



In the News

DOD POLICY TOWARD MILITARY SPECIFICATIONS & STANDARDS

David Eiband

For over a decade and a half, Department of Defense policy has limited the use of military specifications and standards in procurement actions. That policy encouraged the use of commercial standards rather than DoD standards, canceled numerous specifications and standards, and downgraded standards to handbooks that could not be cited in DoD contracts. Furthermore, of the remaining standards, only those identified as “standard practices” could be invoked without seeking a waiver before use.

Policy Memo 05-3, dated March 29, 2005 (page 91), has significantly changed that existing policy and aligned the overarching DoD direction to reflect changes published in the *Defense Acquisition Guidebook* released in the fall of 2004. This change includes elimination of the waiver requirement before use of military specifications as well as military standards not identified as “standard practices”; however, the revised policy does not eliminate the requirement to exercise good judgment in the use of any specification or standard.

Eiband is a professor of systems engineering with DAU. His article “Using Military Standards in Acquisition Programs” appeared in Defense AT&L, March-April 2005, and was written before Policy Memo 05-3 was released.

ARMY NEWS SERVICE (MARCH 9, 2005) TUSK TO UPDATE ABRAMS FOR URBAN BATTLE

Eric W. Cramer

WASHINGTON—The Abrams tank is growing a TUSK—that’s Tank Urban Survival Kit, a series of improvements, including some still in development.

TUSK will allow soldiers in the field to improve the Abrams’ ability to survive in urban areas off the traditional battlefield for which it was designed.

Lt. Col. Michael Flanagan, product manager for TUSK, said the goal is to help improve the tank’s survivability.

“You have to remember, the tank was a Cold War design, aimed at a threat that was always to its front. It’s still the most survivable weapon in the arsenal from the front,” Flanagan said. “Today it’s a 360-degree fight, and these systems are designed to improve survivability in that urban environment.”

The TUSK includes additional protection at the loader’s gun station on the turret and the commander’s gun station, reactive armor to protect the tank’s side from attack by rocket-propelled grenades (RPGs) and slat armor to protect the tank’s rear from the same weapon, and the tank/infantry telephone to allow infantry and armor soldiers to work together in combat.

Flanagan said all the proposed upgrades use off-the-shelf technology, and the goal is for the entire TUSK to be applied by units in the field, without requiring a return to a depot for modification.

“The reactive armor, for example, is a product similar to what’s on the Bradley (Armored Fighting Vehicle),” Flanagan said. “It’s explosive armor that protects the vehicle.”

Another example would be the slat armor designed to protect the tank’s rear from RPG attack. It is similar in design and concept to the slat armor used on the Stryker armored vehicles for the same purpose.

The first TUSK component to reach the field has been the Loader’s Armored Gun Shield, which provides protection to the loader when the soldier is firing the 7.62mm machine gun on the Abrams’ turret. Flanagan said about 130 of the shields have already been purchased and sent to units in Iraq. Also incorporated into the loader’s firing position is a thermal sight, giving the position the ability to locate and fire on targets in the dark.

“This is the same unit that is used on machine guns carried by infantry troops, and we’ve incorporated it into the loader’s position,” Flanagan said. He said a system that attaches a pair of goggles to the sight, allowing the loader to fire the gun from inside the turret while seeing the thermal sight’s image, is under development.

Also under development are improvements to the commander’s station outside the turret; although different systems are necessary for the M-1A2 Abrams and its older M1-A1 brethren.

“Because of things we added to the turret in the A2, the commander’s station had lost the ability to shoot the .50-caliber machinegun while under armor,” Flanagan said. “We’re developing a remote weapons station, that will probably be similar to the one used on the Stryker, to allow that weapon to be fired from inside the turret.”



In the News

The M1A2 Abrams tank is shown with TUSK improvements that will adapt it for the urban battlefield. Image courtesy U.S. Army News Service.



Flanagan said the design could also allow the use of the crewed weapon station used on Humvees, but a final determination hasn't been made.

Ultimately, most of these add-ons will be incorporated into a kit—installed and removed in the field as a pre-positioned component for the next Abrams unit to take duty in that location. Flanagan said some kits will begin to reach the field later this year.

At least some of the kits' components may also be included in new Abrams' production.

"The loader's shield and the remote weapons station and the tank/infantry telephone may all be included as regular production items in the tank," Flanagan said. "It's important to remember that the Abrams will continue to be the dominant weapons system for the Army until at least 2030."

DEPARTMENT OF DEFENSE NEWS RELEASE (MARCH 11, 2005) DOD SELECTS DEFENSE EQUIPMENT FOR TESTING

The Department of Defense has selected 15 new-start projects to receive fiscal 2005 funding under the Defense Acquisition Challenge program.

The DAC program provides opportunities for both innovators and DoD. For innovators, it means faster entry to the defense acquisition system. For the DoD program manager, it means increased technology insertions to improve systems.

Technological developments and operational needs are emerging faster than ever before. On the supply side, many of America's companies generating technological innovations have found it difficult to break into the defense market, especially those classified as small- and medium-sized businesses. In an effort to remedy the technology-to-programming lag, DAC provides opportunities for the increased introduction of innovative and cost-saving commercial technologies or products into existing DoD acquisition programs.

The DAC program is especially designed to give small and medium-sized companies the opportunity to introduce new technologies and inject innovation into current defense programs. To do so, DAC provides any person or activity within or outside the DoD the opportunity to propose alternatives, known as "Challenge Proposals," to existing DoD programs that could result in improvements in performance, affordability, manufacturability, or operational capability of the systems acquired by that program. As a result of selecting, testing, and inserting the best of these production-ready technologies, the DAC program ultimately expands the opportunities for emerging defense suppliers, widens the U.S. defense industrial base, and leverages unique innovations for the benefit of the warfighter.

Of the 15 DAC new-start projects for 2005, one is sponsored by Army, three by Navy, six by the Air Force, and five by the U.S. Special Operations Command. The DAC Web site provides a list of the new projects and additional DAC program information at <http://www.acq.osd.mil/cto/>.



In the News

AIR FORCE PRINT NEWS (MARCH 11, 2005) SCIENCE, TECHNOLOGY HELP AIRMEN FIGHT THE WAR ON TERROR

Tech. Sgt. David A. Jablonski, USAF

WASHINGTON—Science and technology are helping airmen win the war on terror, a senior Air Force official told lawmakers on March 10.

“The United States Air Force is committed to defending America by unleashing the power of science and technology,” said James B. Engle, deputy assistant secretary of the Air Force for science, technology and engineering.

Engle and witnesses from other defense agencies’ technology directorates testified in a hearing on the fiscal 2006 budget request before the House Armed Services Committee subcommittee on terrorism and unconventional threats.

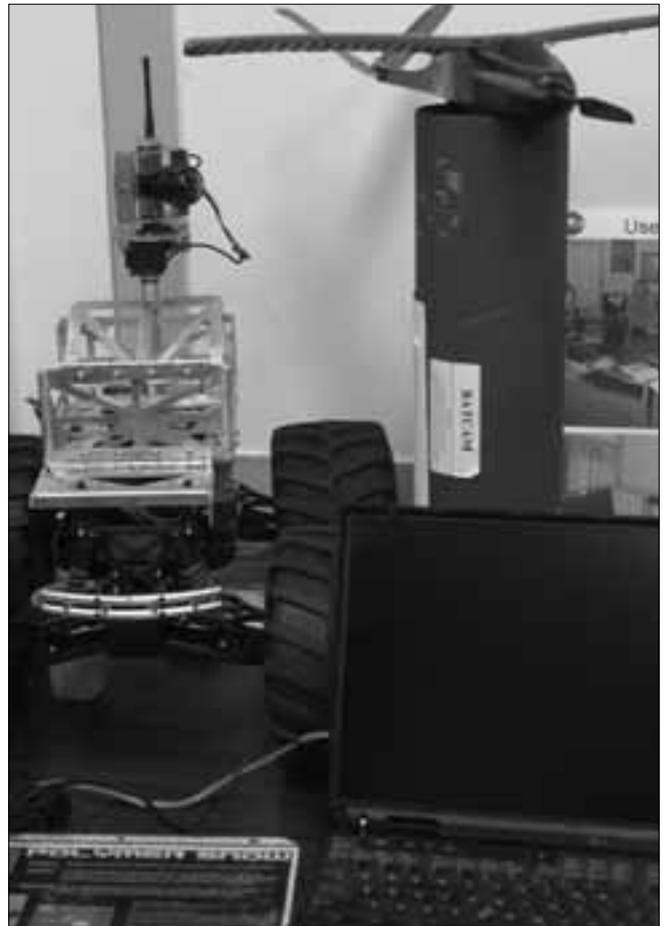
Rep. Marty Sheehan, the committee’s ranking member, said he considers funding for science and technology programs the single most important portion of the defense budget. He said better weapons benefit everyone.

To continue providing those weapons, Air Force officials requested \$1.98 billion in the fiscal 2006 budget for science and technology. This includes \$1.4 billion in core science and technology efforts, and \$77.8 million in joint unmanned combat air vehicle funding.

Sustained commitment to continued funding is critical to success of these emerging systems, Engle said. The technology America enjoys is a result of commitment by the United States to give the Air Force the things it needs.

“We must prepare for both traditional and new forms of terrorism (including) attack on our space assets, attacks on our information networks, cruise and ballistic missile attacks on our force and territory, and attacks by adversaries armed with chemical, biological, radiological, nuclear, or high-explosive weapons,” Engle said.

He explained how the products of Air Force science and technology defend America against terrorism at home and abroad. Some of the newest Air Force systems were on display in the building where the hearings were held.



The Batcam unmanned aerial vehicle and the Bombot robot were on display as James Engle testified before the House Armed Services subcommittee on terrorism, unconventional threats, and capabilities. He is the deputy assistant secretary of the Air Force for science, technology and engineering.

Photograph by Master Sgt. Gary R. Coppage, USAF.

The Battlefield Air Targeting Camera Autonomous Micro-Air Vehicle, or BATCAM, is an unmanned aerial vehicle that is five times smaller and 10 times lighter than the current model in the combat controller’s kit.

A robot, called a Bombot, destroys improvised explosive devices. The small off-road remote controlled vehicle, equipped with a small explosive charge delivery system, is now deployed in Iraq.

Engle also described technology that supports the joint warfighter.



In the News

One emerging technology uses Air Force expertise in metal-infused ceramics to develop more effective lightweight armor. Although intended for aircraft, the technology is being applied to body protection and has proved effective against shrapnel and small-arms fire. The armor is cheaper, lighter, and easier to produce than standard plates, officials said.

Although the witnesses demonstrated similar innovative applications of technology, all said that capturing good ideas and turning them into deliverable systems posed a challenge.

Lawmakers also lamented the lag time in getting cutting-edge technological gear into the fight. Rep. John Kline said it is a recurring problem. He said small companies cannot get into the acquisition systems and that the system is way too slow.

DEFENSE LOGISTICS AGENCY (MARCH 15, 2005) LATEST RFID TAG SHARPENS ASSET VISIBILITY

Susquehanna, Pa.—The next model in a long line of in-transit visibility enhancement technology, the “3G” radio frequency identification prototype tag was placed on four outbound pallets at Defense Distribution Depot Susquehanna, Pa., in January.

“The prototype tags function just as the current RFID tags but with one added benefit—it phones home from any position around the world,” said Mark Lieberman, Defense Distribution Center Supply Management specialist.

Using the Iridium network of global satellites, the prototype is a combination unit that includes a traditional RFID tag along with global positioning system and satellite capabilities, giving defense transportation personnel access to the tag’s location—within feet of its exact position.

As materiel release orders flowed in to DDSP, the Department of Defense’s largest warehouse and the eastern strategic distribution platform for military supplies, a group of self-proclaimed “wire heads” from various federal agencies and private technology companies worked alongside DDSP information technology personnel to write shipment data onto the 3G prototype tags.

“With the 410 tag that we currently use, we know when it passes through a portal [or interrogator], and when it passes through another portal, but we need visibility of where that shipment is in the meantime, and the 3G will give us that ability,” Lieberman continued.

As the Defense Logistics Agency’s lead center for distribution, DDC is committed to minimizing customers’ uncertainty in the supply chain and ensuring that warfighters receive the materiel they need, when they need it, and with complete order status information from the time of order fulfillment until delivery.

“This new technology will further enhance our in-transit visibility capabilities on a global scale,” said Logistics Management Specialist Jeff Fee of the Logistics Transformation Agency. The 3G RFID tag will allow the capability to pinpoint the exact location of supplies at any given time anywhere in the world.

The infrastructure of RF readers and interrogators that read a tag when it passes by do not exist in many of the places to which military supplies are currently being shipped in countries like Iraq, Afghanistan, Pakistan, and Africa. The 3G prototype can be programmed to communicate via satellite with the worldwide RF/in-transit visibility servers that send the data to several sources including the Global Transportation Network, providing its identification number (used to access information about the shipment), the date and time, as well as current position to within 3.5 feet, even when it travels beyond the existing RF infrastructure.

This ability to operate in technologically austere environments will help not only with current military missions, but also in expediting deployment in the future to any location in the world, regardless of the presence of RF infrastructure or even electricity.

The prototype tags, along with the traditional 410 tags, were attached to four pallets at DDSP: automobile engines going to Tikrit, Iraq; camouflage netting bound for Kuwait; mixed freight including Humvee components destined for Kosovo and Bosnia; and vehicle parts kits and Humvee radiators heading to Kandahar, Afghanistan.

“We’ve put two tags on each pallet, the 3G prototype and the 410, to validate that the prototype is being read. If we get six hits off the current tag and only five off the prototype, then we know improvements are necessary,” said Lieberman.



In the News

The prototype RFID tag was developed by a collaboration of three private industry companies. Working for the government's Logistics Transformation Agency, Ocean Systems Engineering Corporation was the lead contractor responsible for the tag's design and development. They worked with NAL Research Corporation to integrate the components of the device and with SAVI Technologies, Inc. for hardware and engineering support.

After the 3G tags arrive at their final destinations in Afghanistan, Kuwait, Iraq, Bosnia, and Kosovo, Army field service engineers will collect the tags and compare the data to that collected from the 410 to see if all the information was successfully transmitted and received.

Those four prototype tags will then be sent to DDC's other strategic distribution platform, Defense Distribution Depot, San Joaquin, Calif., where the test will be performed again on shipments heading to the other side of the globe—Asia and the Pacific.

Full deployment of the 3G tag is not expected for several years. "We're still in the early stages of testing this prototype and we consider this the proof of concept phase," said DLA Supply Systems Analyst Gene Bransfield. "This technology may be particularly useful in tracking sensitive or critical shipments."

Once the 3G tags are fully implemented, they will allow transportation personnel to monitor shipments as they move through the supply chain to ensure that they are transported in a timely manner and along the correct route, an ability necessary for the new era of sense-and-respond logistics.

Sense-and-respond logistics is a concept that relies on sensors, communication networks, and the effective transfer of information and feedback to decide when supplies will be delivered, in what manner, and from where.

Today, customers can access the RF/in-transit visibility or Global Transportation Network servers by computer to track their shipments throughout the supply pipeline. In the future, they will also have the capability to access the 3G tags by e-mail to modify reporting characteristics including reporting frequency.

Another feature being considered for the 3G is to add temperature and humidity sensors. When the tag encounters conditions that are too hot, too cold, too wet, or too dry for the contents of the shipment, the unit will

automatically activate itself and send a communication to the server notifying defense transportation personnel of the unfavorable conditions.

"We see this tag as an excellent resource for supporting today's lean, agile military by providing information that will further enhance asset visibility throughout the entire distribution process," said Lieberman.

DDC, headquartered in New Cumberland, Pa., is a part of the Defense Logistics Agency. It has oversight of 26 distribution depots worldwide and its mission is to distribute, store, and manage materiel and information, enabling a seamless, tailored worldwide DoD distribution network that provides effective and efficient support to the combatant commands, military services, and other agencies—in theater and out—during war and in peace. Media Contact: Jackie Noble, 717 770-6223, e-mail jackie.noble@dla.mil.

AIR FORCE PRINT NEWS (MARCH 18, 2005) PREDATOR FLEET TO EXPAND

WASHINGTON (AFPN)—Air Force officials plan to expand the current Predator Unmanned Aerial Vehicle fleet to as many as 15 squadrons.

This increase, announced March 18, is in response to the escalating demand for intelligence, surveillance, and reconnaissance capability in the war on terrorism. The plans are intended to ensure an increased number of Predators are available in U.S. Central Command's area of responsibility as well as for new opportunities, officials said.

"Combating terrorism requires the Air Force provide worldwide vigilance and awareness through persistent command, control, and surveillance capabilities, ensuring our nation's ability to see first, understand first, and act first. Our effort in regard to UAVs is just one more capability that allows us to ensure air dominance for our joint team in any environment we operate," said Peter B. Teets, acting secretary of the Air Force.

In a Future Total Force initiative that will establish two Air National Guard Predator units in Texas and Arizona, Air Force officials are determining manpower and training requirements that will significantly enhance the Predator's ability to support combatant commander requirements. ANG airmen will operate the UAVs from their



In the News

respective states. Additionally, Air Force officials plan to place a Predator squadron with an ANG unit in New York.

One of the six Future Total Force initiatives involved establishing a distributive ground station in western New York to process global intelligence information. After assessing intelligence, surveillance, and reconnaissance requirements and reviewing concepts of operation, Air Force and Air National Guard leaders determined that establishing a Predator unit in New York would provide a more immediate impact to the war on terrorism, officials said.

“Through Future Total Force initiatives such as the expansion of Predator units within the Air National Guard and the Air Force Reserve, the Air Force will leverage persistent command, control, surveillance, global mobility, and rapid strike to win the global war on terrorism and strengthen joint warfighting capabilities, while minimizing risk to the nation,” said Lt. Gen. Stephen G. Wood, Air Force deputy chief of staff for plans and programs.

Besides the ANG Predator units, the Air Force currently has three operational active-duty Predator squadrons located at Nellis Air Force Base and Indian Springs Air Force Auxiliary Field in Nevada. Air Force Special Operations Command and Air Force Reserve Command airmen will also operate Predators out of Indian Springs.

AMERICAN FORCES PRESS SERVICE (MARCH 21, 2005)

TWO YEARS IN IRAQ: MEETING NEEDS OF CHANGING BATTLESPACE

Terri Lukach

WASHINGTON—On the second anniversary of Operation Iraqi Freedom’s “shock and awe” attacks on Baghdad, the Army’s senior logistician today described the challenges and changes involved in keeping today’s forces equipped and on the move, compared to past conflicts. Three primary differences distinguish the war on terror from wars of the past, Lt. Gen. Claude V. Christianson said in an interview with



Air Force Capt. John Songer maneuvers an unmanned Predator reconnaissance airplane over Iraq by remote control at Balad Air Base, Iraq, on July 2, 2004. The Predator is an unmanned airplane that provides live aerial imagery of Iraq. Songer is deployed from the 15th Reconnaissance Squadron at Nellis Air Force Base, Nev., in support of Operation Iraqi Freedom.

DoD photograph by Staff Sgt. Cohen A. Young, USAF.

the Pentagon Channel and American Forces Press Service.

The first is the enemy itself. “Today we face an enemy unlike any we have ever seen before,” he said. The second is the physical geography. This is the first war in which U.S. forces do not “own all the land” he said, referring to the noncontiguous nature of the battlespace. “[There are] little islands that are relatively secure,” he said, “but they are not well-connected.”

This poses all kinds of problems, Christianson said. “You have to be able to secure very long lines of communication—routes that can stretch up to 400 miles from the source of supply to the soldiers, sailors, airmen, and Marines that need those supplies.”

The third major difference, he said, is complexity—dealing with joint forces and coalition partners as well as contractors, other nations, and nongovernment organiza-



In the News



Christianson (second from left) and unidentified soldiers and officers in Iraq, June 2003. Photograph courtesy Army Lt. Gen. "Chris" Christianson.

tions, all providing support. "That's much different from even five years ago," Christianson said. To make it easier to provide logistical support to the battlefield, Christianson said, the Army focused on four major areas. First was the need to connect all the logisticians so they could understand and sense what was going on all across the battlefield, he said.

"Where before you could run up and down secure roads to get what you need," he said, "today moving even 30 to 40 miles can be very dangerous. So connectivity is critical to success." Christianson said the answer to the problem is "non-line-of-sight communications"—satellites—that link the battlespace to providers, whether forward-based or back in the United States. The satellites enable suppliers to understand what is happening on the battlespace and respond to it. He said satellites have cut response time dramatically, enabling requests for equipment and supplies to be fulfilled in hours, rather than a week.

The second area of focus was to put in place a distribution system that could respond once the logistical requirements were known. The third, Christianson said, was an ability to rapidly get

forces off ships and planes and into the operating area.

Finally, he said, the supply chain itself must be integrated from end to end—"from the foxhole to the factory." One good example of this—and also an example of the differences between the war on terror and past wars, Christianson said—was the urgent need for armor protection for both individuals and vehicles.

At the start of Operation Iraqi Freedom, he said, the initial requirement for armored Humvees was very small—about 250. The requirement today is up over 10,000. At the start of OIF, the national production capacity was 15 per month. Today it's more than 500 per month.

The same is true of individual body armor, Christianson said. "When OIF started, we all had the older Kevlar armor. The new armor, just developed, was designated primarily for Special Forces.

However, "once the war started," he said, "we immediately wanted to provide that higher level of protection for everybody."



Members of the 407 Expeditionary Communications Squadron put together a Flyaway KU Band Earth Terminal (FKET) Satellite System. The 407 ECS is deployed to Tallil Air Base, Iraq. U.S. Air Force photo by Airman 1st Class Desiree N. Palacios.



In the News

It was impossible to deliver tens of thousands of sets, so the armor was prioritized for those considered most at risk, such as infantry. "In this war, however, some of the people most at risk are not infantry," he said, citing truck drivers as an example. The total Army requirement for body armor today is just over 840,000 sets. "We'll reach that this year," he said. "We've been able to outfit everyone going into the operational area for just over a year now, and every soldier going into Iraq has the newest body armor."

Christianson said the biggest challenge of the war in Iraq is fuel. U.S. and coalition forces use 800,000 to 1 million gallons of fuel every day. Most comes from Kuwait, Turkey, and Jordan, he said, and the roads from there to Baghdad are very long. The original objective was to, over time, buy fuel directly from Iraq, Christianson said, but the Iraqi oil infrastructure was badly neglected. The goal going forward, he said, is simple: to gain as much efficiency as possible.

Christianson called the men and women who work in the forward areas "absolutely incredible ... In fact, if you wanted to list the No. 1 thing that went well from the very first day, and continues today, it has to be the performance of the individual," he said.

They have endured unbelievable hardships in delivering support, he said, especially knowing that they are the primary target for the enemy. "But they always deliver," he added.

"I continue to be impressed every day with the quality of our men and women. They share a common understanding of their purpose, they know their teammates depend on them, they are well trained, and they just perform marvelously every day," he said.

AIR FORCE PRINT NEWS (MARCH 25, 2005)

TEETS: AIR FORCE'S BIGGEST CHALLENGE IS RECAPITALIZING THE FLEET

Staff Sgt. C. Todd Lopez

WASHINGTON—During a roundtable discussion at the Pentagon March 22, the acting secretary of the Air Force discussed space, the F/A-22 Raptor, and business ethics.

Peter B. Teets retired from public service March 25. He held additional titles, including Department of Defense executive agent for space and director of the National Reconnaissance Office. During the roundtable, held just

before his departure, Teets told reporters that his government work has been rewarding, but demanding.

"We have a wonderful team in the national space arena. I have built some strong friendships and relationships, and I will miss them," Teets said. "I have found this job to be very demanding but very rewarding. [It is] rewarding in the sense that I think our national space systems are making a huge difference in the way we are able to conduct intelligence and warfighting operations."

During his tenure as DoD's executive agent for space, Teets had his hand in several key programs, including space radar, the space-based infrared system, the advanced extremely high frequency satellite system, and the transformational communications architecture.

Space radar is designed to give ground commanders of all Services an eye-in-the-sky view of what is on the ground around them or over a mountain top. The system will be able to produce high-quality synthetic aperture radar imagery, as well as surface moving target indications, Teets said.

The space radar program has suffered scrutiny on Capitol Hill, but Teets said he has responded to that scrutiny with positive actions to streamline the program and move it forward.

"One of the things we have done this year for the space radar system is propose that we have a national radar collection system that will serve both the needs of the [Central Intelligence Agency] and the Department of Defense," he said.

The first operational satellite of the system will be fielded about 2015, Teets said. As part of an effort to restructure the space radar program, Teets directed the program's headquarters be moved to Washington, D.C. The move, he said, will facilitate better communications and cooperation between the agencies involved.

The space-based infrared system network of satellites is meant to replace the aging defense support program, part of the nation's defense against strategic missile launches. Teets said the capability the new system provides far exceeds that of the older satellite program.

"DSP has the capability to detect a strategic missile launch," Teets said. "[SBIRS], when it gets into orbit, will provide capability to do that job and more."



In the News



Above the Mojave Desert—The Air Force's new superiority fighter will dominate the future air combat arena by integrating advanced avionics, stealth, and supercruise. With approximately 80 percent of development complete and two test aircraft flying, the F/A-22 Raptor program is nearing completion of a 13-year development program.

U.S. Air Force photo by Judson Brohmer.

Teets said the new system can calculate state vectors for where strategic missiles are going, will look into a theater battlespace and identify when short-range ballistic missiles are launched, will pick up scud missile launches, and can identify fighter aircraft when they turn on their afterburners.

"[SBIRS] is an order of magnitude capability over what DSP would have been," he said.

The new program has also faced scrutiny on Capitol Hill. The program went over its initial budget of about \$4 billion. Today, the total cost of the program is nearly \$10 billion. Teets said improper structuring of the program and technical problems with satellite sensors caused the cost overages.

Besides space, Teets said the biggest challenge facing the Air Force in the near future is the recapitalization of its assets. Nearly all the aircraft, including the space assets, will have to be replaced in the next 15 to 20 years.

"Clearly at the top of that list is the tanker issue," Teets said. "Our tanker average age is 45 years. You don't fly on 45-year-old commercial airplanes, that's for sure. But we provide an air bridge with 45-year-old tankers."

Teets credits maintainers and depots for maintaining the KC-135 Stratotanker so that the Air Force can maintain the air bridge between the United States and Europe and forward-deployed locations.

Recapitalization affects more than tankers, he said. The Service must also work to recapitalize fighter and airlift aircraft, as well as space systems.

"We have tankers, and not too far behind are fighters," he said. "We are flying F-15 (Eagles) that are 30 years old. And we have lift requirements. It's true the C-17 [Globemaster III] is a remarkable aircraft, but the mobility re-

quirements we find ourselves in are pressing. And don't forget about space. ... All of those efforts are going to put pressure on the budget."

One effort to recapitalize the fighter fleet includes the F/A-22 Raptor program. That program was recently cut in the presidential budget, but Teets said this year's Quadrennial Defense Review will re-emphasize the Air Force's need for a modern fighter aircraft.

"The [budget] cut back the number of F/A-22s that would be bought ... to about 180," he said. "That will be addressed in the QDR. The Air Force has said there is a need in the long term for 381 F/A-22s, and it had quite a strong analytical underpinning that will talk about why 381 F/A-22s are needed to support 10 [air and space expeditionary forces] and deliver the kind of combat capability we are going to need in the long-term future."

Teets said the Air Force's future total force concept predicts that the Raptor is destined to replace many fighter aircraft as well as attack aircraft already in the fleet.



In the News

"[The concept] envisions a time out there when 381 F/A-22s could replace all 750 F-15s, plus all 50 or 60 F-117 [Nighthawks], plus some portion of the A-10 [Thunderbolt IIs]," he said. "There is a smart way of doing this, which will end up with a more capable Air Force with fewer aircraft. That's what QDR is going to be all about."

In the last year, both the Air Force and one of the Service's primary defense contractors have undergone much scrutiny for ethics-related issues—mostly because of improper conduct with contract negotiation. Teets said he believes the focus on those activities has heightened awareness of business ethics, and that it has had an effect across the aerospace industry.

"There is a lot of strong attention being given across the industry to ethical conduct and behavior," he said. "What Boeing has been through ... has certainly been observed by other companies in the industry and probably has stimulated them to accentuate their own internal ethics programs. In that sense, we probably have stronger ethical behavior and programs within our industry than we have had before."

DEPARTMENT OF DEFENSE NEWS RELEASE (APRIL 11, 2005) DEPARTMENT OF DEFENSE SELECTED ACQUISITION REPORTS

The Department of Defense has released details on major defense acquisition program cost and schedule changes since the September 2004 reporting period. This information is based on the Selected Acquisition Reports (SARs) submitted to the Congress for the Dec. 31, 2004, 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 operations 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 current estimate of program acquisition costs for programs covered by SARs for the prior reporting period (September 2004) was \$1,370,943.2 million. After adding the costs for four new programs—Aerial Common Sensor (ACS), Patriot/Medium Extended Air Defense System Combined Aggregate Program (PATRIOT/MEADS CAP), Standard Missile-6 (SM-6), and B-2 Radar Modernization Program (RMP)—from the September 2004 reporting period, the adjusted current estimate of program acquisition costs was \$1,412,567.9 million.

CURRENT ESTIMATE (\$ IN MILLIONS)	
September 2004 (82 programs)	.....\$1,370,943.2
Plus four new programs:	
ACS, PATRIOT/MEADS CAP, SM-6 and B-2 RMP	+41,624.7
Plus two additional programs that result from dividing Chemical Demilitari- zation into three programs:	
Chemical Materials Agency (CMA), CMA Newport, and Assembled Chemical Weapons Alternatives	.....0.0
September 2004 Adjusted (88 programs)	.....+1,412,567.9
Changes Since Last Report:	
Economic	.....\$ +32,127.1
Quantity	.....-24,478.7
Schedule	.....+20,112.9
Engineering	.....+35,203.8
Estimating	.....-6,603.4
Other	.....-722.4
Support	.....+3,977.1
Net Cost Change	.....\$+59,616.4
December 2004 (88 programs)	.....\$1,472,184.3

For the December 2004 reporting period, there was a net cost increase of \$59,616.4 million or +4.2 percent for programs that have reported previously, resulting in a new current estimate of \$1,472,184.3 million. The net cost increase was due primarily to additional engineering changes (hardware/software) (+\$35,203.8 million), the application of higher escalation rates (+\$32,127.1 million), a net stretch-out of development and procurement schedules (+\$20,112.9 million). These increases were partially offset by a net decrease of planned quan-



In the News

CURRENT ESTIMATE (\$ IN MILLIONS)

Program

Mission Planning System (MPS) . . .	\$1,682.4
Mobile User Objective System (MUOS)	5,931.4
Ship Self Defense System (SSDS)	1,460.3
Total	\$9,074.1

ties to be purchased (-\$24,478.7 million) and lower program cost estimates (-\$6,603.4 million).

New SARs (As of Dec. 31, 2004)

The Department of Defense has submitted initial SARs for Mission Planning System, Mobile User Objective System, and Ship Self Defense System. 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 provided above.

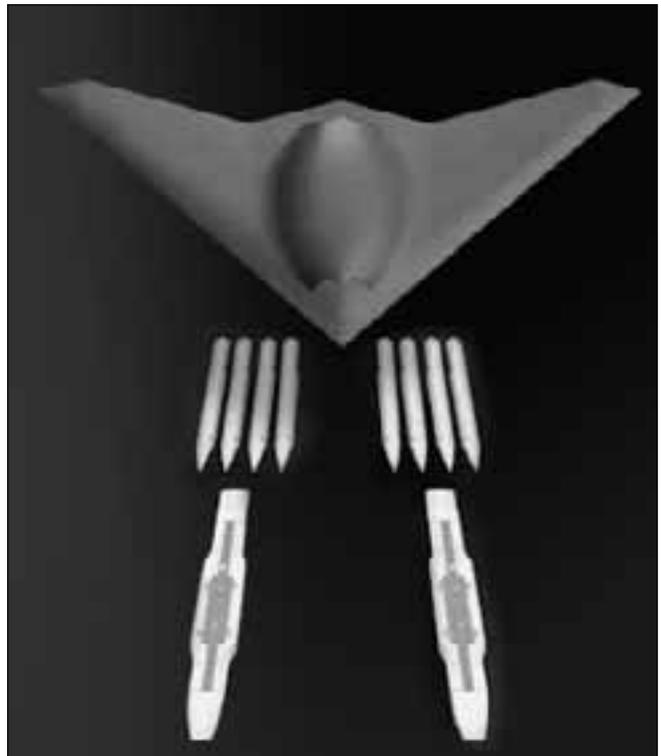
AIR ARMAMENT CENTER NEWS RELEASE (APRIL 25, 2005) SMALL DIAMETER BOMB INCREMENT I INITIAL PRODUCTION CONTRACT AWARDED

WASHINGTON—On April 22, the Air Force announced that the Boeing Company, St. Louis, was awarded an \$18.5 million contract for Low-Rate Initial Production of the Small Diameter Bomb Increment I (SDB I)—the DoD’s miniature munition designed to kill fixed and stationary targets. The announcement follows a successful Defense Acquisition Board Milestone C decision review chaired by the under secretary of defense for acquisition, technology and logistics. The Milestone decision is the culmination of an aggressive 18-month development and demonstration program that came in on time, on budget, and met all commitments made to the warfighter.

The SDB I weapon system consists of a 250-pound class munition, an AF common 4-place miniature munitions carriage system, and associated mission planning and logistics support. The SDB I, designed to be compatible with fighters, bombers, and several UAVs, is capable of significant standoff ranges against fixed and stationary targets. SDB I increases weapon loadout, allowing more kills per sortie than current inventory weapons, decreases collateral damage, and possesses an effective, day/night, adverse weather, stand-off capability. Through planned spiral development, Increment II will step up this capa-

bility even further, adding the ability to hit moving target sets. Increment II is poised to begin the competitive bidding process in response to a GAO recommendation.

The SDB I production decision comes on the heels of a development program unprecedented in success both in terms of program execution and testing. Since the program began in August 2001, it has never missed a major schedule event and remains on track to meet its Required Assets Available date of fourth quarter fiscal year 06. One of the keys to success has been a very aggressive test program aimed at driving down risk before commencing with production. The flight test program had over a 90 percent success rate spanning 23 guided flights and successfully demonstrated its capability to destroy realistic targets from ranges significantly greater



Small Diameter Bomb

The Small Diameter Bomb (SDB) program will deliver to the warfighter a small diameter bomb against fixed targets. The acquisition strategy envisioned an evolutionary acquisition and spiral development approach to delivering capability. The first capability is planned for fiscal year 06. Future spiral developments will include integration on other aircraft (F/A-22) and capability against moving targets. Image courtesy Defense Advanced Research Projects Agency.



In the News

than the required 40 nautical miles with near precision accuracy.

The Miniature Munitions Systems Group, Air to Ground Munitions Systems Wing, Eglin Air Force Base, Fla., manages the SDB I program. Boeing will produce the SDB I leveraging their JDAM production lines at their St. Charles, Mo., facility. Final integration and assembly of the AF/common miniature munitions carriage will take place at the El Monte, Calif., location of Sargent Fletcher Incorporated, a subcontractor to The Boeing Company. The initial production contract is for over 150 GBU-39 munitions, over 25 Air Force common BRU-61/A carriages, and associated spares, trainers and technical support.

For more information call the Air Armament Center Public Affairs Office at 850-882-3931.

AIR FORCE PRINT NEWS (APRIL 25, 2005) CENTER RECEIVES DOD'S MOST POWERFUL SUPERCOMPUTER

Dinah Luneke

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—Aeronautical Systems Center's major shared resource center officials announced April 25 the installation of the newest and most powerful supercomputer in the Department of Defense.

The 2,048-processor supercomputer will aid weapon systems design of innovative materials, advance design concepts, improve and speed modification programs, increase high fidelity simulations, and allow more efficient tests and evaluations.

"In our efforts to serve more than 1,000 researchers throughout the DoD, we needed a supercomputer with industry-leading capability, scalability, production quality, ease of use, and the ability to handle massive amounts of data," said Steve Wourms, deputy director for the center's advanced computational analysis directorate. "This supercomputer will help power groundbreaking research and development for the DoD weapon systems of the future."

The supercomputer expands the capability to more than 4,100 processors spread across five separate shared memory systems.

"Our high-performance computing technology today is creating new ways for the Department of Defense to achieve military advantage and warfighting superiority

on the 21st century battlefield," said Benn Stratton, national director of defense and civilian agencies business unit for Silicon Graphics, Inc., the computer's manufacturer.

"This massive, shared-memory system allows DoD to simulate entire aircraft, entire weapon systems, and entire battlefield engagements with a fidelity not possible before now," he said.

The supercomputer contains 41 racks, each of which uses as much power and cooling as a regular four-bedroom house, and more than 1,400 interconnecting cables. The increased performance and scalability will help put advanced technology in the hands of U.S. forces more quickly, less expensively, and with greater certainty of success.

The supercomputer is finishing up its initial 30-day test period.



WRIGHT-PATTERSON AIR FORCE BASE, Ohio—Kevin Maloney installs the newest high performance computer system in Aeronautical Systems Center's major shared resource center. The new system expands the resource center's supercomputing capability to more than 4,100 processors spread across five separate shared memory systems. Maloney is with a contractor providing onsite support.

U.S. Air Force photo by 1st Lt. David Cromwell.