



In the News

THE AUDITORS ARE COMING! THE AUDITORS ARE COMING!

Richard K. Sylvester

If you're an acquisition professional who works with military equipment programs, you need to prepare for one of the biggest New Year's events in Department of Defense history. No, we're not having a huge party, but we are sending out a serious invitation.

In early 2007, the inspector general is going to invite independent auditors to begin their audit of DoD's military equipment programs. And here's the good news: We'll be ready for the auditors, thanks to the Military Equipment Valuation (MEV) initiative.

In case you haven't heard, MEV is a DoD-wide effort to capitalize, depreciate, properly account for, and report military equipment. Basically, we're treating military equipment as capitalized assets instead of expenses, prorating their value over their useful life and recording those values on financial statements that are subject to audit.

With the help of program management offices across the Department, the Property & Equipment (P&E) Policy Office has established the initial value of each item of military equipment in the DoD inventory, using a consistent approach that can be audited. Now we have to update that program information and ensure it's ready for audit.

Updates in CAMS-ME: Due September 30, 2006

The Capital Asset Management System-Military Equipment (CAMS-ME) is the system that the P&E Policy Office and the Space and Naval Warfare (SPAWAR) System Center-San Diego have developed to consolidate the average cost of assets, update total program expenditures, depreciate assets over their useful life, and record asset status. Points of contact who have already been designated in all of the Services will use the CAMS-ME portal Web-based tool to update their military equipment addition, disposal, and transfer data. Training on CAMS-ME for POCs is now being offered as a Web-based module, accessible from the Quick Links menu on our Web site: www.acq.osd.mil/me.

Management Assertion for Audit Readiness: Due December 31, 2006

According to Section 1008 of the 2002 National Defense Authorization Act, the under secretary of defense comp-

troller is responsible for ensuring that resources expended on financial statement preparation are minimized until the reporting entity can demonstrate that it is ready for audit. Typically the financial management community would take care of this. But military equipment is unique.

Information about military equipment must be obtained from the acquisition and logistics communities, so individuals in these communities are required to assert to the accuracy of the information they give to the financial management community. In fact, these communities are involved in four management assertions:

- The Valuation Assertion, which verifies that the assets have been valued in accordance with federal accounting standards and generally accepted accounting principles
- The Completeness Assertion, which verifies that all the programs on the Property, Plant & Equipment (PP&E) line item of the balance sheet that should have been reported have been recorded and reported

Preparing our military equipment programs for audit is the law.

- The Rights and Obligations Assertion, which verifies that the Service reporting the item does in fact have the rights to and "owns" the equipment
- The Existence Assertion, which verifies that the military equipment being reported does in fact exist.

Working with the military departments and defense agencies, the P&E Policy Office developed a recommended approach for completing the assertions. To learn more about that approach, visit www.acq.osd.mil/me and click on "Management Assertion Training" in the Quick Links menu.

Dotting the I's and Crossing the T's for Our Warfighters

Preparing our military equipment programs for audit is the law. It also has tremendous benefits: It demonstrates renewed responsibility to the taxpayer, and it gives senior management officials the ability to approach Congress and the American people with better knowledge of our military equipment programs—and not just the number of vehicles, ships, and planes, but also what each costs, its current value, and how long it will operate. Ultimately, this information, verified by an independent auditor, will help us to make investment decisions that provide the best support for our warfighters.

Sylvester is deputy director for property & equipment policy within the Acquisition, Resources and Analysis Office, Office of the Under Secretary of Defense (AT&L).



ARMY NEWS SERVICE (FEB. 22, 2006) ARMY CREATES NEW CAPABILITIES INTEGRATION CENTER

WASHINGTON—The Secretary of the Army signed a General Order Feb. 15, to roll out the Army's organization responsible for integrating Future Combat Systems capabilities into the force as soon as practical.

The Army Capabilities Integration Center, or ARCIC, was formed from the resources and organization of the U.S. Army Training and Doctrine Command Futures Center.

With the new name and new mission, the ARCIC will be the lead Army agency for coordinating how best to integrate warfighting capabilities into the force and among the military services and with other agencies.

"We are retaining the complete mission set from the Futures Center and adding the tremendous responsibility for integrating capabilities into the modular force," said Lt. Gen. J. Mark Curran at a media roundtable Feb. 16 during the Winter Association of the United States Army conference in Fort Lauderdale, Fla. Curran, formerly director of the Futures Center, will serve as the ARCIC's director.

"This integration goes beyond materiel items and includes all DOTMLPF (doctrine, organization, training, materiel, leader development, personnel, and facilities) domains," Curran said. "We must work the synchronization and coordination of agencies across the Army and the Joint community to ensure we accelerate inserting capabilities into the modular force, when these are ready, to meet an essential need."

The ARCIC's responsibilities will include the Future Combat Systems, the modernization program for the Army to move from the current force to the future force. The program provides soldiers with leading-edge technologies to improve their capabilities in fighting the enemy in complex environments.

"Our role in inserting (Future Combat Systems) capabilities into the force when ready is critical to enabling the Army to evolve rapidly while engaged in this long war," Curran said. "The Future Combat Systems program is the fastest, surest way to modernize the Army."

The ARCIC's work will pave the way for brigade combat teams to use Future Combat Systems technologies, according to Army senior leaders. It will provide impetus

and direction from concept to capability development for full spectrum operations, as well as shape the future for the next generation of soldiers.

The ARCIC, through the TRADOC commanding general, will be responsible to the Army Secretary and Army Chief of Staff. It will be headquartered at Fort Monroe, Va., with a forward element in Arlington, Va. The National Capital Region office will be responsible for working with the Army Staff, Joint Staff, Office of the Secretary of Defense, and other agencies.

"The ARCIC is responsible for integrating and synchronizing the activities of many separate agencies and Headquarters Department of the Army elements," said Col. Rickey Smith, director of the ARCIC-Forward. "Currently, many segments of our Army individually provide pieces of the overall DOTMLPF composite picture. The ARCIC will lead in determining if the right force capability requirements are being worked, or whether we are closing the gaps needed to support our soldiers and leaders for today's and tomorrow's requirements."

This represents a significant change in how the Army does business, Smith said.

"The ARCIC represents a real, tangible shift," he said. "Here are two examples. In the very near future, the Army will establish an Evaluation Brigade Combat Team for the purpose of evaluating and testing FCS technologies in order to spin them out to the modular force. The ARCIC will have the key role in determining what the EBCT tests, and determining whether these technologies meet the requirements.

"The ARCIC will also serve as the soldier's representative, ensuring that requirements are being met," he said.

Since wargaming, concept development, and experimentation across DoD have implications for the fielding of needed capabilities to the current and future Joint Force commander, "The ARCIC is a permanent organization designed to serve as the coordinating agent among all stakeholders involved in the force capability requirements process, including requirements identification and integration," Smith said.

"The ARCIC will stay engaged at all levels to ensure integrated current and future force developments are considered in the sister services, Joint Staff, and Army acquisition and budget decisions," Smith said. "Decisions that affect Army capabilities now and in the future will



cause us to re-examine our operational concepts and shift our priorities and resources accordingly.”

Editor's note: Information provided by the U.S. Army Training and Doctrine Command Public Affairs Office.

OGDEN AIR LOGISTICS CENTER PUBLIC AFFAIRS (FEB. 23, 2006) RAPTOR CAPABILITIES PRESENT NEW CHALLENGES

G. A. Volb

HILL AIR FORCE BASE—The F-22 Raptor's unequaled capabilities bring some unique challenges to Air Force maintainers at Ogden Air Logistics Center, not the least of which is gearing up a support machine to handle the maintenance workload when the first Raptors arrive for modifications in April. Approximately 18 of the 21st century fighter aircraft will see depot maintenance at Hill throughout the first year.

“The first aircraft,” according to Mike Dooner, 309th Aircraft Maintenance Group F-22 production chief, “will have the lighting system for night air-to-air refueling system upgraded ... along with a few other minor factory modifications.”

The challenge for maintainers is keeping up with the latest weapon system technology, he said. “But our technicians and support personnel have spent most of their careers working with new technology,” he added, “so it won't be a new challenge.” But preparing for the workload is an adventure in itself.

Depot activation for a new weapon system always presents challenges, but even more so for the F-22 given its high-end technology and sensitive profile.

“We're partnering with the aircraft's original equipment manufacturers (Lockheed-Martin and Boeing) to ensure we have the supply support we need,” said Don Hallford, F-22 program manager.



Bret Hickenbotham, a 17-year aircraft structural mechanic with the 309th Aircraft Maintenance Group, identifies various areas on the F-22 Raptor trainer that will be affected by a modification for night air-to-air refueling, while also inspecting its structural integrity.

U.S. Air Force photograph by G. A. Volb.

Maintainers have to work supply line issues—making sure needed parts are on hand among other things, building a work area specifically for the F-22, and developing training requirements for mechanics.

“Most maintainers will tell you that being on the ground floor of a new weapon system is unique,” said Dooner. “A lot of hard work goes into getting it off the ground but in the end, you have the opportunity to implement new ideas and ways of doing business. We have the chance to start anew, eliminating waste from our processes and procedures up front.

“And while the F-22 presents challenges when it comes to stealth technology, we've been working B-2 bomber maintenance for a while—about seven years—so we have experience in that field as well,” he emphasized.

The maintainers continue, however, to take a proactive approach by sending personnel to field training detachments for hands-on schooling.

By virtue of the F-22 design, it's hoped maintainers will find their work a little more user-friendly. According to officials, the Raptor will have better reliability and maintainability than any

fighter aircraft in Air Force history.

An F-22 squadron also requires less than half the airlift of an F-15 squadron to deploy. Plus, the aircraft's increased reliability and maintainability pays off in less manpower to fix it and the ability to operate more efficiently.

“People are excited to start working on it,” said Dooner. “We have heard about this aircraft for years now, and the maintenance and support teams are eager to dive in and get their hands dirty.”

Dooner said experienced technicians and support personnel from all over the base will help implement the



workload associated with the F-22 coming in April. Initially, maintainers are looking at between 30-35 flow days to turn around each aircraft.

Volb is with Ogden Air Logistics Center Public Affairs, Hill AFB, Utah.

AIR FORCE PRINT NEWS (FEB. 24, 2006) JOINT STARS KEEPING EYE ON THE GROUND

SSgt. Kevin Nichols, USAF

BALAD AIR BASE, Iraq (AFPN)—High over Iraq, an E-8C Joint STARS aircraft surveys hundreds of miles of the country at a time, looking for insurgent activity, controlling those situations, and taking action if needed.

The aircraft's crew ultimately keeps ground troops safer by communicating with convoys and directing air power to quell the enemy.

The Joint Surveillance and Target Attack Radar System mission has two parts. The first is to radio relay with convoys throughout Iraq. Through radio and a text-messaging system, convoys can contact Joint STARS for help.

Air National Guard Maj. Thomas Grabowski, senior director on the aircraft, deployed from Robins Air Force Base, Ga. He said the Joint STARS is the 911 call for convoys on the ground.

"So if one of these convoys gets in trouble—they break down, they have troops in contact, small-arms fire, or any type of a problem—they call us," Grabowski said. "We're like the 'On-Star' for the ground commander."

The second part of the mission is to deter insurgent activity on Iraq's borders. Junior enlisted airmen are in charge of the multimillion dollar radar attached to the bottom of the aircraft that zeros in on the enemy 100 to 200 miles away. Grabowski said the advanced system allows them to see the enemy without the enemy seeing them.

"Think about where you live at home and then think of a place 125 miles from that location. If you were to move out of your driveway and we were orbiting 125 miles away, we would see you move. So it's that advanced," the major said.

Joint STARS is truly a joint mission aircraft with Army, Air Force, and Marine aircrew members. Air National Guard Airmen add total force flavor as well. Army Maj. Clifton Hughes, deputy mission crew commander, is also deployed from Robins. He said he works closely with Grabowski and the other Air Force folks on every Joint STARS mission.



SOUTHWEST ASIA (AFPN)—Air Force Master Sgt. Michael Winans checks the nose gear wheel bearing cap during his pre-flight inspection of an E-8C Joint Surveillance and Target Attack Radar System aircraft. Joint STARS provides command and control, intelligence, surveillance, and reconnaissance. The E-8C is assigned to the 12th Expeditionary Airborne Command and Control Squadron. Winans is a flight engineer with the 116th Air Control Wing, Robins Air Force Base, Ga.

U.S. Air Force photograph by Master Sgt. Lance Cheung, USAF.



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“While the Army and Marines are keeping in close contact with convoy commanders, I can then coordinate with the Joint STARS Air Force assets on the aircraft to direct air support either as a show of force or to take out the enemy,” he said.

A typical mission can last from 10 to 20 hours in flight after refueling in the air. The aircraft brings such a capability to the fight that many convoys won’t go out on the road unless Joint STARS is airborne.

A total of \$300 million worth of technology goes into this aircraft. What comes out is full-spectrum dominance and reconnaissance capability that ensures peace of mind to U.S. forces on the ground that someone is always watching their backs.

Nichols is with U.S. Central Command Air Forces Public Affairs.

MARINE CORPS AIR GROUND COMBAT CENTER (FEB. 24, 2006) SAVING LIVES WITH MARINE ARMOR KITS AT THE COMBAT CENTER

Lance Cpl. Michael S. Cifuentes, USMC

MARINE CORPS AIR GROUND COMBAT CENTER TWENTYNINE PALMS, Calif.— According to J.T. Coleman from the Army Safety Center at Fort Rucker, Ala., vehicle accidents, involving both tactical and non-tactical vehicles, are the leading cause of non-combat fatalities in Iraq as of May 18, 2004. Most result from excessive speed and not wearing seat belts, he said in an interview with Donna Miles, American Forces Press Service.

Most accidents occurred during convoys in forward areas, with speed a factor in more than half of the accidents, and failure to use seat belts contributing to the severity of injuries in almost half of all humvee accidents, said Coleman.



Marine Lance Cpl. Steven Villa, a 19-year-old engine mechanic with 1st Maintenance Battalion, 1st Marine Logistics Group, drills holes into the body of a humvee at the Combat Center’s Exercise Support Division motor pool Feb. 20, 2006.

Photograph by Lance Cpl. Michael S. Cifuentes, USMC.



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The Marine Corps connected the problem to pre-deployment training, said Kyle E. Garvin, motor transportation maintenance supervisor, Exercise Support Division.

“Motor vehicle accidents continue to kill Marines in Iraq and during training,” said Garvin. “We believe it is due to the added load Marine Armor Kit that has been installed in all humvees in Iraq. Drivers are not training with that load during pre-deployment training, and when they get to Iraq they have to adjust to the added amount of weight from more armor on their vehicles.”

The MAK is to help shield servicemembers in Iraq from the effects of improvised explosive devices and other ballistic battlefield dangers. Motor transportation mechanics and civilian contractors are now installing the MAK, and it is adaptable to both the two-door and four-door humvees. Components of the kit include reinforced doors with ballistic glass, flank protection kits, gunner shield kits, and an air-conditioning system. The kit adds 3,500 pounds to the humvee’s original 7,210 pounds—roughly 50 percent more weight.

“The priority focus with the kit is to get as many as we can on the humvees we have here,” said Garvin. “It is not the same vehicle any more, and the Marines need to experience that before they operate them in Iraq.”

Along with its increased protection comes the increased force from the weight and velocity it carries. Marines in Iraq can be slow to discover that the stopping distance and following distance during convoy operations must be increased, added Garvin.

“The difference is big between the humvees without the kit and the humvees with the kit,” said Cpl. Jose D. Solis, motor transportation operator with ESD. “Yes, the humvee looks like it can survive some blasts and AK-47 rounds, but it is harder to maneuver. You can feel how much heavier the vehicle is. Now, the driver has to take more precautions. The acceleration is slower and the stopping distance is larger. There’s more weight behind the wheel that can cause twice the damage. Dismounting and mounting into the vehicle could also take a bit longer as well because the doors are heavier. I think it’s very important to train with these vehicles now, rather than learn the difference in Iraq. Time is on the line out there, and that can mean lives. It’s a better vehicle that can also be dangerous to Marines.”

The Marines executing Mojave Viper aboard the Combat Center are beginning to get the chance to test out the MAK, said Garvin. ESD is making efforts to provide the vehicles with the kit to every unit that comes to train in the month-long, pre-deployment exercise.

Ten civilian contractors and 20 Marines from Marine Logistics Division, based at Camp Pendleton, Calif., were tasked with helping the Enhanced Equipment Allowance Pool here in putting the MAK on more than 80 vehicles, said Garvin.

So far, the Combat Center has roughly 50 vehicles completed for exercise purposes, and training for better vehicle handling and safety is already underway, added Garvin.

“Taking these vehicles out on training evolutions and convoy operations will definitely cut down on motor vehicle accidents in Iraq,” said Garvin. “The mission is to make drivers aware of the weight difference, and eventually, handling the vehicles will become second nature to them again.”

AIR FORCE MATERIEL COMMAND NEWS SERVICE (MARCH 1, 2006) **BIG LEAP FORWARD IN DETECTING GROUND TARGETS FROM COSMOS**

Michael P. Kleiman

KIRTLAND AIR FORCE BASE, N.M. (AFPN)—When launched in 2010, a football-field-in-length demonstrator radar antenna weighing more than five tons will serve as the forerunner for the future of America’s intelligence, surveillance, and reconnaissance assets in space.

Administered by the Air Force Research Laboratory’s Space Vehicles Directorate here, the innovative space-based radar antenna technology, or ISAT, program focuses on developing systems to deploy extremely large (up to 300 yards) electronically scanning radar antennas flying 5,700 miles above the Earth’s surface and providing improved ground target detection to the warfighter.

“These huge antennas will enable the revolutionary performance required to conduct tactical sensing from space, including missions like continuous and reliable tracking of surface targets,” said Dr. Steven A. Lane, ISAT program manager. “Since it uses radar, it is not limited by cloud coverage and can operate at night, unlike optical systems.”



Originated in 2002, and sponsored by the Defense Advanced Research Projects Agency at Arlington, Va., the ISAT program also involves participation by the laboratory's sensors directorate at Wright-Patterson AFB, Ohio, and information directorate at Rome Laboratory, N.Y., as well as NASA's Langley Research Center at Langley Va., and Jet Propulsion Laboratory in Pasadena, Calif.

In addition, two contractor teams—Boeing Co. and Raytheon Co., as well as Lockheed Martin Corp. and Harris Corp.—are competing to build the 100-yard-sized flight experiment. Following the spacecraft's critical design review process in June, DARPA will select one of the contractor pairings to advance the project, with recommendations from the space vehicles directorate.

Operated out of Detachment 12 of the Space and Missile Systems Center here, the DoD Space Test Program will furnish the evolved expendable launch vehicle flight opportunity, referred to as STP-2, to propel the large, foldable ISAT flight demonstrator into low Earth orbit, about 620 miles above the planet. Det. 12 will also operate the spacecraft from the Research, Development, Test, and Evaluation Support Complex.

However, before the planned liftoff occurs at Cape Canaveral, Fla., in four years, the ISAT spacecraft will be developed, integrated, and tested at the contractor facility with oversight provided by the space vehicles directorate.

Technologies to be developed and demonstrated on the ISAT flight experiment include advanced antenna architectures and structures; lightweight radiation-hardened materials and electronics; reliable deployment technologies and mechanisms; compressible components and materials; as well as advanced metrology and calibration concepts for large radar antennas.

The multimillion-dollar project's primary goal, however, is assisting the warfighter through development of tactical grade, ground-moving target indication capability. This ISR tool will enable the tracking and identifying of targets with precise resolution and scanning in multiple areas of interest.

"The primary reason that the space vehicles directorate was selected to carry out this flight experiment for DARPA is our rich history and expertise in each of these technology areas. We can apply years of research and engineering conducted for other programs toward the successful completion of ISAT," Lane said.

The 20-plus member government ISAT management team is currently working on ensuring the demonstrator's successful mission in 2010. To achieve this objective, the group has concentrated on four specific project areas: structures, radar, metrology, and calibration, as well as systems engineering, integration, and testing.

Because of the antenna's large size, which prevents ground testing of the integrated system before launch, there is an unprecedented emphasis on modeling, simulation, and ground-based risk-reduction demonstrations. These will play a crucial role in the flight experiment's outcome.

"During its projected one-year mission, the ISAT flight experiment will test enabling technologies and gather information critical for the eventual development of an operational system," Lane said. "One of the key benefits of this experiment is that we will improve our modeling and simulation paradigm for large deployables (extremely large, light-weight structures), which will benefit many future missions beyond ISAT."

Kleiman is with Space Vehicles Directorate Public Affairs at Kirtland AFB, N.M.

SPACE AND MISSILE SYSTEMS CENTER PUBLIC AFFAIRS (MARCH 2, 2006) GPS HELPS WARFIGHTERS TRACK 'BAD GUYS'

Maj. April Jackson, USAF

LOS ANGELES AIR FORCE BASE, Calif. (AFP)—When U.S. forces get to Iraq and Afghanistan, they're finding dry, featureless terrain with no real landmarks or points of reference to use when they travel across these wide-open and often dangerous landscapes.

In the past, maps and a compass were the decisive tools used by servicemembers to track down the enemy and find their exact location in theater.

That's no longer the case. Warfighters are now turning to a 12-channel device known as the Defense Advanced Global Positioning System Receiver, or DAGR, to get vital information. A screen about the size of a square yellow sticky note transmits invaluable maps, satellite sky view information, and situational awareness so that fielded forces can determine their position and then go back to a map to plot where the enemy sits, according to Army Col. Philip LoSchiavo, a program manager for GPS user equipment here.



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“GPS has become a vital part of what the military does today, and its use will increase over time,” said Dave Williamson, deputy product manager. “All units that are currently going over to Iraq are equipped with DAGR before they get there.”

The Navstar GPS Joint Program Office developed and continually enhances this device, which replaces the last generation of equipment known as Precision Lightweight GPS Receivers.

Since 2004, more than 33,000 DAGRs have been fielded to the Air Force, Army, Marine Corps, Navy, and foreign military forces, said Army Capt. Kurt Threat, another program manager.

The Air Force has tested 941 units while the Army has fielded 31,000 devices. The initial \$490 million contract for the DAGR will run for eight years with two versions continually being updated with new software and hardware.

The DAGR weighs less than a pound and is small enough to fit easily into the palm of the hand, but it packs a huge punch. Forces can stand in a desolate location and receive real-time position, velocity, navigation, and timing info, Threat said.



The Defense Advanced Global Positioning System (GPS) receiver (DAGR).
Image courtesy NAVSTAR GPS Joint Program Office.

“We get rave reviews from the soldier,” Williamson said. “It is a quantum improvement over the previous GPS receiver, the PLGR, because it’s lighter in weight, smaller, uses fewer batteries, picks up the satellites more quickly, and it’s more user-friendly.”

The DAGR, which costs \$1,832 per unit, is also less vulnerable to enemy actions, Threat said. It’s built to be much more difficult for unfriendly forces to jam signals and transmit false information or “spoof” our warfighters.

Forces can “utilize it better in a more hostile jamming environment,” LoSchiavo said. The capability “allows use of electronic unclassified crypto keys.”

Although it’s primarily for land users, DAGR can also be used in water-borne vehicles and can be mounted or hand-held.

Future plans call for buying more than 34,000 DAGRs and developing the next line of receiver equipment that will eventually follow the DAGR, LoSchiavo said.

Jackson is with Space and Missile Systems Center Public Affairs.

AMERICAN FORCES PRESS SERVICE (MARCH 3, 2006) EUROPEAN COMMAND, LOGISTICS AGENCY SIGN AGREEMENT

Maj. Pamela A.Q. Cook, USAF

WASHINGTON—A new agreement between U.S. European Command and the Defense Logistics Agency spells out the level of service that EUCOM expects and that DLA agrees to provide in support of the theater mission.

Officials here said this is the first “performance-based agreement” between DLA, at Fort Belvoir, Va., and a combatant command.

Air Force Gen. Charles Wald, U.S. European Command deputy commander, and Navy Vice Adm. Keith Lippert, Defense Logistics Agency director, signed the agreement here yesterday. George Johnston, the DLA plans officer assigned to EUCOM, described the new agreement as a “pay-for-performance” system that spells out what each party expects and agrees to.

This agreement replaces an April 2001 memorandum of agreement between the two organizations and stems



from a 2003 Defense Department requirement that component sources of supply, such as DLA, assume full responsibility for satisfying warfighter requirements by working directly with the warfighters. Previously, DLA has only signed such agreements directly with the military services while maintaining other agreements with combatant commands. This accord forms a template that other combatant commands can use with DLA, Johnston said. EUCOM's component commands will negotiate agreements through their Service headquarters.

"By having this agreement directly with EUCOM, DLA will be able to provide better-defined logistics support plans that provide a stronger strategic and operational partnership between EUCOM warfighters and DLA," Lippert said. "We will hold periodic meetings with EUCOM to assess how well DLA is meeting their requirements and will jointly establish metrics for that purpose."

This agreement spells out specific activities that DLA will provide within the EUCOM theater, such as maintaining a Defense Distribution Center, Defense Energy Support Center-Europe, Defense Reutilization and Marketing Service, and the Document Automation and Production Service-Europe, among other field activities. It also specifies how DLA will assign liaisons and planners to work with EUCOM.

"We in the Defense Logistics Agency understand that new ideas are needed to meet EUCOM's expeditionary nature of operations and desire to engage more to the east and south," Lippert said. "We are fully aware that DLA must become more expeditionary. To that end, DLA has a team of experts in the areas of waste disposal, food, fuel, medical, and other supplies ready to deploy anywhere in this theater to assist with any contingency."

Cook is assigned to U.S. European Command.

NEW ARMY FINANCIAL MANAGEMENT INITIATIVE—GFEBS

The U.S. Army is overhauling its business and financial management functions by eliminating redundant or non-compatible systems; standardizing business processes; and evaluating how to better manage resources. Spearheading this effort is the General Fund Enterprise Business System (GFEBS).

Enterprise Information Systems is a Web-based Enterprise Resource Planning solution that will enable the Army to compile and share accurate, up-to-date financial and accounting data across the Service. Leveraging

commercial off-the-shelf business enterprise software, GFEBS will supply Army and DoD leadership with standardized, real-time financial data and business information, empowering them to make strategic business decisions that have a direct and positive impact on America's warfighters.

The system will streamline the Army's current financial management portfolio, facilitating the replacement of at least 28 expensive, overlapping, and redundant financial and accounting systems including the Standard Finance System, Standard Operation & Maintenance Army Research & Development System, and the Defense Joint Accounting System. All Army components (Active, National Guard, and Reserves), major commands, Army installations, and the Defense Finance and Accounting Service (DFAS) will benefit from GFEBS implementation.

Release 1.1—A technical demonstration of Real Property Inventory for Fort Jackson, S.C., will be completed in May 2006. Following a phased-in deployment strategy, GFEBS will be fully functional at all Army and DFAS locations worldwide by 2009.

When fully implemented, GFEBS will be the Army's system of record for financial accounting and management. It will become one of the world's largest enterprise financial systems, managing \$100 billion in annual spending with more than 79,000 end-users at more than 200 sites around the world.

With its enterprise nature and global reach, GFEBS will provide the Army with the financial management tools necessary to make business decisions that result in a strategic advantage on the battlefield.

Point of contact is Cherie Smith at Cherie.Smith@hqda.army.mil or visit the GFEBS Web site at <http://www.gfebs.army.mil>.

AMERICAN FORCES PRESS SERVICE (MARCH 14, 2006) "JOINTNESS" BECOMES KEY FOCUS IN DEVELOPING MILITARY CAPABILITY

Donna Miles

WASHINGTON—When U.S. forces first deployed to Iraq and Afghanistan, the Services had several different systems in place to track "blue," or friendly, forces. But those systems didn't "talk" to each other, leaving big gaps in a joint forces commander's ability to see the big picture.



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That's no longer the case. The Blue Force Tracker, developed quickly through a U.S. Joint Forces Command initiative, provides full situational awareness to battlefield commanders. The digital system uses a satellite network to provide detailed information on friendly and enemy units up to 5,000 miles away. That translates into better coordinated operations and less risk of fratricide. Air Force Maj. Gen. William Rajczak, the command's deputy director for joint requirements and integrations, calls Blue Force Tracker an example of the ongoing effort to make military forces truly joint.

While praising the Blue Force Tracker system, Rajczak told American Forces Press Service the ultimate goal is to transform the way military equipment and weapons systems are developed so the interoperability concept drives the train.

"We try to develop processes and get joint at the beginning," Rajczak said. "We can do things a lot better if we do them together in a joint context."

Joint Forces Command is working with the Services, the Joint Staff, and the DoD staff to introduce "jointness" into the capability development process. By working together, these entities can come up with better equipment and systems that not only work across the board, but also cost less to develop and field, Rajczak said.

"We're striving to make it so individual Services can work together and build on each other's strengths while minimizing any gaps (in capabilities) that exist," he said. "By doing so, we're able to meet warfighters' needs and to do it in the most effective and economical method possible."

That's the concept behind JFCOM's drive to come up with a joint command and control system to replace an estimated 150 current systems currently in use, as well as the "phraselator," a hand-held device to serve as a translator when there's no linguist around.

The Defense Advanced Research Projects Agency and private companies developed the new phraselator to help troops in Iraq communicate with local citizens, Rajczak explained. Users speak into the device, which translates their English into Iraqi, or punch a button to call up the desired phrase. Troops in Iraq who tested the phraselator gave it the thumbs up, saying it promoted candid one-on-one conversations with Iraqis. Now, beginning in January, it will be fielded to the theater, Rajczak reported.

Ultimately, developers say the phraselator will translate English phrases into as many as 30 foreign languages. U.S. European Command has shown strong interest in using it for operations in Africa.

The development and fielding of the phraselator reflects a new approach to acquisition that Rajczak believes shows great promise in putting emerging technologies into joint warfighters' hands. While the defense acquisition system may work for major weapons systems, it's too slow and too complicated to quickly get the latest information technology to the field before it's replaced with a better system, he said.

"This is a different approach to acquisition," Rajczak said. "The trick is to be as broad in your requirement as you can and allow vendors to show you their best wares. Then, put it in the hands of warfighters earlier in the process to determine if it's appropriate to the need, get their input, and go back and refine it."

Rajczak said he expects this approach to become the standard as the Services strive toward fielding systems



A U.S. Special Forces soldier uses the phraselator device with the debriefing module to determine where enemies have gone and where weapons and explosives are stored in Iraq during Operation Iraqi Freedom. DoD photograph.



In the News

they can all use faster and less expensively than if they developed them separately. "There's a real agreement in principle about working together," Rajczak said. "The advantages are evident, and we're seeing more interest from all corners."

As the Services strive toward jointness—from how they develop equipment and systems to how they train and operate—each will preserve its unique character, Rajczak said.

"We don't want a vanilla military," he said. "Each Service has a very different culture and set of strengths. We want to blend those strengths and use them to our advantage, rather than having them duplicate each other's efforts."

NAVY NEWSSTAND (MARCH 16, 2006) GW TESTS AIRSPEED PROGRAM

Journalist 1st Class Rebecca Perron, USN

USS GEORGE WASHINGTON, At Sea—*USS George Washington* (CVN 73) sailors are putting the latest concepts of Aviation Maintenance and logistics into practice on a daily basis, through a chief of naval operations-mandated concept known as AIRSpeed.

GW was selected in November 2004 to become the lead platform for testing AIRSpeed on a sea-based platform, which includes research, testing, and implementation of the program.

AIRSpeed is a set of management tools used to analyze current processes in order to reduce cost and increase efficiency. To do this, sailors are trained to apply the AIR-Speed management tools to look for inefficiencies and reduce waste.

The ultimate goal is to understand business practices and the business of running the Navy and to decrease costs where possible.

"AIRSpeed actually started on the naval air side of the house in shore facilities," said Chief Aviation Electronics Technician (AW/SW) James Prince, AIRSpeed leading chief petty officer. "We look at the day-to-day process of how we actually accomplish our goals. This is the first time we are actually bringing it afloat."

According to GW's maintenance officer, Cmdr. Charlie Chan, GW was selected because of initiatives made by the ship.

"We were thinking way ahead of everybody else," Chan said. "We were sending our people through schools. Having an AIRSpeed team on board means your people have to be trained, and they have to understand it."

The implementation of AIRSpeed took almost four years throughout the shore-based Aviation Intermediate Maintenance Depot (AIMD) community. The time frame for sea-based implementation throughout the fleet is a little longer.

The areas being studied are ones that could reduce readiness, including avionics repair, power plants, engine overhaul, and GSE inventory.

"*George Washington* is tasked with a portion of the design," Prince explained. "We are going to start the design. After we complete our portion of it, we will do a handoff with another carrier."

And that carrier is *USS John C. Stennis* (CVN 74). After GW develops the initial blueprint for the program at sea, Stennis will implement the program and improve upon it before other carriers begin implementation.

Currently, GW is doing a series of value stream analyses to develop the design.

"GW is in the beginning stages of value stream analysis," said Lt. Jim Gault, Sea Control Squadron (VS)22 assistant maintenance officer, "where they are breaking down their processes, looking for waste areas, and identifying which processes add value and which don't."

Two major concepts within AIRSpeed are Lean and Six Sigma. Lean eliminates or reduces unnecessary processes, and Six Sigma aids in focused process analysis.

An example of how these concepts have worked ashore is an AIMD Mayport success story. According to Gault, this AIMD was able to reduce the usual 35 days it took to repair an engine to 14.

"The idea is to repair the right thing at the right time at the right cost," Gault added.

GW's success story so far is the calibration lab and the 15,000 pieces of equipment shipwide that must routinely be calibrated.



An F/A-18 Hornet F404-GE-400 engine being tested by Aviation Intermediate Maintenance Department (AIMD) personnel aboard the Nimitz-class aircraft carrier *USS George Washington (CVN 73)*.

U.S. Navy photograph.

“By ‘leaning’ it out, leaning the fat, identifying the constraints out there, we have improved our services—our turnaround time,” Chan explained. “We will make a lot of positive impact and reduce the number of petty officers from each department that have to tackle the calibration equipment.”

Aviation Electronics Technician 2nd Class (AW/SW) Christian Hansen, who has helped implement the AIRSpeed program ashore, is aboard *GW* as a technical assistant. He explained that one of the purposes of the program was getting everyone to work better as one team.

“The depot levels, the intermediate levels, the organizational levels, the supply side of the house,” Hansen said. “Get everybody to work as one team, just like a regular business would be. Incorporating AIRSpeed into the Navy, making it more like a business, saving money, time, and manhours.”

The bottom line, according to Hansen, is to utilize resources better, to get better organized, and to be more efficient.

“We must prioritize what work needs to be done,” Chan said. “Cost-wise readiness is the key here, not readiness at any cost.”

The impact of the program on average sailors is to help them better understand what their job is and to help them do that job more efficiently.

“Most businesses do not understand all the steps in their processes, and this leads to waste that you are unaware of,” Prince added. “If you can identify all of the steps in your process, you can remove waste, which ultimately will give the sailor more time to do what he or she wants to do.”

Perron serves with USS George Washington Public Affairs.



DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 16, 2006)

FISCAL YEAR 2006 ADVANCED CON- CEPT TECHNOLOGY DEMONSTRATIONS AND JOINT CAPABILITY TECHNOLOGY DEMONSTRATIONS ANNOUNCED

Under Secretary of Defense for Acquisition, Technology and Logistics Kenneth J. Krieg has announced the selection of the Advanced Concept Technology Demonstration (ACTD) and Joint Capability Technology Demonstration (JCTD) projects for fiscal year 2006.

The military services, combatant commanders, defense agencies, and industry submitted more than 100 proposals. The science and technology community of the military services, combatant commanders, and defense agencies reviewed the list of proposals for technical soundness and the potential for operational utility. The Department of Defense then selected proposals for funding based on rankings by the combatant commanders and Services.

The ACTDs selected for initiation in fiscal year 2006 in alphabetical order are:

- **Event Management Framework (EMF).** Provides capability to discover and share information, recognize change, and develop and evaluate courses of action with apparently separate, but related events to develop preplanned courses of action and rapidly respond to crisis.
- **Extended Space Sensors Architecture (ESSA).** Addresses gaps in space situational awareness that increase risk for successful combatant command mission execution. Integrates technology from different mission areas (missile defense and space superiority) to give combatant commanders the situational awareness they need to act within their time requirements.
- **Joint Enable Theater Access (JETA).** Provides Lightweight Modular Causeway System that enables rapid discharge of combat power and sustainment material at austere sea ports of debarkation.
- **Multi-service Advanced Sensors to Counter Obscured Targets (MASCOT).** Permits warfighters to rapidly find, locate, identify, and report camouflage, concealment, and deception threats through network-centric-enabled collection, processing, and fusion of data from multiple sources.

- **Node Management And Deployable Depot (NO-MADD).** Implements a deployable end-to-end (“factory-to-foxhole”) distribution system, including asset visibility using radio-frequency identification.
- **Small UAV.** Addresses Joint operational concerns through the integration of new technology across the entire class of small UAVs. Develops new tactics, techniques, and procedures across the military services for small unit real-time reconnaissance and surveillance capabilities.

The JCTDs selected for initiation in fiscal year 2006 in alphabetical order are:

- **Counter Intelligence-Human Intelligence Advanced Modernization Program/Intelligence Operations Now (CHAMPION).** Optimizes the reporting of critical intelligence-related data in a timely manner, while making data available for analysis by: standardizing data outputs, applying XML-tagging routines, providing georeferencing and enabling Web services. Improves analysts’ link to intelligence collection across the tactical level and to the national level.
- **Comprehensive Maritime Awareness.** Improves maritime security by acquiring, integrating, and exchanging relevant maritime activity information on regional threats and focuses limited interdiction and inspection assets on the most probable threats.
- **Joint Modular Intermodal Distribution System (JMIDS).** Provides a common intermodal container system with automated loading, handling, storage, tracking, and surveillance technology.
- **Large Data.** Demonstrates a highly scalable, rapid, and secure integrated capability to effectively retrieve, store, and share massive amounts of information effectively between global users. Provides very large data storage, communications, and security capabilities that are integrated and globally scaled.

The goal of ACTD and JCTD programs is to rapidly move advanced technology into the hands of warfighters in the field. The programs do this by marrying new operational concepts with maturing technologies in a joint environment. Consequently, ACTDs and the newer JCTDs reduce the time required to field new capabilities and increase warfighter involvement in developing solutions.



This is the first year of the JCTD business model, which will eventually replace the ACTD model. Building on the successful ACTD model, JCTDs focus more on tailoring projects to a combatant commander's specifically identified needs, emphasizing "needs pull" over historical "technology push." This new program will enable faster project start-up; demand faster spiral fielding of interim capabilities; structure funding to provide incentives for military service participation without requiring the Services or agencies to fund from existing programs; and provide clear visibility of participation in joint efforts.

For more information on the ACTD and JCTD programs, go to the Web site: <<http://www.acq.osd.mil/actd/>>.

AIR FORCE MATERIEL COMMAND NEWS SERVICE (MARCH 17, 2006) JDAM CONTINUES TO BE WARFIGHTER'S WEAPON OF CHOICE

Staff Sgt. Ryan Hansen, USAF

EGLIN AIR FORCE BASE, Fla.—To call yourself the airman warfighter's weapon of choice is one thing, but it's quite another to go out and back it up.

Since its debut in 1999, the Joint Direct Attack Munition, or JDAM, has been called upon more than 15,000 times and continues to be used in the global war on terror.

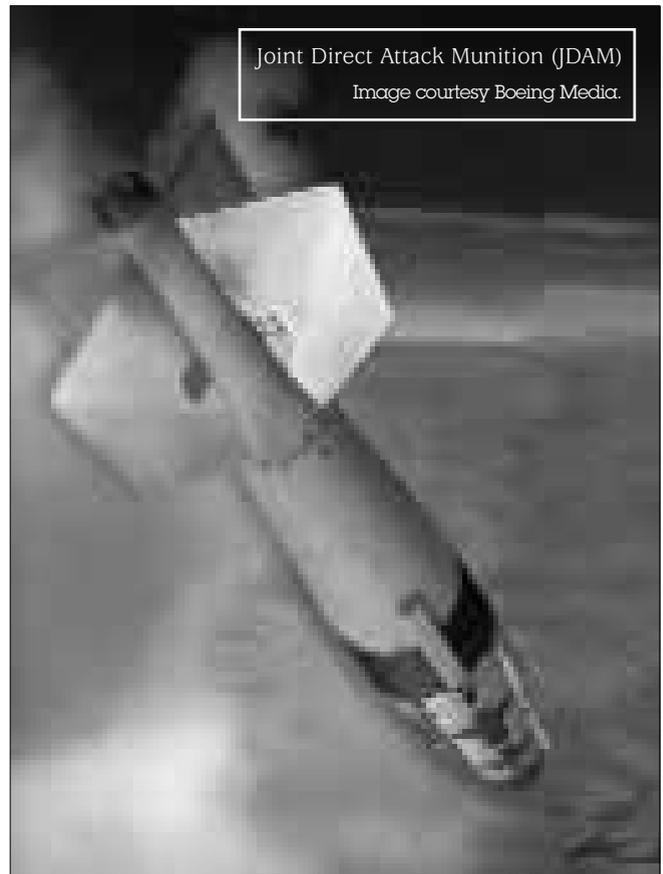
JDAM is a tail kit that turns an unguided dumb bomb already in the warfighter's arsenal into an accurate smart munition. These new smart weapons are available to the warfighter in four variants: the 2,000-pound MK-84, the 2,000-pound BLU-109, the 1,000-pound MK-83, and the 500-pound MK-82.

With a range of about 15 nautical miles, the autonomous JDAM can be released from almost every aircraft in the Air Force and Navy inventory from a very low or very high altitude in almost any type of weather. Once in the air, the weapon uses its inertial navigation and Global Positioning System to find its target.

But even though JDAM is now a staple of America's arsenal, the Direct Attack Systems Group at Eglin continues to upgrade the weapon and find new ways for the warfighter to use it to their advantage.

New weapon needed

In 1991 when Air Force leaders reviewed its performance following Operation Desert Storm, they saw an opera-



tional need for a precision-guided weapon that could be used in any weather.

The United States used mostly unguided munitions during the first conflict with Iraq. These weapons were not very accurate, which caused a variety of problems. The Air Force did use some laser-guided weapons, but they were only effective in near-perfect weather and were very expensive. So an alternative was needed.

Fortunately, some researchers and engineers at Eglin had already been looking at a new way to guide a bomb to its target since the 1980s. This group came up with the idea of using inertial navigation to make it work.

"We had done a (technology demonstration) and the (Air Force Research Laboratory Munitions Directorate) actually conducted the initial study," said Dr. Louis Cerrato, chief engineer of the JDAM Squadron, who was part of that original team. "But after the demo it languished for a couple of years and it was put on the shelf."



In the News

After the Service's review of the conflict and its subsequent findings, the technology was ready to be taken off the shelf.

Keep costs down

Many issues still had to be overcome even though the Air Force was ready to move forward with the project. The most important factor was affordability. The Service did not want to pay a lot for this new weapon technology. Luckily for the new program office, acquisition reform was taking place inside the Department of Defense. JDAM was picked by Congress to be one of seven pilot programs given waivers that allowed them to avoid some government regulations that were often very costly.

"Previously, companies dealing with the government were required to provide extensive cost data to justify prices," said Roy Handsel, a project manager with the JDAM Squadron. "This complicated and labor-intensive information gathering put many small manufacturing shops out of the running for government contracts. But with waivers ... small businesses across America could be subcontracted ... to produce the subassemblies that make up a JDAM."

In 1995 McDonnell Douglas, which later merged with Boeing, was picked to develop the low-cost JDAM. The Air Force and Navy were on board to purchase 87,000 tail kits at just \$18,000 apiece—which has since increased to more than 200,000 units because of the weapon's affordable price and operational success.

"JDAM has been one of the most successful acquisition reform programs," said Norma Taylor, program development flight director for the JDAM Squadron. "It has really been an example for other programs."

Combat proven

The weapon was called upon for the first time in Operation Allied Force. B-2 Spirits flew 30-hour, nonstop, round trip missions from Whiteman Air Force Base, Mo., releasing more than 650 JDAMs during the conflict.

"Accuracy and reliability numbers on paper are one thing, but seeing results in combat is the real proof that our troops have seen and now they know they can count on JDAM," said Air Force Lt. Col. Richard Hyde, JDAM Squadron commander.

The weapon showed it could do even more for the warfighter with the start of Operation Enduring Freedom

in Afghanistan. B-52 Stratofortresses flying high above the battlefield and loaded to the hilt with JDAMs were regularly called in to provide close air support in addition to their regular missions.

"This type of performance has led to using JDAM in roles ... that we didn't envision," Hyde said. "It has really transformed our bomber fleet and the roles they can perform."

The same was true in Operation Iraqi Freedom. Warfighters knew they could rely on JDAMs and were able to use the 500-pound version of the weapon for the first time.

"Its smaller size really allows us to use the JDAM in more of an urban operation," Taylor said. "With the war being brought into the cities we really have to be not only precise, but also have very little collateral damage, and the 500-pounder really does that for us."

Its continued performance in the war on terrorism leaves no doubts about the JDAM's importance to the warfighter.

Future upgrades

JDAM will be one of the first weapons in the inventory to be universal armament interface-compliant. This technology will allow the Air Force and Navy to incorporate new precision-guided munitions and current weapon upgrades onto its aircraft without major changes to aircraft software—a process that takes years and is very costly.

"Once we are implemented on a platform with UAI we'll be able to bring in new upgrades ... and integrate them significantly quicker than what we could before," Taylor said. "It used to take years, but now with UAI the process will be a lot quicker."

The jointly manned JDAM Squadron is also working with the Department of the Navy to add a laser seeker to the weapon. This will help the warfighter in two ways.

"If we do not have an exact GPS coordinate for a target, but we have the ability to put a laser spot on it, we'll still be able to drop JDAMs in that application," Taylor said. "Plus a laser JDAM will be very effective against moving targets."

Another way the JDAM Squadron is looking at making the weapon more useful against moving targets is by adding a data link. The Affordable Moving Surface Target Engagement effort is doing just that.



“In the AMSTE scenario, once a JDAM is released, E-8C Joint Stars will be able to provide the weapon with continuous updates of a target’s position to the weapon until impact,” Hyde said. “This effort is being focused on maritime interdiction.”

The weapon remains the warfighter’s weapon of choice, but it’s definitely not the same JDAM that rolled off the assembly line in the 1990s. They have significantly increased accuracy, satellite acquisition, anti-jamming, and electronic processing.

“This is not your father’s JDAM,” Hyde said. “We’re more than just a production weapon; we’re continuously on the leading edge of technology, and we’re always looking toward the future.”

Hansen is with Air Armament Center Public Affairs.

AIR FORCE PRINT NEWS (MARCH 20, 2006) JOINT STRIKE FIGHTER PROGRAM CRUCIAL TO FUTURE AIR DOMINANCE

Staff Sgt. C. Todd Lopez, USAF

WASHINGTON—Keeping the F-35 Joint Strike Fighter program on track is important because the Air Force needs to replace aging aircraft, and it is an important complement to the F-22A Raptor aircraft.

That Capitol Hill testimony came March 16 from Lt. Gen. Carrol H. “Howie” Chandler, deputy chief of staff for Air Force Air, Space, and Information Operations, Plans and Requirements.

“The Air Force has been very successful with what we call the high/low mix,” the general said. “The F-15, for example, is high end. (It has) fewer numbers and is more expensive because of its capabilities. The F-16 is the low end of the mix—more affordable, more numbers, optimized for air-to-ground vice the air-to-air mission of the F-15.”

The general told members of the House Armed Services Committee Subcommittee on Tactical Air and Land Forces that the Air Force meant for there to be a similar relationship between the F-22A and the F-35 aircraft, both “fifth generation” fighters.

“The two are very complementary to each other because of the optimization of the F-22A for air-to-air (combat),

and its ability to suppress or defeat enemy air defenses. The Joint Strike Fighter is optimized for air-to-surface and its ability to strike hard ... (with the) persistent numbers that we would like to buy of the aircraft,” he said. “It is very important to us.”

Chandler also said aging aircraft are a reason to push forward with the JSF program. The new aircraft will relieve the increasing cost of maintaining an older fleet, while at the same time bring new capabilities to the Air Force.

“As we attempt to maintain the aging fleet that we have today—as you know that becomes very expensive,” he said. “We are able to sustain high mission-capable rates today because of the young men and women maintaining those aircraft. As the aircraft get older ... they are going to have to work harder to make those airplanes fly at the same rate.”

As part of the fiscal 2007 president’s budget, the Air Force recommends termination of the Joint Strike Fighter F-136 engine development program.

Chandler said the cancellation will provide cost savings through fiscal 2011. The program was meant to provide a mixed engine to the F-35 fleet, with F-136 engines from one manufacturer and F-135 engines from another.

In written testimony, the general said the Department of Defense concluded that a single engine supplier provides the best balance of risk and cost based upon recent experience with engine development for the F-22A and F/A-18 E/F. He said the current F-135 engine continues to meet JSF performance requirements, but conceded that in the past the Air Force has had success with maintaining two engines for one airframe.

“That success ... stems primarily from contractor performance—the contractor performed better under competition,” he said. “And there were fleet operations issues, in that you were buying an insurance policy against a mass grounding of the fleet.”

That “insurance policy” came at a cost, however. The general said the Air Force feels the costs are not worth the benefit to the Air Force to have a fleet of aircraft with different, competing engines.

“You pay for that insurance policy in terms of additional supply lines and additional training for your people,” he said. “If you look at where we are today with the F-119



F-35 Joint Strike Fighter
Image courtesy Lockheed Martin.



engine (in the F-22A), and you look at the other competing issues that we have in the Department with trying to fund other programs, and you look at the reliability and the safety that we have developed with this program, you can make a prudent decision that says you can save the money that you would spend on the second engine.”

The F-136 is a General Electric engine developed in partnership with Rolls Royce. The Air Force wants to use the Pratt and Whitney F-135 engine for the F-35 aircraft. That engine is also developed in partnership with Rolls Royce. The F-22A aircraft is currently fitted with an F-119 engine, also developed by Pratt and Whitney.

Committee members were also concerned with encroachment issues. Encroachment is when communities surrounding a military installation build closer and closer to an airfield or training area, and civilian inter-

ests begin to compete with military training efforts. The general said the Air Force works with communities to prevent encroachment.

“Encroachment is always an issue ... we work very closely with the communities so we don’t endanger people as we try to train as realistically as we can,” he said.

AMERICAN FORCES PRESS SERVICE (MARCH 21, 2006)

MISSILE DEFENSE TECHNOLOGY VALID, VIABLE, GENERAL SAYS

Steven Donald Smith

WASHINGTON—A robust, fully operational missile defense system is on its way to becoming a reality, the director of the Missile Defense Agency said here yesterday.



In the News

"A lot of people wonder if this is going to work, and is it worth the investment," Air Force Lt. Gen. Henry A. (Trey) Obering III told an audience at the 4th Annual U.S. Missile Defense Conference. "The testing we've conducted ... shows the technology is valid and viable."

The goal of the Missile Defense Agency is to build an integrated, layered ballistic missile defense system that incorporates land-, sea-, and air-based defenses to protect the U.S. homeland, deployed troops, and America's friends and allies.

Obering pointed to Iran and North Korea as tangible threats to the United States and its allies, but stressed that aside from rogue states the United States must be prepared to deal with asymmetric threats from terrorist networks, emerging state powers, and a plethora of unknown scenarios. "We cannot predict what is going to happen," he said. "We didn't know 12 years ago we'd be fighting in Afghanistan. I don't know where we're going to be fighting 12 years from now."

Because enemies cannot defeat America and its allies on a traditional battlefield, they will look for other ways to inflict harm, such as a missile attack, he said. "There are ways that they (adversaries) can use missiles and

weapons of mass destruction married to those missiles to coerce and even blackmail the United States and our allies around the world," Obering said.

The general said dangerous threat scenarios are virtually endless. For instance, "Pakistan, one of our key allies today ... tomorrow could have a fundamentalist Islamic government controlling their nuclear-tipped missiles," he said. "Tomorrow we have to be prepared. That means we have to start preparing today."

Obering shared the stage with Deputy Defense Secretary Gordon England, who the general introduced as "a champion of missile defense."

England said the new National Security Strategy, which was released last week, deals specifically with future unknown threats. "That strategy stressed a very important theme," England said. "And that theme is that we have never before faced greater uncertainty about future security conditions than we do today."

Since the security strategy identifies proliferation of nuclear weapons as a major threat to national security, ballistic missile defenses provide a critical layer of defense



Former First Lady Nancy Reagan views the bust (statue) of the 40th President just unveiled as Lt. Gen Henry Obering III, U.S. Air Force director for the Missile Defense Agency, and Riki Ellison (right), founder of the Missile Defense Advocacy Alliance, applaud the tribute during the Ronald W. Reagan Missile Defense Site Dedication Ceremony at Vandenberg Air Force Base, Calif., April 10, 2006. U.S. Air Force photograph by Tech. Sgt. Scott Seyer, USAF.



for protecting the United States against weapons of mass destruction-armed missile attacks, he said.

Missile defense is a critical part of the U.S. security strategy, England said. “Both the new National Security Strategy and the 2006 Quadrennial Defense Review underscore the need for a strong missile defense capability,” he said. “Missile defense is a central part of our broader national strategy, a strategy that can only be realized over time and with a great deal of hard work.”

The deputy secretary also emphasized the importance of promoting international cooperation in regard to missile defense. “Another area where MDA is leading the way is in its international partnerships,” he said. “Implementing and evolving the nation’s strategic defense depends on a unity in effort—bringing to bear all the elements of national power and working in closest partnership with our friends and our allies abroad. No single nation can stand up to today’s danger and win alone.” Japan, Australia, Israel, Germany, Italy, and the United Kingdom, as well as other U.S. allies, are actively cooperating in missile defense with the United States. Japan is by far the biggest partner, contributing about \$1 billion annually to research and development.

Speaking later in the day was Marine Gen. James E. Cartwright, chief of U.S. Strategic Command, who said that the United States needs a good defense as much as it needs a good offense. “I certainly would not want to put a Marine on the streets of Mogadishu [Somalia] or on the streets of Baghdad without body armor,” Cartwright said. “An M16 is not enough.”

Cartwright also pointed out that America’s nuclear arsenal is not a deterrent against Islamic extremism. “A nuclear weapon is not a deterrent against an extremist. We’ve got to have a defense that underpins that offense,” he said. “Without flexibility to combine offense and defense we are limiting ourselves.”

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 7, 2006) DOD RELEASES SELECTED ACQUISITION REPORTS

The Department of Defense has released details on major defense acquisition program cost, schedule, and performance changes since the September 2005 reporting period. This information is based on the Selected Acquisition Reports (SARs) submitted to the Congress for the December 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 only for 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 U.S.C. §2432). Total program costs reflect actual costs to date as well as future anticipated costs. All estimates include anticipated inflation allowances.

The following current estimate of program acquisition costs for programs covered by SARs for the prior reporting period (September 2005) was \$1,539,048.8 million. After adding the costs for two new programs—ARH (Armed Reconnaissance Helicopter) and JLENS (Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System)—and subtracting the costs for final reports on a completed program (LHD 1 Amphibious Assault Ship), a restructured program (TSAT (Transformational Satellite Communications System)), the completed Fire Unit portion of Patriot PAC-3 (Patriot Advanced Capability), and the completed MK 1 portion of SSDS (Ship Self Defense System) from the September 2005 reporting period, the adjusted current estimate of program acquisition costs was \$1,517,182.4 million.

For the December 2005 reporting period, there was a net cost increase of \$39,723.0 million billion or +2.6% for programs that have reported previously, resulting in a new current estimate of \$1,584,718.7 million. The net cost increase was due primarily to the application of higher escalation rates (+\$21,194.6 million), an increase in support requirements (+\$7,521.9 million), a net stretch-out of development and procurement schedules (+\$5,627.0 million), higher program cost estimates (+\$2,589.5 million), additional engineering changes (hardware/software) (+\$2,325.6 million), and a net increase of planned quantities to be purchased (+\$446.6 billion). Details of the most significant changes follow, summarized by program.

The National Defense Authorization Act (NDAA) for FY 2006 made changes to the Nunn-McCurdy unit cost re-



In the News

CURRENT ESTIMATE (\$ IN MILLIONS)

September 2005 (85 programs) \$1,539,048.8

Plus two new programs
(ARH and JLENS) +10,719.7
Less final reports on a completed
program (LHD 1), a restructured
program (TSAT), the completed
Fire Unit portion of Patriot PAC-3,
and the completed MK 1 portion
of SSDS -32,586.1

**September 2005 Adjusted
(85 programs) \$1,517,182.4**

Changes Since Last Report:

Economic \$ +21,194.6
Quantity +446.6
Schedule +5,627.0
Engineering +2,325.6
Estimating +2,589.5
Other +17.8
Support +7,521.9
Net Cost Change \$ +39,723.0

Plus initial procurement cost estimates
for DD(X) Destroyer (previous reports
limited to development costs per 10
USC §2432) +27,813.3

December 2005 (85 programs) \$1,584,718.7

porting statute for DoD major defense acquisition programs (10 USC §2433). The primary change was the addition of 30percent and 50percent unit cost thresholds against the original baseline estimate approved at System Development and Demonstration (Milestone B). The existing 15percent and 25 percent unit cost thresholds were retained against the current baseline estimate. For the December 2005 reporting period:

DoD has one program with a Nunn-McCurdy unit cost breach of more than 15 percent but less than 25 percent to the current baseline estimate. Notification and unit cost breach information will be provided to the Congress for this program.

- GMLRS (Guided Multiple Launch Rocket System)

DoD has three programs with Nunn-McCurdy unit cost breaches of more than 25 percent to the current baseline estimate. Notification and unit cost breach information will be provided to the Congress for these programs, and the USD(AT&L) will

consider whether to certify that the programs should continue.

- ASDS (Advanced SEAL Delivery System) (no certification—program cancelled)
- Global Hawk
- NPOESS (National Polar-Orbiting Operational Environmental Satellite System).

DoD has 11 programs with Nunn-McCurdy unit cost breaches of more than 30 percent but less than 50 percent to their original baseline estimate. Notification and unit cost breach information will be provided to the Congress for these programs.

- ATIRCM/CMWS (Advanced Threat Infrared Countermeasure/Common Missile Warning System)
- C-130 AMP (Avionics Modernization Program)
- Chem Demil (Chemical Demilitarization) CMA (Chemical Materials Agency)
- Chem Demil CMA Newport
- EFV (Expeditionary Fighting Vehicle)
- F/A-18
- JASSM (Joint Air-to-Surface Standoff Missile)
- JPATS (Joint Primary Aircraft Training System)
- JSF (Joint Strike Fighter)
- MH-60S
- SSN 774 (Virginia Class)

DoD has 25 programs with Nunn-McCurdy unit cost increases of more than 50 percent to their original baseline estimate. However, these increases are not Nunn-McCurdy breaches since NDAA permits the original baseline estimate to be revised to the current baseline estimate as of Jan. 6, 2006.

- AEHF (Advanced Extremely High Frequency)
- AMRAAM (Advanced Medium Range Air to Air Missile)
- ASDS (Advanced SEAL Delivery System)
- Black Hawk Upgrade
- Bradley Upgrade
- C-17A
- CH-47F
- EELV (Evolved Expendable Launch Vehicle)
- F-22A
- FCS (Future Combat Systems)
- FMTV (Family of Medium Tactical Vehicles)
- Global Hawk
- GMLRS (Guided Multiple Launch Rocket System)
- Javelin
- JSOW (Joint Standoff Weapon)
- H-1 Upgrades
- Longbow Apache



In the News

- LPD 17
- MH-60R
- Minuteman III GRP (Guidance Replacement Program)
- NPOESS (National Polar-Orbiting Operational Environmental Satellite System)
- SBIRS (Spaced Based Infrared Radar System) High
- T-45TS
- Trident II Missile
- V-22

New SARs (As of December 31, 2005)

The Department of Defense has submitted initial SARs for ADS (Advanced Deployable System), HLR (Heavy Lift Replacement), LHA Replacement Amphibious Assault Ship, and VH-71 Presidential Helicopter Replacement. 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.

Summary Explanations of Significant SAR Cost Changes (As of December 31, 2005)

ACS (Aerial Common Sensor)—Program costs decreased \$3,397.2 million (-73.5 percent) from \$4,625.1 million to \$1,227.9 million, due to the contractor's failure to produce a viable alternative solution to the size, weight, power, cooling, and aircraft integration issues and the subsequent termination of the System Development and Demonstration (SDD) contract.

ATIRCM/CMWS (Advanced Threat Infrared Countermeasure/Common Missile Warning System)—Program costs increased \$885.5 million (+ 18.8 percent) from \$4,708.9 million to \$5,594.4 million, due primarily to quantity increases of 921 A-Kits from 2,650 to 3,571 (+ \$431.9 million) and 634 Mission Kits from 1,076 to 1,710 (+ \$1,368.9 million), engineering changes due to implementing ATIRCM corrective actions (+ \$44.0 million), cost savings from the introduction of the multi-band laser into ATIRCM (-\$741.8 million), and the application of revised escalation rates (+ \$59.6 million). These net increases were partially offset by support savings resulting from a reduction in the number of spares and storage containers (-\$127.6 million) and cost savings resulting from decreases in the initial production facilities, depot standup, production base support, and contractor system engineering program management estimates (-\$213.4 million).

Black Hawk Upgrade—Program costs increased \$2,922.5 million (+ 14.0 percent) from \$20,847.1 million to \$23,769.6 million, due primarily to the incorporation of improvements and increased capabilities (+ \$1,112.1 million), increased costs due to a stretch-out of the annual procurement buy profile (+ \$815.3 million), higher cost estimates (+ \$604.7 million), and the application of revised escalation rates (+ \$209.3 million). Program costs also increased due to an increase in spares to support aircraft upgrades (+ \$152.1 million) and an increase in post production software to support additional software for the upgrades (+ \$112.2 million). These increases were partially offset by a decrease in baseline hardware items replaced by upgrades (-\$221.5 million).

Bradley Upgrade—Program costs increased \$6,296.6 million (+ 233.9 percent) from \$2,691.9 million to \$8,988.5 million, due primarily to an increase in the quantity of upgrade vehicles of 1,568 vehicles from 595 to 2,163 (+ \$5,467.1 million) and increases in initial spares, peculiar support, training devices, and new equipment training related to the increased quantity (+ \$601.0 million).

FBCB2 (Force XXI Battle Command Brigade and Below)—Program costs increased \$644.9 million (+ 35.8 percent), from \$1,801.9 million to \$2,446.8 million, due to a quantity increase of 16,278 units from 27,828 to 44,106 required by the Army to support the continuing deployments to Iraq and Afghanistan (+ \$406.2 million) and revised program office estimates (+ \$237.8 million).

FCS (Future Combat Systems)—Program costs increased \$3,208.3 million (+ 2.0 percent) from \$161,420.0 million to \$164,628.3 million, due primarily to the application of revised escalation rates.

CURRENT ESTIMATE (\$ IN MILLIONS)

Program

ADS (Advanced Deployable System)	\$ 1,412.6
HLR (Heavy Lift Replacement)	18,876.0
LHA Replacement Amphibious Assault Ship	3,093.5
VH-71 Presidential Helicopter Replacement	6,547.3

Total \$29,929.4



GMLRS (Guided Multiple Launch Rocket System)—Program costs increased \$2,364.2 million (+17.3 percent) from \$13,670.5 million to \$16,034.7 million, due primarily to a stretch-out in the annual procurement buy profile (+\$952.4 million) and an increase in the program cost estimate (+\$332.5 million) because of near-term funding reductions for higher priority programs. There were additional increases to reflect revised cost estimates for the Insensitive Munitions Rocket Motor (+\$452.2 million), the Unitary Warhead (+\$171.4 million), the Unitary Electronic Safe and Arm Fuze (+\$61.2 million), and unique GMLRS Rocket Pod items (+\$62.2 million). Finally, the application of revised escalation rates also contributed to the increased costs (+\$265.3 million).

HIMARS (High Mobility Artillery Rocket System)—Program costs decreased \$1,334.9 million (-28.6 percent) from \$4,673.0 million to \$3,338.1 million, due primarily to a quantity reduction of 303 launchers from 888 to 585 (-\$1,408.2 million) and associated schedule and estimating allocations* (-\$40.7 million), as well as reduced initial spares and peculiar support related to the decrease in quantity (-\$193.6 million). These decreases were partially offset by revised estimates for other weapon system costs (+\$75.7 million) and the application of revised escalation rates (+\$69.0 million).

Land Warrior—Program costs decreased \$8,880.3 million (-68.7 percent) from \$12,934.5 million to \$4,054.2 million, due primarily to a quantity decrease of 60,189 systems from 84,970 to 24,781 (-\$3,228.1 million) and associated schedule and estimating allocations* (+\$1,162.9 million), as well as reduced initial spares, peculiar support, training, and data related to the decrease in quantity (-\$689.3 million). In addition, there was a downward revision in the cost estimate to reflect the Army's updated requirements for the Land Warrior Ensemble and the Ground Soldier System (GSS) (-\$6,687.9 million). These decreases were partially offset by the application of revised escalation rates (+\$511.4 million).

Stryker—Program costs increased \$955.3 million (+9.2 percent) from \$10,405.5 million to \$11,360.8 million, due primarily to a quantity increase of 181 vehicles from 2,439 to 2,620 (+\$531.4 million), an increase in initial spares and fielding support associated with the quantity increase (+\$193.2 million), the application of revised escalation rates (+\$107.3 million), engineering changes (+\$73.2 million), and revised estimates (+\$68.2 million).

WIN-T (Warfighter Information Network-Tactical)—Program costs increased \$1,273.8 million (+9.9 percent), from \$12,896.7 million to \$14,170.5 million. This increase is due primarily to the Army's decision to delay the program development schedule (+\$726.3 million), along with an increase in procurement requirements (+\$248.6 million) and support for the Army's current modular force structure (+\$609.3 million), and the application of revised escalation rates (+\$256.3 million). These program cost increases were partially offset by estimating refinements that resulted in a decrease in program costs (-\$566.7 million).

NAVY

AIM-9X—Program costs increased \$317.1 million (+10.4 percent) from \$3,038.5 million to \$3,355.6 million, due primarily to revised production cost estimates for the Active Optical Target Director (+\$246.5 million), a schedule change due to a shift of 596 missiles beyond the Future Years Defense Program (FYDP) (+\$58.6 million), and the application of revised escalation rates (+\$47.5 million).

ASDS (Advance SEAL Delivery Systems)—Program costs decreased \$463.3 million (-38.6 percent) from \$1,201.0 million to \$737.7 million, due primarily to the cancellation of the ASDS acquisition program (-\$495.5 million). This cost decrease was offset by addition of funding for the ASDS-1 Improvement Plan (+\$69.4 million).

LCS (Littoral Combat Ship)—Program costs increased \$388.2 million from \$1,313.7 million to \$1,701.9 million (+29.6 percent), due primarily to sea frame pricing increases (+\$97.4 million), and increased costs associated with the postponement of Flight I (+\$287.7 million).

SSN 774 Virginia Class—Program costs increased \$1,841.9 million from \$93,979.8 million to \$95,821.7 million, due primarily to a congressional increase for Virginia Class cost reduction initiatives (+\$154.0 million), revised escalation indices (+\$2,422.0 million), the stretch-out of the procurement schedule to FY20 (+\$2,149.3 million), and increases in labor hours and rates (+\$709.0 million). These increases were partially offset by savings in inflation that resulted from closing the gap between OMB/OSD and Virginia class pricing (-\$2,438.3 million), updated material estimates (-\$469.9 million), and overhead rates (-\$359.7 million). An additional reduction was gained by switching from the Navy Working Capital Fund to mission funding at the Naval Foundry (-\$344.6 million).



Trident II Missile—Program costs increased +\$1,020.1 million (+2.8 percent) from \$36,981.8 million to \$38,001.9 million, due primarily to new engineering effort associated with adapting the Trident II (D-5) missile to carry conventional payloads (+\$466.4 million), revised estimates for D-5 life extension hardware (+\$221.6 million), and age-driven supportability modifications of flight hardware (+\$42.8 million). There were additional increases for the application of revised inflation indices (+\$209.2 million) and higher estimates for D-5 life extension support (+\$104.0 million).

AIR FORCE

C-130 AMP (Avionics Modernization Program)—Program costs increased \$483.9 million (+10.9 percent) from \$4,449.3 million to \$4,933.2 million, due primarily to a stretch-out of the annual procurement buy profile (+\$143.8 million), refined estimates due to a change in program assumptions (+\$363.1 million), increases in initial spares requirements due to additional out-year requirements (+\$61.7 million), and the application of revised escalation rates (+\$69.8 million). These increases were partially offset by a quantity reduction of 31 kits from 454 to 423 (-\$91.3 million) and associated schedule and estimating allocations* (-\$121.7 million).

C-130J—Program costs increased \$1,389.1 million (+22.3 percent) from \$6,223.2 million to \$7,612.3 million, due primarily to a quantity increase of 26 aircraft from 53 to 79 (+\$1,784.9 million) and associated schedule allocation* (-\$245.9 million), increases in initial spares, peculiar support, and required training costs related to the quantity increase (+\$447.2 million), and the application of revised escalation rates (+\$44.0 million). The increases were partially offset by the elimination of previously included program termination costs (-\$650.4 million).

F/A-22—Program costs increased \$1,276.3 million (+2.1 percent) from \$61,323.7 million to \$62,600.0 million, due primarily to a quantity increase of 4 aircraft from 172 to 176 (+\$506.6 million), stretch-out of the annual procurement buy profile to FY 2012 (+\$226.1 million), and increases in initial spares (+\$447.6 million) and other weapon system support costs (i.e., trainers) (+\$94.5 million).

Global Hawk—Program costs increased \$1,249.7 million (+19.0 percent) from \$6,566.0 million to \$7,815.7 million, due primarily to cost growth in sustaining labor, accounting changes, and correction of RQ-4B design deficiencies, as well as changes in estimating methodology

(+\$710.2 million). Program costs also increased due to a System Development and Demonstration (SDD) schedule extension (+\$147.0 million), incorporation of improvements and increased capabilities (+\$148.2 million), inclusion of certain sensor retrofit efforts (\$142.8 million), a quantity increase of 3 air vehicles from 51 to 54 and 3 additional sensors (+\$163.6 million), an increase in spares requirements (+\$95.7 million), and revised escalation indices (+\$74.5 million). These increases were partially offset by a realignment of the buy quantity that eliminated the need for Lot 11 (-\$94.6 million) and deletion of certain requirements such as defensive systems and bit fault isolation (-\$144.8 million).

NPOESS (National Polar-Orbiting Operational Environmental Satellite System)—Program costs increased \$5,525.0M (+66.7 percent) due primarily to technical challenges on the Visible Infrared Imager Radiometer Suite, Conical Scanning Microwave Imager Sounder, Ozone mapping Profiler Suite sensors, and spacecraft design development efforts (+1,626.6 million). There were additional increases for production cost growth for the above subsystems (+\$3,374.0 million) and revised development and production schedule estimates for the above subsystems (+\$455.6 million).

SDB (Small Diameter Bomb)—Program costs decreased \$229.1 million (-12.7 percent) from \$1,809.2 million to \$1,580.1 million, due primarily to a reduction in total funding years from 20 to 16 years with a corresponding accelerated annual buy (-\$258.6 million). These decreases were partially offset by the application of revised escalation rates (+\$27.3 million) and the realignment of SDB Increment II funds (+\$21.7 million).

DOD

BMDS (Ballistic Missile Defense System)—Program costs decreased \$1,212.7 million (-1.4 percent) from \$87,123.4 million to \$85,910.7 million, due primarily to a restructure of the program as a result of a two-year delay of the first flight of the Airborne Laser (ABL) 2nd aircraft to follow the lethal shoot down scheduled for 2008, delay of the Space-Based Test Bed, delay of Space Tracking and Surveillance System (STSS) until Block 2012, and delay to the European long-range Midcourse Interceptor Site six months to 2011 (-\$1,291.0 million). The restructure resulted in a revised program estimate that eliminated previously planned program assumptions and several planned engineering enhancements (-\$409.6 million). The restructure also resulted in revised estimates for program overhead and infrastructure (-\$150.0 million). In addition, there were other reductions and gen-



eral mandatory distributions (-\$243.0 million). These decreases were partially offset by the application of revised escalation indices (+ \$960.8 million).

Joint Strike Fighter (F-35)—Program costs increased \$19,841.3 million (+ 7.7 percent) from \$256,617.6 million to \$276,458.9 million, due primarily to the increased cost of materials for the airframe (+ \$10,252.9 million), revised inflation impact assumptions and methodology (+ \$9,872.9 million), revised assumptions regarding the work share between the prime contractor and subcontractors (+ \$5,519.6 million), the application of revised escalation rates (+ \$5,442.7 million), impact of configuration update and methodology changes on support (+ \$4,400.6 million), a change in the subcontracting manufacture plan for the wing (+ \$3,548.9 million), and a realignment of funding to outyears due to Congressional and Service FYDP reductions (+ \$130.0 million). These increases were partially offset by the benefits of additional procurement by partner countries (-\$9,243.8 million), a learning curve adjustment to reflect single engine source (-\$5,112.5 million), design maturation (-\$3,017.3 million), and the cancellation of the F136 engine (-\$1,951.0 million).

JTRS GMR (Joint Tactical Radio System Ground Mobile Radio (formerly Cluster 1))—Program costs decreased \$1,179.6 million (-5.5 percent), from \$21,632.3 million to \$20,452.7 million, due primarily to a restructure of the program that resulted from technical problems and the removal of Army, Air Force, and Marine Corps radios from the program. Specifically, the reductions resulted in a quantity decrease of 5,385 radios from 109,670 to 104,285 (-\$890.7 million) and associated schedule, engineering, and estimating allocations* (-\$161.1 million), a revised estimate resulting from the program restructure (-\$1,294.4 million), and a decrease in support requirements related to the quantity reduction (-\$341.3 million). These decreases were partially offset by the stretch-out of the annual procurement buy profile (+ \$625.4 million) and the application of revised escalation rates (+ \$540.6 million), and revised development estimates (\$ + 454.7 million).

JTRS (Joint Tactical Radio System) Waveform—Program costs increased \$465.1 million (+ 35.2 percent), from \$1,321.5 million to \$1,786.6 million, due primarily to increased funding provided by both the Air Force and Navy for development of additional required waveforms (+ \$421.8 million).

* Note: Quantity changes are estimated based on the original SAR baseline cost-quantity relationship. Cost changes since the original baseline are separately categorized as schedule, engineering, or estimating “allocations.” The total impact of a quantity change is the identified “quantity” change plus all associated “allocations.”

NEW GUIDED MLRS UNITARY ROCKET IS IMMEDIATE SUCCESS IN IRAQ

Lt. Col. Mark Pincoski, USA

In September 2005, Bravo Battery, 3rd Battalion, 13th Field Artillery Regiment conducted the first-ever combat fire mission using Guided Multiple Launch Rocket System–Unitary (GMLRS-U) rockets against enemy positions in Tal Afar, Iraq. Eight rockets were fired at a distance of greater than 50 kilometers, destroying two insurgent strongholds and killing 48 enemy insurgents. Damage to adjacent structures was minimal. Three more missions have been conducted since that time, all with equal success.

The effectiveness of the new munition was welcomed by commanders fighting in an environment where enemy forces attempt to conceal themselves in areas populated by noncombatants. Following the mission, Army Col. H.R. McMaster, commander, 3rd Armored Cavalry Regiment, made the statement, “The GMLRS proved itself in combat in Tal Afar and provided the regiment with tremendous capability. It not only was able to hit enemy positions with a great deal of precision, but was able to limit collateral damage.”

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In the News

GMLRS-U is a solid-propellant artillery rocket deployed from the M270A1 and the High Mobility Artillery Rocket System mobile launch vehicles. GMLRS-U is equipped with a 200-pound unitary high-explosive warhead, has a range of over 70 kilometers, and is effective against multiple targets including reinforced concrete. The addition of an inertial guidance system coupled with a Global Positioning Satellite system has improved the accuracy of the rocket to significantly less than 5 meters.

In 2004, ground forces in Iraq saw the need for a highly accurate indirect weapon system that could be used in urban terrain while limiting the collateral damage to surrounding structures. Multinational Corps-Iraq submitted an Urgent Need Statement to the Department of the Army requesting the delivery of GMLRS-U for use in future operations. The Army validated the request in January 2005, and the first deliveries of GMLRS-U began in May 2005. A fielding team was dispatched to Iraq in June 2005 to train deployed units; test firings were conducted in theater later that month. By September, GMLRS-U was being used in support of ground forces during combat operations in Iraq.

The benefit of GMLRS-U to our forces is readily apparent, and operational commanders have requested additional quantities of the rocket to be procured and deployed to Iraq and other operational theaters. The unmitigated success of GMLRS-U in Iraq resulted in the deployment of additional GMLRS units in March of 2006 to other CENTCOM areas of responsibility. It has become the weapon of choice for commanders requiring indirect support while operating in urban and restrictive terrain.

The GMLRS Unitary Rocket is managed by the Precision Fires Rocket and Missile Systems Project Management Office, Redstone Arsenal, Ala., and produced by Lockheed Martin at Camden, Ark.

Pincoski is currently serving as the product manager for Precision Guided Munitions and Rockets at Redstone Arsenal, Ala.



U.S. Army soldiers fire a rocket from inside a Multiple Launch Rocket System during a tactical mission at Forward Operations Base Q-West, Qayyarah, Iraq, Jan. 5, 2006. The system belongs to 2nd Battalion, 20th Field Artillery, 4th Fires Brigade. DoD photograph by Staff Sgt. James H. Christopher III, USA.