IMPLEMENTATION LETS MILITARY "SEE" SHIPMENTS FROM FACTORY TO FOXHOLE

Alan Ables

SCOTT AIR FORCE BASE, Ill. (USTCNS)—Chenega Technology Services Corp. and the University of Alaska at Anchorage are helping the Department of Defense to synchronize military cargo shipments, from factory to foxhole. The goal is for all the military services, defense agencies, and supporting commercial enterprises to achieve greater visibility of shipments so that confidence, efficiency, and reliability are improved.

The assistance comes through a $6.88 million contract to Chenega and its subcontractor, the University of Alaska at Anchorage. The contract initiative, administered by the Defense Logistics Agency (DLA) and the U.S. Transportation Command (USTRANSCOM), relies on Radio Frequency Identification (RFID), a data input system of tags, readers, and computer software, which lets defense supply chain managers "see" into their end-to-end distribution pipeline and track cargo from origin to destination. The project integrates active and passive RFID into a single concept of operations using a well-defined infrastructure ... the West Coast to Alaska region.

The Alaska initiative will establish the network through which DoD will move forces and materiel and gain the visibility required to execute with precision and agility. It involves air, land, and sea shipments from the Defense Distribution Center, San Joaquin, near Travis Air Force Base, Calif., through the Travis aerial port, the ports of Tacoma, Wash., and Anchorage, Alaska, to delivery at Elmendorf Air Force Base and Fort Richardson, Alaska.

"The Alaska program is an initial implementation in a controlled environment of passive RFID for military sustainment goods, such as Meals Ready to Eat, clothing, nuts-and-bolts kinds of items," according to Dr. Elisha "Bear" Baker, director Alaska Center for Supply Chain Integration, University of Alaska, Anchorage.

An RFID system includes a transponder, referred to as a tag; a tag reader, known as an interrogator, which reads the tag using a radio signal; data processing equipment; and a method of communication between the reader and the computer.

The reader sends a signal to the tag, which prompts the tag to respond with information about the container or item to which it is attached. The information is forwarded to central data processing equipment, which can then be used to get detailed information about the container or item, such as the shipping date or the date received.

In July 2004, the Department of Defense published its RFID policy, the business rules for implementing two types of RFID tags: active and passive. Active tags contain an internal power source, enabling the tag to hold more data and allowing a longer "read" range. Passive tags do not contain any power source, hold less data, and have shorter "read" distances.

"This is a great opportunity for USTRANSCOM and DLA to make significant strides in active and passive RFID implementation, while learning valuable lessons we can apply across our supply chains," according to Fred Baillie, executive director of the DLA's Distribution Reutilization Policy directorate.

"The DLA will train a select cadre of USTRANSCOM and Service distribution and shipping personnel to use RFID equipment for the Alaska RFID implementation. We expect this joint effort to jumpstart the use of passive RFID tags in the supply chain, which will complement the existing use of active RFID tags," he said.

Baillie said RFID use will decrease supply delivery time to warfighters and give them more confidence in the supply process. "From this effort we expect improved visibility of defense assets, increased inventory accuracy, improved customer support, reduced reordering, reduced shipping losses, reduced labor costs, less material handling equipment, and a reduced number of 'touch points,' all of which combine to decrease delivery time."

In September 2003, Secretary of Defense Donald Rumsfeld gave USTRANSCOM responsibility for synchronizing the supply chain. The command has begun several initiatives to help eliminate redundant supply lines and incompatible communications systems.

"The advantages to the warfighter are obvious: everyone involved in the supply chain, from manufacturers and suppliers in the United States to the forward-deployed supply sergeant with a lap top computer, will know exactly what's en route and when it'll arrive," according to Army Lt. Gen. Robert Dail, deputy commander of USTRANSCOM.

Ables is a speechwriter with U.S. Transportation Command Public Affairs, Scott AFB, Ill.

AIR EDUCATION AND TRAINING COMMAND NEWS SERVICE (OCT. 31, 2005)

AIR FORCE INTRODUCES NEW HELICOPTER FOR PILOT TRAINING

Capt. Gideon McClure, USAF

RANDOLPH AIR FORCE BASE, Texas (AFPN)—The Air Force rolled out the TH-1H helicopter at the home of pilot instructor training and Headquarters Air Education and Training Command on Nov. 5 in conjunction with the base's 75th anniversary and 2005 air show.

NEW HUEY ON DISPLAY. This new TH-1H Huey II helicopter was in position near the west control tower at Randolph Air Force Base, Texas, for the base open house event Nov. 5 and 6, 2005. It is the latest aircraft to join the Air Force inventory and will serve as the undergraduate pilot training platform. Some major exterior differences from its predecessors are an enlarged nose and wider main rotor blades, and the tail rotor is now on the starboard side for better performance. Inside it has undergone an extensive refurbishment including upgraded components and a new avionics suite with a glass cockpit.
U.S. Air Force photo by Master Sgt. Lance C. Cheung, USAF.

The TH-1H, the latest version of the UH-1H Huey, has undergone an extensive refurbishment including upgraded components and a new avionics suite with a glass cockpit. The old helicopters were equipped with traditional round dial gauges for altitude, speed, etc. The glass cockpit takes the same information and displays the information digitally on a single monitor. Four of the original round dial gauges will remain as a back-up system.

"The TH-1H's advanced electronics provide expanded training opportunities and improved operational capabilities by upgrading the engine, transmission, and rotor system," said Brig. Gen. Richard E. Perraut, Air Education and Training Command Plans and Programs director. "It has the latest multi-function displays, allowing for future upgrades and providing new aircrews with a seamless transition from the T-6 to a follow-on rotary wing aircraft such as the CV-22, Combat Search and Rescue-X, and Common Vertical Lift Support Platform helicopters."

The TH-1H is the newest of more than 15 variants of the original Huey first flown in 1956. By 2009 the Air Force is scheduled to have 24 TH-1Hs in the inventory, which will sustain Air Force helicopter pilot training until 2025.

"The first TH-1H is undergoing testing and evaluation," Perraut said. "We are projected to receive our first production aircraft in April 2007 with small group tryouts to follow."

The tryouts will allow instructors to develop and analyze the curriculum that will be used to train helicopter pilots on the new aircraft.

"This is the first step to providing the platform and syllabus for the new students with the first class scheduled in the summer of 2007," the general said.

McClure is with Air Education and Training Command, Randolph AFB, Texas.

ARMY NEWS SERVICE (NOV. 1, 2005)

HIGH-TECH MICRO AIR VEHICLE WILL BATTLE WITH SOLDIERS

Pfc. Kyndal Brewer, USA

SCHOFIELD BARRACKS, Hawaii—While on a dismounted patrol along a rocky dirt path, soldiers from 2nd Battalion, 5th Infantry Regiment, stayed alert of their surroundings as they made their way to the Military Operations in Urban Terrain site.

When it was time to enter the site, the platoon-sized element stopped in the wood line and came up with a plan of action.

Minutes later, a micro air vehicle operator called and provided information on enemy locations. As soon as the troops had a good location of the enemy, they maneuvered onto the site grounds. When the enemy spotted the troops, a firefight ensued.

The troops remained alert and moved tactically into nearby buildings. They cleared every room until they reached the rooftops, where they began to return fire. Using its two onboard cameras, the micro air vehicle system assisted the troops in figuring out where the enemy was located.

"I think this training is good for us because it's new equipment that a lot of people haven't gotten the opportunity to train with yet," said Pvt. Gregory Goodrich, a cavalry scout with 2nd Battalion, 5th Infantry Regiment.

"It isn't just training on the micro air vehicle equipment, it also helps us train more on our tactical and basic soldiering skills," said Goodrich, who was one of the system operators during the training.

The micro air vehicle technology was designed to gather and transmit information to soldiers on the battlefield. According to the Web site <www.spacewar.com>, each system is composed of two air vehicles, a dismounted control device, and associated ground support equipment that is carried by selected platforms and dismounted soldiers.

The micro air vehicles use autonomous flight and navigation with vertical take-off and landing and recovery capabilities.

Two cameras are mounted on each vehicle; one looks ahead of soldiers, and the other looks down at the ground. The vehicles also carry chemical sensors.

"The micro air vehicles are the future," said 1st Lt. Mario A. Quevedo, a platoon leader with 2nd Battalion, 5th Infantry Regiment. "These young soldiers that are out here training with it will see it again, and they will already know how to use it."

U.S. Army Pvt. Gregory Goodrich carries the Micro Air Vehicle system on his back as his platoon goes on a dismounted patrol. This portable reconnaissance and surveillance system will provide useful real-time combat information in various battle scenarios. U.S. Army photograph by Pfc. Kyndal Brewer, USA.

For the past month, 40 soldiers from 2nd Battalion, 5th Infantry Regiment, have been training with the new, high-tech surveillance vehicles.

"This training is very beneficial to these soldiers because when we go down range in the future, this equipment will go with us," Quevedo continued. "The micro air vehicles are here to stay."

AIR FORCE MATERIEL COMMAND NEWS SERVICE (NOV. 2, 2005)

NEW TECHNOLOGY "DAZZLES" AGGRESSORS

Eva D. Blaylock

KIRTLAND AIR FORCE BASE, N.M. (AFPN)—A laser technology weapon will be the first man-portable, non-lethal deterrent weapon intended for protecting troops and controlling hostile crowds.

The weapon, developed by the Air Force Research Laboratory's Directed Energy Directorate, employs a two-wavelength laser system and is a hand-held, single-operator system for troop and perimeter defense. The laser light used in the weapon temporarily impairs aggressors by illuminating or dazzling individuals, removing their ability to see the laser source.

The first two prototypes of the Personnel Halting and Stimulation Response, or PHaSR, were built here last month and delivered to the laboratory's Human Effectiveness Directorate at Brooks City Base, Texas, and the Joint Non-Lethal Weapons Directorate at Quantico, Va. for testing.

"The future is here with PHaSR," said Capt. Thomas Wegner, program manager. Wegner is also the ScorpWorks flight commander within the laser division of the energy directorate here. ScorpWorks is a unit of military scientists and engineers that develops laser system prototypes for AFRL, from beginning concept to product field testing.

The National Institute of Justice recently awarded ScorpWorks $250,000 to make an advanced prototype that will add an eye-safe laser range finder into PHaSR. Systems such as PHaSR have historically been too powerful at close ranges and ineffective, but eye-safe, at long ranges. The next prototype is planned to include the addition of the eye-safe range finder and is planned for completion in March 2006.

Blaylock is with Air Force Research Laboratory, Directed Energy Directorate Public Affairs, Kirtland AFB, N.M.

MARINE CORPS BASE QUANTICO (NOV. 3, 2005)

MARINES EYE REPLACEMENT FOR HUMVEE

Cpl. Jonathan Agg, USMC

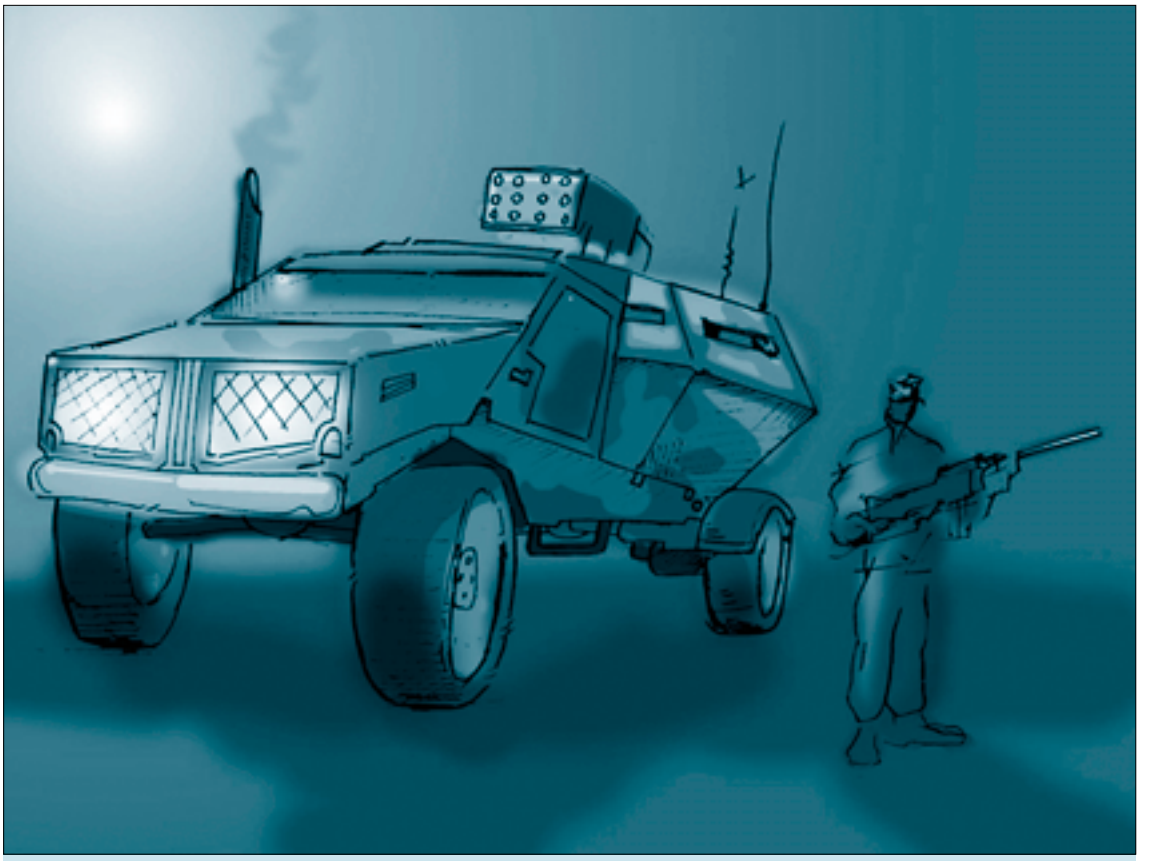
MARINE CORPS BASE QUANTICO, Va. (Nov. 3, 2005)—The Marine Corps is searching for a larger, more capable combat transport to replace the Humvee.

The Fires and Maneuver Integration Division of Marine Corps Combat Development Command is outlining the requirements for its future vehicle, dubbed the Combat Tactical Vehicle, with the goal of fielding the first CTVs in 2011.

Kevin M. McConnell, deputy director of the Fires and Maneuver Integration Division, said the Humvee, while a battle-proven tactical vehicle, is beginning to show its limitations in Iraq and Afghanistan.

"The Humvee A2 is a great vehicle, [but] it has outlived its usefulness," said McConnell. "We have added very capable armor to the Humvees in Iraq. But for every pound of armor you add, that's a pound less capable the vehicle is. We have done a lot of modifications to the vehicle, and it's at the end of its capabilities. There is just no more you can do for that vehicle."

KIRTLAND AIR FORCE BASE, N.M. (AFPN)—Air Force Capt. Drew Goettler demonstrates the Personnel Halting and Stimulation Response, or PHaSR, a non-lethal illumination technology developed by the laboratory's ScorpWorks team. The technology is the first man-portable, non-lethal deterrent weapon intended for protecting troops and controlling hostile crowds. The laser light used in the weapon temporarily impairs aggressors by illuminating or dazzling individuals, removing their ability to see the laser source.
U.S. Air Force photograph.



This conceptual sketch of the combat tactical vehicle highlights some requirements, including increased ground clearance, V-shaped underbody armor, and advanced composite armor.
Illustration by Cpl. Justin Lago, USMC.

McConnell said among the improvements is the requirement that the CTV accommodate up to six Marines with their existence loads and three days of food, water, and ammunition.

The current Humvee, including up-armored versions, normally seats four Marines or less.

"As we go into the future, we know we have to plan for a couple of things," said McConnell. "We have to plan for increased mobility of the ground combat element, and we need to plan for (heavier) payloads. The first configuration we want to build is a people mover, not a fighting vehicle. It will take six guys with three days of supplies and be able to perform like a BMW on the Autobahn."

McConnell said the requirements for the CTV, including its ability to transport six combat-ready Marines, supports Operational Maneuver From the Sea and Distributed Operations, as well as the Marine Corps' capstone concept, seabasing.

"The Expeditionary Fighting Vehicle, the EFV, holds 17 people, a reinforced rifle squad," said McConnell. "Three CTVs would hold a reinforced rifle squad. It supports our distributed operations concept. It allows that type of unit to be tactically employed. We figured out a way to divide a reinforced squad into packages.

"Why didn't we make it a 17-person vehicle? One, it would be a big vehicle. Two, if you take out that vehicle, you take out 17 people. You split them up into more vehicles and you increase the survivability of the team itself."

The CTV combines a laundry list of requirements, drawn in large part from the Marine Corps Center for Lessons

Learned and the Marine Corps Warfighting Laboratory, and it responds to the needs of the modern warfighter.

"There is nothing better than a war to validate ideas," said McConnell. "All of the requirements that we have built into this are traceable back to something that somebody, from lance corporal to colonel, who has been to Iraq or Afghanistan or both, has told me or one of the guys in the division."

McConnell said the Marine Corps is working with the Army, Navy, Air Force, and U.S. Special Operations Command to identify joint requirements that could help turn the CTV into a joint endeavor.

"The requirements for [the Army's concept] vehicle line up pretty closely with CTV," said McConnell. "In the end, we and the Army are working very hard to make this a joint program. There are a lot of efficiencies in doing this with one vehicle, both in production and in life cycle management."

According to McConnell, the Marine Corps has an inventory of about 20,000 Humvees, while the Army has more than 120,000.

By December, McConnell said his team hopes to have a solid draft of an initial capabilities document to present to the Joint Requirements Oversight Council and the Marine Requirements Oversight Council, the next step in the process for the CTV.

"I intend to have a very good draft of that in December to begin socializing the vehicle and its requirements in the Marine Corps and the other Services," said McConnell. "Why we're doing this now is because at no time in the last 20 or 30 years have we had such a wealth of information coming in about what the Marine Corps needs to run a war. Now is the best time to make it happen."

AIR FORCE PRINT NEWS (NOV. 3, 2005)
CUTTING-EDGE MICRO-SATELLITE ACHIEVES MILESTONES

Michael P. Kleiman

KIRTLAND AIR FORCE BASE, N.M. (AFPN)—A 220-pound micro-satellite developed by the Air Force Research Laboratory's Space Vehicles Directorate recently accomplished significant mission milestones when it rendezvoused with the upper stage of a Minotaur I launch vehicle at distances between 1.5 kilometers and 500 meters.

The Air Force has used the Experimental Satellite System-11 micro-satellite, commonly referred to as XSS-11, to investigate a variety of prospective space applications, including servicing, repair, and resupply.

"XSS-11 is a demonstration in space rendezvous and proximity operations," said Harold Baker, XSS-11 program manager. "The spacecraft also has an onboard rendezvous and proximity operations planner in the avionics to aid in developing autonomous operations for future concepts and missions."

Launched in April 2005 from Vandenberg Air Force Base, Calif., XSS-11 has completed more than 75 natural-motion circumnavigations of the expended Minotaur I rocket body. During its projected 12- to 18-month flight, the spacecraft will conduct rendezvous and proximity maneuvers with several U.S.-owned dead or inactive space objects near its orbit. It will also demonstrate more autonomy as the project continues.

"The micro-satellite is performing better than expected," Baker said. "Fuel consumption and efficiency are good, and we expect to be operational for another year. In addition, we have had no significant technical glitches and no major anomalies."

Managing and monitoring the micro-satellite's progress has been the focus of the flight control team composed of people from both the Space Vehicles Directorate and the Space and Missile Systems Center's Detachment 12, also located at Kirtland.

Staffing, however, has been reduced by 50 percent becaise of the spacecraft's flawless performance, and officials said another decrease is expected in the future as the micro-satellite's demonstration in autonomy advances.

With a projected cost of $82 million, XSS-11 program managers have planned an aggressive, event-driven flight, which could ultimately enhance Air Force Space Command's prospective missions of space servicing and maintenance and space support.

In addition, as a result of its innovative autonomous flight, officials said the XSS-11 mission may reduce the number of people and the amount of equipment needed to operate future space missions.

"The micro-satellite will remain in a systems functional test for the next month or two, as we are still checking out the spacecraft's various components," Baker said. "The whole part of this mission is to be safe. If we hit the resident space object, we fail.

"To date, most other rendezvous experiments have been designed primarily for the purpose of docking and repair missions. They relied heavily on the other object's having guidance and navigation aids as well as docking mechanisms," Baker said. "XSS-11 does not rely on navigation aids from the other resident space objects or docking mechanisms."

Kleiman is with Space Vehicles Directorate, Air Force Research Laboratory, Kirtland AFB, N.M.

AIR FORCE MATERIEL COMMAND NEWS SERVICE (NOV. 3, 2005)

CENTER REDESIGN PROMISES TO IMPROVE PRODUCTION

Darren D. Heusel

TINKER AIR FORCE BASE, Okla. (AFPN)—Continuous process improvement is alive and well at the Oklahoma City Air Logistics Center. For proof, look no further than the 76th Maintenance Wing's new F100 Business Unit being stood up as part of a landmark $500 million, 10-year process of transforming maintenance, repair, and overhaul, or MRO operations.

Just four months have elapsed since the OC-ALC kicked off its MRO transformation initiative. But already the center is showing steady progress with redesign efforts of building a leaner work environment designed to produce world-class products on time and on cost. The center is one of three Air Force Materiel Command air logistics centers.

As the F100 Business Unit continues to prepare for additional swing space cell moves, one of the biggest reasons for the team's marked success to this point has been taking lessons learned from previous Lean initiatives and incorporating those into the new designs.

"As with everything we do at the Oklahoma City Air Logistics Center, our focus is on finding better, more innovative ways to support the warfighter," said Brig. Gen. Francis M. Bruno, 76th Maintenance Wing commander. "Certainly, the transformation is driven by that focus."

Signs of the transformation are most visible in an area that once contained the F100 high-pressure turbine and high-pressure compressor shops, which are now shrouded in white plastic curtains stretching from the floor to the ceiling to prevent foreign object damage.

Behind the curtains, preparatory work is being done to an area that will house the F100 inlet fan disk cell, one of the center's first cells under the MRO transformation initiative.

To date, the 76th Maintenance Wing, 448th Combat Sustainment Wing, 327th Aircraft Sustainment Wing, and the 72nd Air Base Wing have been working closely with their MRO contractor partner, Battelle, and its team of subcontractors to complete the removal of the area's former infrastructure to make room for the current redesign elements.

"If we streamline our processes, cut down on flow times, and give the mechanics what they need when they need it to get the job done—and done right the first time—the warfighter will benefit," Bruno said. "That's why we're transforming Tinker."

The government/contractor team is working closely together to come up with the best solutions to complete the project. An integrated product team structure feeds into the Depot Maintenance Transformation Board, which is accountable to a process council.

The curriculum includes an introduction to Lean/cellular, employee readiness, and cell operation implementation training. The training prepares employees to design and operate in their new cells.

"Traditionally, this ALC, like any other MRO facility, was set up as a functional organization," said Robert Longoria, a Standard Aero employee who works as a design lead for Team Battelle. "But based on past experiences, Tinker has decided it was worthwhile to take Lean to the next level.

"The bottom line is you're going to get a better-quality product without asking the employees to work any harder because they have better facilities to work in. That makes the employees more open to embracing the change," he explained.

"When you first come to work here, there are a lot of things you question looking from the outside in," said Anthony Velasquez, an engine process analyst in the engine transformation office who has experienced transformation firsthand.

Velasquez said the greatest lessons learned from the past were that communication needs to be a constant at all levels, and employees on the floor who know the process need to continue to bring ideas forward.

During the transition, the center must also keep up with production.

"It's been said by our management that this could be compared to riding a bicycle and changing a flat at the same time," said Stan McKinney, backshop unit chief for the F100 inlet fan disk cell. "We still have to support the warfighter, but at the same time transform."

"On the positive side, this Lean cell transformation is allowing us to better support the warfighter by making better-quality products," said Barbara Wilson, an aircraft mechanical parts worker in the engine transformation office. "You have more time to spend on that product because you have everything you need in a central location.

"You also have an opportunity to provide input, and it's important to know that what you say does matter. I think it's a great thing to have everything you need right there in your own shop. You see the transformation from start to finish."

In all, seven business units are scheduled for transformation by March 2016. And while the total projected investment in the overarching transformation is estimated at $496.6 million, officials hope to recoup the entire amount in just eight years by virtue of increased efficiencies.

The business units include F100 engines, Pratt & Whitney engines, GE engines, tanker aircraft, surveillance aircraft, bomber aircraft, and commodities.

Heusel is with 72nd Air Base Wing, Tinker AFB, Okla.

AMERICAN FORCES PRESS SERVICE (NOV. 7, 2005)

DECISIONS MADE TODAY WILL GIVE EDGE TO TOMORROW'S FORCE

Donna Miles

WASHINGTON—Decisions being made today about how troops are recruited, equipped, trained, and stationed will have far-reaching implications during future operations, according to the commandant of the Marine Corps.

The future battlefield is likely to be much like today's—uncertain, chaotic, and full of fog—so it's critical that the military continue to recruit and retain smart men and women and train them to operate in such an environment, Marine Gen. Michael Hagee told reporters at the National Press Club.

Tomorrow's military members, like today's, will need to be able to think quickly on their feet, often making decisions with less information than they'd like, he said. And that applies regardless of the type of operation they're conducting, from high-end combat operations to humanitarian- and disaster-relief operations.

If history is any guide, the military will again he called to fight a future conflict, Hagee said. And just as certainly, the military will be called to respond to humanitarian crises, including tsunamis, hurricanes, and earthquakes like those witnessed around the world during the past 10 months alone, he said.

Decisions in shaping the force for the future will be guided by findings of the upcoming Quadrennial Defense Review, which will look 10, 15, and more years into the future, Hagee said.

Predicting the future is no easy task, he acknowledged. "We're doing everything we can to get it right or not get it wrong as we design the force of the future," he said.

"That means recruiting the best troops possible, continuing to provide them the equipment they need, and replacing it as needed when it's seen heavy use, such as in Iraq, so it's ready to go for the next contingenc," Hargee said.

It also means positioning troops where they can operate most effectively and giving them the capabilities to deploy quickly to hot spots when they're needed.

At the same time, it requires giving troops the education and training they need to perform on a battlefield that requires quick thinking and good decision making, he added.

Hagee cited the success of this formula during the battle of Fallujah, Iraq, where he said Marines "absolutely crushed the insurgency" last year.

"There's still a great deal to do," Hageee said of operations in Iraq. "It's still very hard, and it is still quite dangerous over there."

"The most dangerous weapon on any battlefield is a United States Marine. There is no doubt about that."

—Gen. Michael W. Hagee
Commandant, U.S. Marine Corps

Improvised explosive devices continue to be the biggest challenges troops in Iraq face, he said. And with many of these weapons becoming increasingly complex, Hagee said, they're no longer improvised at all. "Some are very sophisticated," he said.

No one technology or solution is likely to counter the IED threat, Hagee said, noting that weapons like these will probably remain the insurgents' weapons of choice.

"No one out there is willing to take us on one on one or even squad to squad," he said. "If they do, they know they will lose."

That military superiority will remain critical to the military of tomorrow as its members face new threats and missions.

As they prepare for the future, Hagee said, the Marines will retain the fighting edge that's been their trademark for the past 230 years. "The most dangerous weapon on any battlefield is a United States Marine. There is no doubt about that," he said.

DEPARTMENT OF DEFENSE NEWS RELEASE (NOV. 15, 2005)

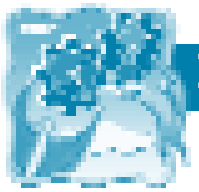
DOD RELEASES SELECTED ACQUISITION REPORTS

The Department of Defense has released details of major defense acquisition program cost and schedule changes since the June 2005 reporting period. This information is based on the Selected Acquisition Reports (SARs) submitted to the Congress for the Sept. 30, 2005, reporting period.

SARs summarize the latest estimates of cost, schedule, and technical status. These reports are prepared annually in conjunction with the president's budget. Subsequent quarterly exception reports are required for only those programs experiencing unit cost increases of at least 15 percent or schedule delays of at least six months. Quarterly SARs are also submitted for initial reports, final reports, and for programs that are rebaselined at major milestone decisions.

The total program cost estimates provided in the SARs include research and development, procurement, military construction, and acquisition-related operation and maintenance (except for pre-Milestone B programs, which are limited to development costs pursuant to 10 USC 2432). Total program costs reflect actual costs to date as well as future anticipated costs. All estimates include anticipated inflation allowances.

The chart at the top of the next page shows the current estimate of program acquisition costs for programs covered by SARs for the prior reporting period (June 2005), which was $1,474,049.4 million. There was a net cost increase of $64,999.4 million (+4.4 percent) during the current reporting period (September 2005), which was due primarily to cost increases associated with the four-year stretchout and restructure of the FCS program.



In the News

CURRENT ESTIMATE ($ IN MILLIONS)	
June 2005 (85 programs)	**$1,474,049.4**
Changes Since Last Report:	
Economic	$ 0.0
Quantity	0.0
Schedule	+7,990.0
Engineering	+37,405.6
Estimating	12,512.5
Other	+0.0
Support	+7,091.3
Net Cost Change	$+64,999.4
September 2005 (85 programs)	**$1,539,048.8**

For the September 2005 reporting period, there were quarterly exception SARs submitted for 13 programs. The reasons for the submissions follow.

ARMY

ACS (Aerial Common Sensor)—The SAR was submitted to report schedule slips of at least six months due to sensor integration challenges on the selected platform resulting in space, weight, power, and cooling issues. There is currently a 90-day contract stop-work order in place. Alternative solution sets are being investigated. Impacts to performance and cost are not known at this time.

ARH (Armed Reconnaissance Helicopter)—This is the initial SAR submission following approval to proceed into System Development and Demonstration (Milestone B) on July 26, 2005.

ATIRCM/CMWS (Advanced Threat Infrared Countermeasure/Common Missile Warning System)—The SAR was submitted to report schedule delays of more than 30 months for ATIRCM Initial Operational Test and Evaluation (IOT&E), First Unit Equipped, and Full Rate Production (FRP). The delays result from CMWS acceleration and ATIRCM performance and reliability issues, which resulted in separate IOT&E and FRP decisions. Program costs decreased $8.1 million (-0.1 percent) from $4,717.0 million to $4,708.9 million, due primarily to acceleration of the A-Kit (installation kit) buy by three years.

FCS (Future Combat Systems)—Program costs increased $62,541.4 million (+63.3 percent) from $98,878.6 million to $161,420.0 million, as a result of program restructure (+$54,270.6 million) and extension of schedule by four years (+$8,270.8 million).

JLENS (Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System)—This is the initial SAR submission following approval to proceed into System Development and Demonstration (Milestone B) on August 5, 2005.

NAVY

CVN 21—The SAR was submitted to report a schedule delay of the Defense Acquisition Board (DAB) program review from June 2006 to July 2007 because of a delay in the funding of the lead ship (CVN-78). There were no cost changes reported.

DD(X)—The SAR was submitted to report schedule slips of seven months in the decision to approve System Development and Demonstration (Milestone B) and nine months in the Lead Ship Award date. The Milestone B is currently scheduled for November 2005, and the Lead Ship Award date is planned for January 2006. Both events slipped because of continuing resolution of the DD(X) acquisition strategy. There were no cost changes reported.

H-1 Upgrades—The SAR was submitted to report a schedule slip of eight months (from January 2006 to September 2006) in the completion of Operational Evaluation (OPEVAL) Testing. This slip was due to delays in completing aircraft block modifications and Helmet Mounted System Display (HMSD) issues. Incremental improvements to the HMSD are being made to address the issues. Program costs increased $28.3 million (+0.4 percent) from $8,004.5 million to $8,032.8 million, as a result primarily of an increase in RDT&E for studies and analyses (+$10.8 million) and additional procurement funds for UH-1Y government furnished equipment and recurring costs (+$17.5 million).

LHD 1—This is the final SAR for the LHD 1 since it is more than 90 percent expended. The program began in 1981 and has now delivered six of seven ships to date. The final ship, LHD-8, is under construction and is scheduled to be delivered in July 2007. Program costs decreased $49.9 million (-0.5 percent) from $10,001.2 million to $9,951.3 million, due primarily to revised actual costs.

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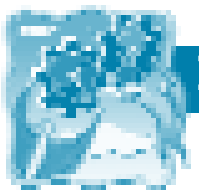
F/A-22—The SAR was submitted to rebaseline from a development to a production estimate following the April 2005 approval of Full Rate Production (Milestone III). There were no cost changes reported.



Program	CURRENT ESTIMATE ($ IN MILLIONS)
ARH (Armed Reconnaissance Helicopter)	$3,568.7
JLENS (Joint Land Attack Cruise Missile Elevated Netted Sensor System)	7,151.0
Total	**$10,719.7**

NPOESS (National Polar-Orbiting Operational Environmental Satellite System)—The SAR was submitted to report an increase in the Average Procurement Unit Cost Program (APUC) of 15 percent or more (Nunn-McCurdy unit cost breach). Congress was notified September 28, 2005, of the breach. Program costs increased $1,485.2 million (+21.8 percent) from $6,800.0 million to $8,285.2 million, due primarily to technical issues arising during the engineering and manufacturing development portion of the program. The NPOESS Tri-Agency Executive Committee (EXCOM) has directed that an Independent Program Assessment team review the program and provide recommendations for replanning options. The EXCOM is expected to approve a restructure of the program during December 2005.

SBIRS (Space Based Infrared System) High—The SAR was submitted to report increases in the Program Acquisition Unit Cost and Average Procurement Unit Cost of 15 percent or more (Nunn-McCurdy unit cost breach). Program costs increased $1,024.8 million (+10.7 percent) from $9,613.3 million to $10,638.1 million, due primarily to a revised estimate of development and production costs and the addition of program office operating costs to complete production of GEO 3-5.

WGS (Wideband Gapfiller Satellites)—The SAR was submitted to report schedule slips of six months or more. The Initial Operational Capability (IOC) slipped from May 2007 to March 2009, and Full Operational Capability (FOC) has been revised to a "to be determined" date, pending a review of satellites 4 and 5 cost and schedule. The schedule slips were due to a fastener problem in the manufacturing process reported by the contractor (Boeing). The need to go back and replace the fasteners pushed back the launch date, thus affecting the IOC and FOC dates. Program costs decreased $22.3 million (-1.2 percent) from $1,837.4 million to $1,815.1 million due primarily to a reduction to fund higher priority programs.

New SARs (As of September 30, 2005)

The Department of Defense has submitted initial SARs for two new programs. These reports do not represent cost growth. Baselines established on these programs will be the point from which future changes will be measured. The current cost estimates are shown in the sidebar to the left.

U.S. TRANSPORTATION COMMAND NEWS SERVICE (NOV. 23, 2005)

NEW CARGO PALLET WILL SAVE U.S. MILITARY $1.3 MILLION

Bob Fehringer

SCOTT AIR FORCE BASE, Ill.—A large shipment of merchandise sits near a loading dock behind the United States Transportation Command on Scott Air Force Base, Ill. What makes this shipment different from those normally received by government agencies around the world every day, is that shipment appears to be piled on a pallet, which is also on a pallet.

Another federal faux pas?

No, this pallet sandwich is really a new cost-saving shipping system developed for USTRANSCOM, the command responsible for moving all things military.

Called the Associate Intermodal Platform (AIP), the system consists of an 82-inch by 10-inch by 8-inch rectangle of a linear low-density hexane copolymer, which resembles a large black waffle. Cargo is loaded and tied down on the AIP and then the whole package is loaded onto the familiar silver 463L pallet. The resulting package is then ready to load for shipment.

Once in theater, the AIP, with cargo and netting attached, is off-loaded and sent to the final destination, while the 463L remains. The AIP can also be used to transport cargo with ISO containers, or alone.

According to USTRANSCOM Transportation Specialist David Blackford, this apparent redundancy was deemed necessary by transportation officials. "Because of combatant command requirements during contingencies and relief efforts, we send our 463L pallets and nets to the final destination (factory to foxhole)," Blackford said. "The 463L equipment either doesn't get returned to the Defense Transportation System, or personnel use them

The Associate Intermodal Platform, or AIP system consists of an 82-inch by 10-inch by 8-inch rectangle of a linear low density hexane copolymer that resembles a large black waffle. Cargo is loaded and tied down on the AIP and then the whole package is loaded onto the familiar, silver 463L pallet. The resulting package is then ready to load for shipment. Photograph by Bob Fehringer.

for purposes not intended and, therefore, they get damaged."

The silver slabs may make superb floors for tents in the field, but this type of misdirection of pallets can add up to a huge expense for the government.

"The 463L pallet and net system cost $1,700 per set and the [proposed] cost of the AIP system is $400," Blackford said. "This equates to a $1.3 million cost avoidance per 1,000 pallets sent to the theater. We send several thousand pallets to theater per month. We created the AIP to keep the 463L assets in the DTS [Defense Transportation System] and still meet the COCOM requirements for unitized cargo loads."

While the current prototypes of the AIP system cost $970 each, the actual production cost will be $400 for the system, which has been in development for more than two years.

"We birthed the concept in October 2003," Blackford said. "We developed the requirements document, applied for Transportation Technology funds, wrote the statement of work, and awarded the contract to Thermodynamics in June 2005.

"We received our first 120 AIP pallet and net sets at the end of September 2005," Blackford added. "We are currently developing the plan to operationally test the AIP at the Red River Army Depot in Texarkana, Texas."

Fehringer is a contractor with U.S. Transportation Command Public Affairs, Scott AFB, Ill.

AIR FORCE PRINT NEWS (DEC. 1, 2005)

NEW TECHNOLOGIES TACKLE LANDING CHALLENGES

Laura L. Lundin

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFPN)—The Air Force Research Laboratory is demonstrating technologies that will allow Air Force transport aircraft to land in a range of environmental conditions—anytime and anywhere.

The lab's Air Vehicles, Human Effectiveness, and Sensors directorates here are working with three technologies that, when combined, will help Air Mobility Command pilots to land in remote and austere weather and field conditions.

The directorates are working collaboratively to demonstrate the Autonomous Approach and Landing Capability, or AALC. This will be in conjunction with BAE Systems Platform Solutions, and the Opportune Landing System (OLS) in conjunction with Boeing Phantom Works and the U.S. Army's Cold Regions Research Engineering Laboratory, Hanover, N.H.

In a perfect situation, pilots generally have no trouble seeing the runway. But when they fly into low-visibility conditions like fog, rain, snow and blowing sand, pilots have difficulty making a safe approach and landing without ground-based navigation aids.

That's where AALC—a sensor-based, head-up display system—comes into play. It provides pilots a clear image of the runway to allow safe landings.

Using baseline technology developed by MBDA U.K. Ltd., a HUD (Heads Up Display) developed by BAE Systems U.K., and image processing and fusion developed by BAE Platform Solutions U.S., the objects the imaging

radar picks up generate a near real-time video image. This will be enhanced to appear as if the pilot were landing in daytime on a typical visual approach. The video will appear on the HUD screen and allow the pilot to guide the aircraft in for landing.

OLS will help pilots land in austere locations. The system will analyze satellite imagery to determine an area's suitability for landing operations by looking at length, width, and flatness of the area as well as potential obstructions and standing water. Additionally, OLS determines soil type and moisture content to estimate the strength of the area.

"When you add these two programs together, you have the capability to penetrate the weather and battlefield obscurants, so you can go anytime. And OLS will allow landing capabilities anywhere," said James McDowell, the AALC program manager.

"Today, pilots can land in severe weather conditions—but not without an extensive and well-maintained infrastructure in place," McDowell said.

For military operations, this necessary infrastructure leads to constraints on the mission by narrowing the landing options, costing the military time and money, he said.

However, the AALC system operates independently of ground-based navigation aids. OLS is a pre-mission planning analysis tool that provides information about potential landing sites. This independence increases operational capabilities.

"Currently, air transport crews are being denied clearance for missions if the weather is bad enough and there is no instrument-landing capability at the destination," McDowell said. "So, getting AALC's capabilities demonstrated is a high priority."

Gary Machovina, principal writer of the AALC concept of operations, said AMC identified a deficiency in mobility operations in Bosnia during 1995 and 1996. The constraints led to delays in deploying and supplying troops in the theater of operations.

"The missions then and now are limited to those areas that can support landings using ground-based navigation aids," said Machovina, who is with the command's long-range planning section at Scott Air Force Base, Ill.

"AALC looks very promising and has the potential of opening up the possibilities for operations significantly," he said.

The technology is a "true game-changer," said Douglas Zimmer, deputy program manager with the Human Effectiveness Directorate. "With AALC providing the pilot with adequate imagery and the dependence on airport infrastructure gone, mobility assets will be free to operate under a majority of atmospheric conditions related to extreme low visibility," he said.

Presently, AALC works by using a two-dimensional wave-imaging radar system, infrared camera, and fusion and processing algorithms that combine the best qualities of each sensor. The pilot then sees a two-dimensional view of the fused sensor image of the runway.

Therefore, if an obstacle like a tree was in an aircraft's path, it would appear only as a shadow or a spot on the display. It would not allow the pilot to determine the height threat of the object, which poses a significant safety hazard.

To address this limitation, the Sensors Directorate is working to modify the system to feature a three-dimensional view. The 3-D radar will display the height of obstacles or terrain in the path of the aircraft, which makes pilots more aware of landing situations.

"The three-dimensional radar is primarily designed to address two issues: providing a safe approach by identifying intervening terrain or obstacles on the final approach and providing information about potential hazards or runway incursions," said Air Force Maj. John Koger, a program manager.

McDowell said AALC is scheduled for flight test demonstration aboard a C-130H at Edwards AFB, Calif.—beginning with the 2-D radar—between October 2006 and February 2007.

Plans are for AMC to receive the technology during fiscal 2010.

Engineers are scheduled to flight test the completed 3-D modifications in late spring to early summer of 2007. McDowell said the primary focus will be on the radar's ability to identify obstacles or terrain at the correct location and height on final approach.

Zimmer said, "From what I have seen thus far, the proposed technologies are impressive. The true test will come during our demonstration when the sensors are stressed in actual weather conditions."

Lundin is with Air Force Research Laboratory Public Affairs, Wright-Patterson AFB, Ohio.

AIR FORCE PRINT NEWS (DEC. 8, 2005)
PRODUCT CENTER FINISHES $250 MILLION COMMUNICATIONS PROGRAM

1st Lt. Stephen Fox, USAF

HANSCOM AIR FORCE BASE, Mass. (AFPN)—The Global Information Grid Systems Group installed an emergency communications system at Minot Air Force Base, N.D, the last of 50 identical systems of a more than $250 million program.

The Minuteman Minimum Essential Emergency Communications Network Program—which began more than seven years ago—replaces Legacy Emergency Communication Systems at 20th Air Force Minuteman III launch control centers. There are also centers at Malmstrom AFB, Mont., and F.E. Warren AFB, Wyo.

The systems are designed to receive emergency action messages from the National Command Authority in the event of a nuclear strike against the United States.

"This upgraded system is a vital link between the NCA—the president and defense secretary—and the Minuteman III missile crews in the field," said Air Force Lt. Col. Bryan Bagley, director of emergency communications. "It provides the warfighter a communications system that is faster, more secure and dependable than before."

The new system replaces one with outdated components that were pieced together, not optimally located, and certainly not integrated, said Air Force 1st Lt. John Gould, program manager.

The new system provides a single interoperable terminal with reliable, redundant, and secure radio and MILSTAR satellite communication links to Minuteman III intercontinental ballistic missile forces. It replaces 1970-era radio links with an extra high frequency satellite radio. It also upgraded the very low frequency radio links.

The new system was designed to function even in the case of an electromagnetic pulse and radiation following a nuclear blast, Gould said.

"A nuclear strike could knock out nearly all forms of conventional communication. Radio, telephone, Internet, and satellite communications would all be affected," the lieutenant said. "It's imperative that links from the National Command Authority to the warfighter not be broken.

"This program ensures that important link is maintained," he said.

Each installation was completed in two phases. The first phase, the above-ground equipment at missile alert facilities, included an EHF antenna encased in a 40,000-pound reinforced steel shelter on top of a 60,000-pound concrete foundation. The second phase replaced cables to the existing VLF antenna and the communications equipment in the underground launch control center.

The new system is more robust than the previous system, Gould said.

"The EHF communications network, with a topside antenna encased in a steel shelter, is designed to withstand a nearby nuclear blast," the lieutenant said. "The VLF network, with its antenna buried underground, can survive a direct nuclear strike."

The reliability of the new system far exceeds the Air Force standard. The EHF radio is nearly 300 percent more reliable than the accepted standard. The VLF network exceeds the bar by more than 2,200 percent, Gould said.

The program also fielded 31 systems in training facilities and five in test facilities. Work is under way on a $50 million contract to provide system spares and depot maintenance and repair through at least 2010.

"This program has ensured the United States' ability to rapidly respond to strategic threats for years to come," Bagley said. "I am very proud to be a part of this team whose dedication, hard work, and professionalism over the last seven years ensured the successful delivery of combat capability to the field."

Fox is with Electronic Systems Center Public Affairs, Hanscom AFB, Mass.

AIR FORCE PRINT NEWS (DEC. 15, 2005)
F-22A RAPTOR GOES OPERATIONAL

LANGLEY AIR FORCE BASE, Va. (AFPN) -- The F-22A Raptor—Air Force's most advanced weapon

LANGLEY AIR FORCE BASE, Va. (AFPN)—Crew chief Air Force Staff Sgt. Adam Murtishaw guides an F-22A Raptor into its parking space after a Dec. 14 mission. The 27th Fighter Squadron earned initial operating capability today, which means the stealth jet is combat ready. Murtishaw is with the 27th Aircraft Maintenance Unit.
U.S. Air Force photograph by Tech. Sgt. Ben Bloker, USAF.

system—is ready for combat, Air Force officials announced here today.

In reaching initial operational capability, the Raptor is certified ready for operational use.

The first combat-ready Raptors are flying with the 27th Fighter Squadron of the 1st Fighter Wing here. The squadron's deployment capability is a 12-ship package designed to execute air-to-air and air-to-ground missions.

"If we go to war tomorrow, the Raptor will go with us," said Gen. Ronald E. Keys, commander of Air Combat Command.

Declaring the transformational stealth fighter "IOC" means the Raptor's proven capabilities are available for combat and supported by a properly trained and equipped force.

It also means the aircraft is qualified to fly homeland defense missions.

"F-22A IOC means our warfighters now have an unprecedented lethal mix of air-to-air and air-to-ground capabilities at their disposal," Keys said. "The Raptor's cutting edge technology brings us continued joint air dominance despite advancing enemy threats."

Reaching the IOC milestone culminates a collaborative 25-year effort between various Air Force organizations and industry partners. The road to the IOC included was a step-by-step process. The F-22A System Program Office first turned Air Force requirements into a successful acquisition program. Then there was developmental flight test and evaluation, simulation, and ground testing at Edwards Air Force Base, Calif., and Eglin AFB, Fla. There was engine testing at Arnold AFB, Tenn., and missile testing at Holloman AFB, N.M., and over the Pacific Test Range. There were also tactics development at Nellis

AFB, Nev., pilot and maintenance training at Tyndall AFB, Fla., and deployability at Langley.

"The F-22A fulfills a long quest to bring fifth-generation capabilities of stealth, supercruise, and precision to the warfighter today and 30 years from today," Keys said. "Now that we have met our first promised milestone of a fully capable, multi-mission platform ready for combat, we are already focused on furthering our integrated tactics development, refining our deployabilty, and growing and training our force."

The general said, "To add to what we learned on our successful first operational deployment to the Utah Test and Training Range to drop JDAMs [joint direct attack munitions], fly against double-digit SAMs [surface-to-air missiles] at Nellis and work [close air support] with F-16 FAC-As, we will conduct our first routine peacetime exercise deployment by taking 12 Raptors to Alaska in June for Northern Edge."

Designed to ensure America's air dominance for years to come, the F-22A will ensure U.S. joint forces' freedom from attack and freedom to attack, even as adversaries continue to advance their weapons and technologies, officials said.

"As I told [Air Force Chief of Staff] Gen. [T. Michael] Moseley, he and I have spent our lifetime executing, instructing, and providing air dominance for the joint force. Lamentably, we have never been privileged to hold a weapon like this in our hands," Keys said.

"After reviewing our test results—seeing our operational deployment performance and talking to the pilots that will go to war with it—I am confident the F-22A joins the combat force at a far more mature and capable level than any of our previous great aircraft, and will take its rightful place in a long line of U.S. Air Force legends of the air," he finished.

NAVY NEWSSTAND (DEC. 14, 2005)
ROVER SYSTEM REVOLUTIONIZES F-14'S GROUND SUPPORT CAPABILITY

ABOARD *USS THEODORE ROOSEVELT* (NNS)—As F-14 Tomcat aircraft 207 of the "Blacklions" of Fighter Squadron (VF) 213 launched the morning of Dec. 11, history was made.

For the first time, a forward ground controller, with the call sign of "Antidote," located on the ground near Baghdad, was invited "into" the cockpit of the aircraft via the Remotely Operated Video Enhanced Receiver (ROVER) system.

"The new system allows forward ground controllers to see what the aircraft is seeing in real time," said Lt. j.g. Will Parish, radar interceptor officer. "There is no time delay in the system."

ROVER allowed Antidote to see real-time images acquired by the aircraft's sensors by transmitting the images to his laptop. Usage of ROVER greatly improved Antidote's reconnaissance and target identification, which are essential to the combat air support mission in Iraq.

The development team arrived aboard *USS Theodore Roosevelt* (CVN 71) Dec. 10 to install the first ROVER systems onto the Tomcats. The squadron maintainers are quickly learning the modification process, providing both VF-213 and VF-31 with complete ROVER capability within a few days.

ROVER upgrades to Carrier Air Wing 8 Tomcats will more than double the number of aircraft flying Operation Iraqi Freedom missions with this unique capability.

Before ROVER capability, ground controllers had to rely on "visual talk-ons" to hunt for IEDs, track insurgents, or follow suspicious vehicles. The ground controller would have a map he used to guide the pilots where they needed to go.

"The ground controllers are excited because it eliminates talk-ons," said Parish. "It gives them a lot more confidence when making decisions such as dropping bombs, because they have the same real-time bird's eye view as [the pilots] do."

A joint VF-31/VF-213 investigation revealed that it would be possible to modify the F-14D Tomcat with off-the-shelf technology for a mere $800 per aircraft.

A team of F-14D experts from the PMA-241 staff at Naval Air Station Paxtuxent River, Md., was presented with this idea in early November, and was able to research, develop, and field this technology within a six-week window. Grumman employees from Naval Air Station Oceana and members of the fleet support team from Naval Air Systems Command Depot (NADEP) Jacksonville were assembled to perform the aircraft modification.

NEW ORLEANS—An unmanned aerial vehicle, mounted on a pole, uses its remote operations video enhanced receiver, or ROVER, to help find survivors of Hurricane Katrina and support relief efforts.
U.S. Air Force photograph by Staff Sgt. James Wiger, USAF.

"Technology makes us more viable because we have a tool other platforms don't have," said Parish. "ROVER gives us the advantage because ground controllers now prefer us."

NAVY NEWSSTAND (DEC. 13, 2005)
SHADOWHAWKS OVERCOME CHALLENGES, ESTABLISH LAND-BASED PROWLER PRESENCE IN IRAQ

Journalist 2nd Class Stephen Murphy, USN • Photographer's Mate 2nd Class Matthew Bash, USN

ABOARD *USS THEODORE ROOSEVELT* (NNS)—During their current deployment with *USS Theodore Roosevelt* (CVN 71), the Shadowhawks of Carrier Air Wing (CVW) 8's Electronic Attack Squadron (VAQ) 141 have overcome many challenges in establishing themselves as the first Navy Prowler squadron to set up operations at Al Asad Air Base, Iraq. The electronic warfare capabilities of the Shadowhawks' EA-6B Prowlers are enhancing the efforts of Marine Electronic Attack Squadron (VMAQ) 1 to provide aerial support for U.S. Marine Corps ground forces in Iraq.

The Shadowhawks were first called upon to establish a long-term presence in Iraq Sept. 17. Just days into the deployment, personnel from VAQ-141—13 officers and 49 enlisted—departed TR while the ship was anchored for a port visit to Palma De Mallorca, Spain, for a three-week deployment to Al Asad.

The Shadowhawks quickly learned that they would have to overcome several challenges presented by their new temporary home. The work facilities had limited electrical access and were without telephone or computer hookups. "We expected the conditions to be as we found them, and it didn't really matter to us [at the time] because we knew we would only be there for three weeks," said VAQ-141 Command Master Chief (AW/SW) Mark Curley.

With help of the Marines of VMAQ-1, who provided communications equipment and helped with maintenance needs, the Shadowhawks were able to get their Prowlers in the air. By mission's end, VAQ-141 had conducted 37 combat sorties, with a total of 165 hours of flight time.

Shortly after returning to TR the Shadowhawks learned that what they thought would be a one-time experience was about to turn into a long-term presence. The decision was made to send VAQ 141 personnel back to Al Asad, this time for an indefinite period of time.

"Being the first Navy Prowler squadron to set up a permanent operational presence in Al Asad presented challenges that were unforeseen," Curley said. "It became apparent that we had our work cut out for us."

The new prospect of a land-based deployment that would last several weeks placed the Shadowhawks in a situation where they would have to find resources needed to build a detachment that could be almost completely self-sufficient for an unknown amount of time. Uunexpected challenges for VAQ 141arose from the need for a building to operate from; the ability to communicate within Al Asad and back to TR; the need for vehicles, sleeping

quarters, work spaces, offices; and, more important, the capability to perform proper maintenance operations.

"It was almost like a homeport change because you are basically going to a base where they aren't quite set up to accommodate you," said Aviation Structural Mechanic (Equipment) 1st Class Richard Peterson.

"We had to go ahead and actually build a presence there completely from scratch," Curley said. "We had to find these items, and in a war zone you aren't going to find this stuff just sitting around."

Once again the Shadowhawks sought the support of VMAQ-1, but this time the crew was hoping to establish a solid and lasting presence not only for themselves, but also for the sake of any future Navy squadrons deploying to Al Asad. The first step was to learn how to work within the Marine Corps supply system, and VMAQ-1 was there to assist. Once VAQ-141 personnel gained a better understanding of how the supply system worked, it became much easier to locate and receive needed supplies.

"We developed a good working relationship with VMAQ-1," Curley said. "We were able to help each other out with parts and technical support if necessary."

The Shadowhawks found the answer to their communication needs when they made contact with Marine Air Group (MAG) 26. It was through MAG-26 that VAQ-141 was able to obtain UHF and VHF radios, and necessary telephone and computer hook ups. In only a few short weeks, VAQ-141 went from having an open-bay hangar with no shops and only a 12-foot by 10-foot operations space, to having seven well-lit and -heated maintenance spaces with parts storage, an operations space with five office spaces, a ready room, and an established communications system.

"With all that we have learned—from the combat operations and tactics our aircrew and aircraft employ from Al Asad Air Base, to the logistics involved with working, operating, and living in an expeditionary combat environment—we have built a set of standard operating procedures for any Navy VAQ squadron that deploys into Al Asad after we leave near the end of TR's deployment," said Curley.

"I couldn't be more proud of all of the Shadowhawk sailors," said Cmdr. Craig Clapperton, VAQ 141 executive officer. "This was a total team effort from our sailors in the detachment and our sailors on the carrier. Our sailors showed determination, persistence, and a great deal of ingenuity. They built all of this from scratch, and they accomplished all of this while executing more than 500 flight hours and 100 combat sorties."

Al Asad, Iraq (Nov. 14, 2005)—An EA-6B Prowler, assigned to the Shadowhawks of Electronic Attack Squadron One Four One (VAQ-141), taxis down the runway at the Al Asad Air Base. A detachment of the Shadowhawks is stationed at Al Asad flying missions in support of the global war on terrorism. VAQ-141 is assigned to Carrier Air Wing Eight (CVW-8), currently embarked aboard *USS Theodore Roosevelt* (CVN 71).U.S. Navy photo by Photographer's Mate 3rd Class Randall Damm, USN.

Al Asad Air Base is home to 12,000 servicemembers who are a mix from each of the U.S. military branches. The base is centrally located in Iraq, allowing for readily available air support with nearly every type of U.S. military aircraft in existence.

Murphy and Bash are with USS Theodore Roosevelt *Public Affairs.*