Partners, Innovation Help Pentagon Deal with Budget Cuts

AMERICAN FORCES PRESS SERVICE (SEPT. 5, 2012)
Cheryl Pellerin

WASHINGTON—The Defense Department is dealing with long-term budget reductions by working more closely with international partners and continuously improving performance, the undersecretary of defense for acquisition, technology and logistics told an international audience here today.

Frank Kendall delivered the opening address, titled International Partnerships for Coalition Success, at ComDef 2012, a conference of government and industry representatives from more than 25 countries.

Enduring partnerships are critical "in an austere time when we have fewer resources ourselves [and] we have to look to others to work with us," Kendall said.

"I have spent more time with my partners than I realized I would spend in this job, and all for very good reasons," he added.

"We have very strong partnerships, we're building some of those to be even stronger, and we are forging new partnerships around the world with nations that share our values and our security interests," said the undersecretary, whose responsibilities include acquisition, research and engineering, contract administration, logistics, and the defense industrial base.

At DoD, he said, "dominating our conversations right now are budget reductions and their implications and how we're going to handle them," Kendall said, adding that he couldn't give a speech without addressing sequestration.

The 2011 Budget Control Act is a U.S. federal statute that seeks to reduce the national deficit. Sequestration is a mechanism built into that act to trigger a half-trillion-dollar cut to defense spending over the next 10 years if Congress doesn't otherwise identify spending reductions the act requires. This is in addition to $487 billion in cuts over 10 years that DoD already is making and that are accounted for in a new defense strategy released in January.

Kendall told the conferees that during his confirmation hearing, he told senators sequestration would have a devastating impact on the department. Defense Secretary Leon E. Panetta has talked about it as a "meat ax approach," he added.

"Even if you feel the need to reduce the size of our budget and cut defense," the undersecretary told the conferees, "doing it the way sequestration does it—and that's really our biggest problem with it—is really a very bad way to do it."

The way sequestration works makes having a plan to execute it irrelevant, the undersecretary said.

"If we have a budget, there are roughly 2,500 lines in that budget, and we have to cut each of them [by the same amount]," he added. "There are 2,500 lines—take about 11 percent out of each one."

Defense officials have been trying to understand the effects of such cuts on the force and on programs, Kendall said. One effect will be on overseas contingency operations, or OCO—money that's appropriated for fighting in Afghanistan—which will be included in sequestration cuts, he added.

"So OCO is hit, prior-year obligated funds are hit, [and] all [DoD funding for fiscal year 2013] is hit, whether it's been obligated or not," Kendall said.

If the government must operate under a continuing resolution rather than a budget, he added, "which is the probable course, we'll have to go back and figure out a way to get a net of about 11 percent out of those lines as well."

The Defense Department has not created a detailed plan, the undersecretary said, in part because not much planning is required.

"We have looked at a few samples of programs and different areas," Kendall explained, "and it varies from being relatively easy to absorb, where you're simply doing a level of effort that's a little bit lower, to something that's fairly significant in its impact on contracts, like multiyear [contracts], for example, that are already in place."

If the department is asked to prepare a more detailed plan, it will, but Pentagon officials are counting on Congress to avoid the need for sequestration," he said.

The problem, Kendall added, is that sequestration "doesn't allow us to prioritize. It doesn't allow us to find the things that are least important to us. It doesn't allow us to avoid some of the damage that will be done by this kind of a mechanism."

His own priorities as undersecretary, Kendall said, include ending the war in Afghanistan, creating affordable defense programs, boosting defense efficiencies, promoting innovation, and reducing bureaucracy.

"We're still engaged in Afghanistan, and we have a lot to do there," he said. "We're still involved with a broad coalition and with the [Afghans] to bring the war to a successful conclusion, and [we still have to] execute the retrograde operation as we pull our people and equipment out of the country."

Kendall, who was deeply involved in the effort to remove U.S. forces from Iraq, called the end of the war in Iraq "a piece of cake compared to what we have to do in Afghanistan."

The conflict in Afghanistan will be ongoing to a greater extent than it was in Iraq, he added, "and we have a much more difficult logistics job ahead of us." Also, he said, the expense of resetting the equipment as it comes home is a factor. But Kendall praised the partnerships that have been built in Afghanistan over a decade of war.

The Defense Department has a long history of starting projects that it could not afford, Kendall acknowledged. But over the past two years, he said, the department has been forcing programs to put cost caps on programs up front "so they're designed to a cost cap and requirements are traded off in order to stay within an affordable cost."

Kendall said the department has used that approach on programs such as the Air Force's new long-range strike bomber, the Army's new ground combat vehicle and the Navy's replacement for the Ohio-class ballistic missile submarine.

On efficiencies, Kendall said he's a big believer in continuous improvement. He noted that he worked with his predecessor Ashton B. Carter—who now serves as deputy defense secretary—to build momentum in that regard.

"The Better Buying Power initiative that Dr. Carter and I rolled out two years ago was essentially an attempt to get at efficiencies through a number of best practices," he said, adding that he soon will roll out a new version of the program that incorporates adjustments to strengthen the program while keeping its focus on controlling cost growth and placing strong emphasis on competition—including a more open attitude to international approaches.

On innovation, Kendall said the department should look more to new technologies and to more commercial practices. And removing bureaucratic barriers will be a continuing emphasis.

"I don't want to make excuses for anybody," Kendall said. "The Defense Department can do better—we can do a lot better—and we're going to continue to work to make sure that happens."

JASSM-ER Nears Operational Employment

7TH BOMB WING PUBLIC AFFAIRS (AUG. 9, 2012)
Airman 1st Class Charles V. Rivezzo

DYESS AIR FORCE BASE, Texas—The 337th Test and Evaluation Squadron is scheduled to complete the final phase of operational testing for the Joint Air-to-Surface Standoff Missile – Extended Range in late August, marking a significant step toward operational employment.

JASSM-ER is an autonomous, air-to-ground, precision-guided standoff missile designed to meet the needs of U.S. warfighters. It shares the same powerful capabilities and stealthy characteristics of the baseline JASSM, but with more than two-and-a-half times the range.

"Although it looks the same and provides all the capabilities of the baseline missile, it has a new engine and larger fuel load capability," said Capt. Philip Atkinson, who works with the 337th TES. "This allows it to extend its range to more than 500 nautical miles, compared to the old system's range of 200 nautical miles."

This additional reach allows aircraft to deploy JASSM-ER against high-value, well-fortified, fixed, and relocatable targets, while remaining clear of highly defended airspace and long-range surface-to-air missiles.

Like the original JASSM, the new missile uses its inertial navigation and global positioning systems to find its intended target, then its infrared seeker for pinpoint accuracy right before impact.

Furthermore, the cruise missile is able to operate in heavily degraded GPS environments.

"One of the emphasis items is to be able to operate in contested and degraded environments," Atkinson said. "One of the things the military relies heavily on is GPS, and we have demonstrated the ability to operate with intense GPS jamming. Even without GPS, the JASSM can find its target due to its internal sensor."

The 337th TES is scheduled to complete the final live JASSM-ER flight test Aug. 30 with the B-1 Lancer, the missiles' threshold aircraft and premier platform for JASSM employment.

"The B-1 is the very first aircraft to get it, so we will be the only JASSM-ER platform for years to come," Atkinson said. "As we shift our emphasis from the Middle East to the Pacific, as heavily defended as that region is, the JASSM

The Joint Air-to-Surface Standoff Missile - Extended Range is an autonomous, air-to-ground, precision-guided standoff missile designed to meet the needs of U.S. warfighters. It shares the same powerful capabilities and stealthy characteristics of the baseline JASSM, but with more than two-and-a-half times the range.
Courtesy photo

combined with the B-1 presents a top choice for combatant commanders."

Like the baseline version, JASSM-ER will be capable of employment on the B-2 Spirit, B-52 Stratofortress, F-15 Eagle, and F-16 Fighting Falcon. However, the B-1 is able to carry 24 of the long-range missiles; that is twice as many as the B-52.

"The B-1 is the premier aircraft to employ this new weapon due to the quantity we can carry, flexibility in terms of mission sets we take care of, and targeting flexibility," Atkinson said. "Also, JASSM shots can be either mission planned against fixed targets or can be retargeted dynamically in flight with waypoints, a feature unique to the B-1."

The JASSM-ER will be officially fielded late next year, when B-1s can be called upon for operational use.

DoD Bolsters Biosurveillance Diagnostics, Monitoring

AMERICAN FORCES PRESS SERVICE (AUG. 29, 2012)
Cheryl Pellerin

WASHINGTON—Defense Department officials routinely work to protect the nation from terrorist attacks and weapons of mass destruction. But today they're bolstering defenses against an older threat that emerges from animals and insects and arises in people as infectious diseases.

Last month, the White House issued the first U.S. National Strategy for Biosurveillance, a process defined as gathering, analyzing, and interpreting data related to disease activity and threats to human and animal health for early warning and detection.

Andrew C. Weber, assistant secretary of defense for nuclear, chemical and biological defense programs, told American Forces Press Service that DoD is expanding its ability to detect and even forecast infectious disease outbreaks that endanger global health security.

"The vision," he said, "much like we do with the weather, is to have a global [disease]-detection and information-sharing system that will allow us to know when a storm is forming before it forms, and when it's coming toward the border."

At DoD, elements of such a system are already in development, he said, including a new generation of disease diagnostics.

"Just like with [information technology], what used to be a computer capability that took up an entire building is now in your [smartphone]," Weber explained. "Diagnostic technologies also are evolving from what used to take an entire

laboratory complex at the national level to what we call point-of-care or point-of-need diagnostics."

Physicians—and at some point, individuals—will be able to use such handheld devices to identify an illness and immediately report the data to a global monitoring system, he added, "so we can understand normal and background [signals] but also an emerging biological threat."
Traditional disease detectors have been limited to eight or 10 threat agents, Weber said.
"Now, with multiplex technologies, we can monitor and do point-of-care diagnostics for routine diseases [such as influenza], not just extremely rare diseases that we worried about during the Cold War," he added.

DoD plans to field some capabilities soon, Weber said, "and the technology is moving so quickly that within the next couple of years we will have fielded new and more mobile systems that cover more diseases. We call this the Next-Generation Diagnostics Program."

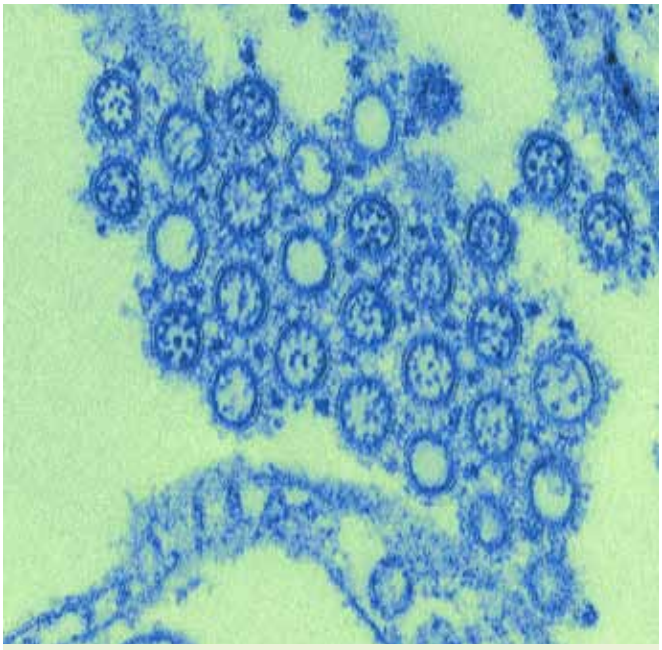
DoD has increased diagnostics funding through its biodefense program, the assistant secretary said. Some work is implemented by the Defense Threat Reduction Agency's chemical and biological technologies directorate, which also is the Joint Science and Technology Office of the Chemical and Biological Defense Program, and some by the Joint Program Executive Office for Chemical and Biological Defense.

In October 2009, Weber himself ushered the Chemical and Biological Defense Program into the biosurveillance business by signing a memorandum to the secretaries of the military departments announcing that emerging infectious diseases would be part of the chemical and biological defense mission.

At DTRA and JTSO, Nancy Nurthen is a science and technology manager in the chemical and biological technologies directorate's diagnostics, detection, and disease surveillance division.
The move within the Chemical and Biological Defense Program to include work on emerging infectious diseases, she told American Forces Press Service, was "huge."

"That put us into the space of emerging infectious diseases rather than just looking at traditional bio-warfare agents," she said.

Today, Nurthen and her DTRA and JSTO colleagues are working on new diagnostics and gearing up for the mid-October launch of a new effort called the Biosurveillance Ecosystem.



This electron micrograph shows virus particles called virions from an H1N1 flu sample. The virus was first detected in people in the United States in April 2009. On June 11, 2009, the World Health Organization signaled that a pandemic of 2009 H1N1 flu was under way.
Micrograph courtesy Centers for Disease Control and Prevention

"Traditional diagnostics provide information too late to make any actionable decisions," Nurthen said. "People need quicker lab results. What we're looking to do specifically is highlight a list of diseases and target the point-of-need diagnostics to be a yes/no [indicator] for those specific diseases, maybe multiplex for up to three different diseases on the diagnostic."

Such diagnostics, she said, could be used if an early signal of possible disease was picked up through an informal source such as social media.

"Because [the diagnostics] are simple to use and very low cost," Nurthen said, "we could deploy them to get an early potential confirmation of what's happening and have earlier warning, earlier confirmation, and an ability to make better decisions faster."

Results from the diagnostics will be one of the data streams that move through the new Biosurveillance Ecosystem, a global system that Nurthen says will dramatically accelerate disease detect-identify-respond capabilities.

The global system, based on commercial cloud technologies, will assemble social networks of experts who use the ecosystem's tools and information. It also will augment and integrate existing human and animal systems and data, and harness commercial and emerging technologies to quickly implement an initial operational capability, she said.

Its data streams will include open-source information, social media, point-of-need diagnostic data, and DoD, interagency, national, and international surveillance systems and data repositories.

"One of the biggest challenges we're looking at now is how to make that diagnostic result available through the ecosystem," Nurthen said.

Analysts would get a somewhat simplistic result from the diagnostic, but would use the ecosystem to compare it to a baseline, she added.

"They'd take the space-and-time tag off the diagnostic—where and when it was reported—and look at baseline data for that area, look at current outbreaks for that area, look at social media discussions or hot topics for that area, and put a little more confidence to the result," she explained.

"Potentially," Nurthen said, "the [analysts] could push back information to the person who sent the result, saying, 'You may want to go see a doctor,' 'You may want to consider these nonmedical interventions,' and so forth."

She said both efforts—the point-of-need diagnostics and the ecosystem—are scheduled to begin in mid-October.

"From the start date," Nurthen said, "eight months down the road we will have an initial demonstration of the ability to receive a result from the diagnostic to the ecosystem. Then about a year and six months down the road, we look to have a full demonstration of the capabilities."

F-35A Reaches 'Huge Milestone' in Program Development

EGLIN AIR FORCE BASE PUBLIC AFFAIRS (SEPT. 9, 2012)
Chrissy Cuttita

EGLIN AIR FORCE BASE, Fla.—Air Force officials begin their F-35A Lightning II Operational Utility Evaluation Sept. 10, an instrumental step in beginning Joint Strike Fighter pilot and maintenance training for the service.

Two 33rd Fighter Wing pilots at Eglin AFB, Fla., along with two Air Force test pilots, will conduct the review expected to last approximately 65 days.

"The start of the OUE is another huge milestone for the Air Force and the program as a whole," said Col. Andrew Toth, 33rd Fighter Wing commander. "We've been preparing for this event since the arrival of our first aircraft in July last year. So far, the men and women of the 33rd Fighter Wing have proven we can successfully execute safe and effective flying operations in addition to academic training."

Since February's Military Flight Release, 11 experienced fighter pilots checked out in basic F-35A operations so they can be prepared to be the military's first cadre for the fifth generation fighter.

Maj. John Wilson and Maj. Matthew Johnston, the 33rd FW pilots going through the evaluation, are ready to be taken through a rigorous process where data will be collected from all facets of JSF training—maintenance, classroom, simulator, and flights.

Leaders at the 33rd FW are confident their team of airmen, navy, Marines, contracted partners, and civilians are ready for the next milestone in the nation's next half-century of airpower dominance.

"We are ready for the Air Force Operational Test and Evaluation Center to give us an outside look on the way we conduct our mission," said Toth. "At the conclusion of the evaluation we should receive the Air Education and Training Command's approval that states we are 'ready for training.'"

This milestone for the Air Force will be a precursor to training other Services and allies. The wing is responsible for F-35 pilot and maintainer training. Initially, 59 aircraft and three flying squadrons, one for each Service/aircraft variant, will be established at Eglin.

The 33rd FW has flown more than 200 JSF sorties, both A and B variant, increasing pilot and maintainer familiarity with the aircraft, exercising the logistics infrastructure, and continuing to develop aircraft maturity. These initial F-35A flights were limited, scripted, and conducted within the restrictions and stipulations made in February's military flight release.

Now that release has been updated for OUE, necessary joint program office and AFOTEC formal readiness reviews have been completed, and the AETC local area operations metrics and safety reviews all support the Air Force readiness to execute OUEs safely and effectively, Service officials said.

The F-35A Lightning II Joint Strike Fighter lifts off for its first-ever training sortie March 6 at Eglin Air Force Base, Fla. It's the first flight of any 33rd Fighter Wing F-35 since their arrival to the base.
U.S. Air Force photo by Randy Gon

DoD Pursues Improvement in Operational Contractor Management

AMERICAN FORCES PRESS SERVICE (SEPT. 12, 2012)
Amaani Lyle

WASHINGTON—Efforts to improve management of civilian contractors performing critical mission support functions are creating a cultural shift in the way the military prepares for battle, senior Defense Department officials told the House Armed Services Committee today.

Alan F. Estevez, assistant secretary of defense for logistics and materiel readiness, and Marine Corps Brig. Gen. Craig C. Crenshaw, the Joint Staff's vice director of logistics, testified along with other experts at a hearing held to examine the Defense Department's planning and management of contractors on the battlefield.

Lessons learned in the combat theater over the last decade can optimize management and oversight of operational contract support in future operations, they said.

Estevez said that as the DoD has increasingly embraced operational contract support, he has seen a cultural shift in the way the military prepares for contingency operations.

"The lessons we have learned from recent operations are being incorporated and applied … across all echelons of the department, including the military services and the combatant commands," he added.

Operational contract support capabilities and planning have become significant in the stand-up of joint contingencies and combatant commands, and the development and updates of policy and doctrine with an eye on increased visibility and accountability, Estevez told the House panel. Improvements in training and education in both the acquisition and non-acquisition workforce responsible for contingency contract management also are part of the program's evolution, he added.

As an example, Estevez cited a critical lesson learned following the nuclear reactor failure that resulted from the March 2011 earthquake and tsunami in Japan.

"[U.S.] Pacific Command established the Air Force as the lead Service for contracting," Estevez said. "This meant that all forces deploying to Japan had a clear understanding of the contracting authority and would not be competing against each other for scarce resources."

To sustain these advances, Estevez added, DoD needs to maintain its focus, secure and solidify gains, and continue its momentum in implementing the operational contract support capability.

Warhorse: Boston Dynamics' AlphaDog LS3 robot is designed to haul gear for soldiers. And scare you silly.
Photo courtesy DARPA

"To lose such capability now would be truly wasteful," he said. Crenshaw agreed, explaining that the Defense Department began a "deliberate effort" in 2007 to significantly improve strategic operational contract support guidance.

"I am confident that ongoing efforts will ensure that we meet the warfighter's current and future needs while judiciously managing DoD resources and balancing risk," Crenshaw said.

The heart of the plan, the general said, involves closer links of contracts and contractors to operational effects to more rapidly and decisively achieve the joint force commander's intent.

"In the past decade, we have recognized that contractors leverage important support to our troops while advancing operation objectives," he said.

DARPA's Four-Legged Robots Walk Out For Capabilities Demonstration

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY (SEPT. 10, 2012)

Today, DARPA's Legged Squad Support System (LS3) program demonstrated two robotic "pack mule" prototypes for the Commandant of the Marine Corps, Gen. James F. Amos, and DARPA Director, Arati Prabhakar. The first platform underwent its initial outdoor test earlier this year and has matured through continual testing and improvements to the point that two functioning platforms have started to run through the paces similar to what they could one day experience carrying gear for a squad of Marines or soldiers. The goal of the LS3 program is to demonstrate that a legged robot can unburden dismounted squad members by carrying their gear, autonomously following them through rugged terrain, and interpreting verbal and visual commands.

"We've refined the LS3 platform and have begun field testing against requirements of the Marine Corps," said Army Lt. Col. Joe Hitt, DARPA program manager. "The vision for LS3 is to combine the capabilities of a pack mule with the intelligence of a trained animal."

During today's event, the LS3 prototype completed trotting and jogging mobility runs, perception visualization demonstration, and a soldier-bounded autonomy demonstration. Today's demo also exhibited reduced noise levels for the robots. "LS3 is now roughly 10 times quieter than when the platform first came online, so squad members can carry on a conversation right next to it, which was difficult before," Hitt said.

"Other improvements include the ability to go from a 1- to 3-mph walk and trot over rough, rocky terrain, easily transition to a 5-mph jog and, eventually, a 7-mph run over flat

surfaces, showing the versatility needed to accompany dismounted units in various terrains," Hitt said.

"The LS3 has demonstrated it is very stable on its legs, but if it should tip over for some reason, it can automatically right itself, stand up, and carry on. LS3 also has the ability to follow a human leader and track members of a squad in forested terrain and high brush."

In July, DARPA and the Marine Corps Warfighting Laboratory (MCWL) began a 2-year platform-refinement test cycle with the first DARPA/MCWL-hosted test planned for December 2012 on a military base. Testing will continue approximately every quarter at military bases across the country, culminating in a Marine Corps Advanced Warfighting Experiment wherein the LS3 will be embedded with a squad for an operational exercise.

"Augmenting small dismounted units with autonomous capabilities can be a potent force multiplier," said Brig. Gen. Mark R. Wise, commanding general, MCWL. "The concerted efforts being made to better define autonomous robotic capabilities that help [lighten the load] provide greater mobility and agility to dismounted Marine and U.S. Army forces across the battlespace, further demonstrate what can be achieved through partnering with DARPA and other DoD entities in support of the warfighter."

Air Force, NASA Leaders Review F-22 Findings, Fixes with Congressional Subcommittee

AIR FORCE PUBLIC AFFAIRS AGENCY (SEPT. 14, 2012)
Air Force Tech. Sgt. Jess D. Harvey

WASHINGTON—Air Force and NASA leaders testified Sept. 13 before the House Armed Services Committee's Subcommittee on Tactical Air and Land Forces about the F-22 Raptor.

Specifically, the leaders testified about the comprehensive studies, findings, and actions taken and also underway to address previously unexplained physiological incidents reported by F-22 pilots.

Retired Gen. Gregory S. Martin, Aircraft Oxygen Generation Study chair for the Air Force Scientific Advisory Board; Maj. Gen. Charles W. Lyon, Headquarters Air Combat Command director of operations and F-22 life support task force chair; and Clinton H. Cragg, NASA Engineering and Safety Center principal engineer testified before the subcommittee.

"Beginning in 2008 ... the F-22 began to experience a significantly higher rate of hypoxia-like instances with unknown causes as reported by the pilots," said Martin.

That's when the Air Force started an intense search for possible causes of what experts can best describe as physiological incidents and how to fix them.

After months of research, testing, and analysis, Martin's study group provided eight near-term and three long-term

U.S. Air Force photo by Master Sgt. Jeremy

recommendations to the Air Force in September 2011 and completed its investigative actions in January.

The Air Force task force also established in January, and led by Lyon, advanced the SAB's effort and through a multi-Service, cross-governmental and functional team, determined that problems with the quantity of oxygen are the major contributors to the previously unexplained incidents.

"This is what we've come to know, which the Navy helped us with: ... breathing restrictions integrated into the pilot's flight ensemble forced them to work harder to get the required volumes of air, which can then lead to fatigue symptoms over time," said Lyon.

At the request of Air Force leaders, NASA's engineering and safety center also conducted an independent assessment of the F-22 life support system and the Air Force's efforts and conclusions to ensure all possible causes of the physiological incidents were examined.

The center performs independent testing, analysis, and assessments for NASA, and assembled a team that included two NASA flight surgeons, two NASA human factor experts, an Environmental Protection Agency forensic chemist, an industry oxygen generator system expert, and several specialized NASA life support systems engineers for the F-22 review.

"The [NASA Engineering and Safety Center] concurs with the Air Force that the F-22 incidents can be attributed to several factors," said Cragg.

They include restricted breathing due to inappropriate inflation of the upper pressure garment worn by pilots, pressure drops across the oxygen system, and high concentrations of oxygen, the effects of which are compounded during acceleration at lower altitudes.

Cragg said his team found no evidence of contaminants in the system. He did note, however, that as in any fighter aircraft, irritant compounds may be present in the cockpit. Additionally, each flight is physiologically demanding, and symptoms such as difficulty in breathing during high-G maneuvers and coughing to reinflate the air sacs in the lungs after flight were considered a normal part of flying by the F-22 community.

"The acceptance of these phenomena as normal could be seen as a normalization of deviance," said Cragg.

As these studies were ongoing, the Air Force implemented most of the SAB's findings and hasn't had an unexplained physiological incident since March, said Lyon.

"Since that time, we've flown more than 10,000 sorties and more than 13,000 hours," said Lyon. "The trend is on a positive vector not seen in years." But he pointed out that there will most likely be some physiological incidents in the future.

"The harsh, high-altitude, high-G environment is extremely demanding, and our pilots are aware of those demands," said Lyon. "Just as other airmen and members of the joint force accept risk in the conduct of their daily military duties, we accept risk in operating the F-22.

"We encounter physiological incidents in all high-performance aircraft," said Lyon. "The measures taken by the Air Force, in my opinion, will reduce the incident rates significantly and over time bring the F-22 incident rates in-line with comparable high-performance fighter aircraft."

Lyon told the committee the Air Force has completed seven of the eight near-term actions recommended by the SAB, and there is work ahead while the Service transitions to normal flight operations.

"The path to assuming normal flight operations hinges on the successful development, testing, and fielding of a modified combat edge upper pressure garment relief valve," said Lyon. "This modification will successfully integrate the key components in the F-22 life support system to ensure adequate oxygen flows to the pilot while providing protection in high-altitude and high-G environments where the F-22 flies."

The modification is expected to be fielded by the end of 2012.

Another modification to the F-22 will add a backup oxygen system in addition to the emergency oxygen system in place.

"The fielding of the automatic backup oxygen system will provide additional protection to F-22 pilots while flying in high altitude and in the most demanding oxygen delivery scenarios," said Lyon.

The first modified F-22 is expected to be operational in January 2013, with the first operational squadron complete in spring of 2013 and the entire fleet completed by the middle of 2014.

Another initiative recommended by the SAB is a medical registry tracking the long-term effects of flying the F-22 for

every pilot, said Martin. Before they were allowed to return to flight in September 2011, every pilot underwent a battery of physiological tests to establish a medical baseline that was entered into the registry.

"We know who has flown the F-22. We know who has been exposed to this environment. And we will continue to track them through their Air Force career and, if necessary, beyond," said Lyon. "We have a moral imperative and we understand that."

He said that no long-term health issues have been tied to the F-22, and the Air Force is undertaking numerous improvements to ensure the inherent risk of flying high-performance aircraft is mitigated and the F-22 is used to its full potential.

"The F-22 Raptor contributes significantly to our nation's vital interests by providing air dominance when and where ordered to protect and enable the joint U.S. military force," said Lyon. "Flying high-performance fighter aircraft is not risk free. But the risk is measured against mission priorities and probabilities of success."

Osprey Cleared to Fly in Japan, Improving Alliance Capabilities

AMERICAN FORCES PRESS SERVICE (SEPT. 19, 20120
Karen Parrish

BEIJING—The V-22 Osprey tilt-rotor aircraft is now approved to fly in Japan, Press Secretary George Little said in a statement here today.

Little, traveling with Defense Secretary Leon E. Panetta in Asia this week, said today the secretary is pleased that an agreement has been reached between the United States and the government of Japan that permits the Osprey to begin flight operations.

"This agreement was the result of a deep partnership and thorough process that allowed both sides to reconfirm the safety of the aircraft," Little said. "It is a testament to the strength and maturity of our alliance, which remains the cornerstone for peace and stability in the Asia-Pacific region."

A senior defense official also traveling with Panetta said the agreement was "the result of deep personal attention on the part of both Panetta and [Japanese Defense Minister Satoshi] Morimoto, who have quickly developed a close relationship."

The Osprey has been controversial since it was shipped to Japan in July, but Panetta said during a Sept. 17 news conference with Morimoto that the two countries have established a joint committee to resolve any questions about the aircraft's safety.

The Osprey was sent to replace CH-46 helicopters used by the 3rd Marine Expeditionary Force in Okinawa, and defense officials say it can operate at twice the speed, three times the payload, and four times the range as the helicopters.

"The Osprey will provide a critical capability that strengthens the United States' ability to defend Japan, perform humanitarian assistance and disaster relief operations, and fulfill other alliance roles," Little said.

Air Force Officials Describe ICBM Way-Ahead

AIR FORCE DISTRICT OF WASHINGTON PUBLIC AFFAIRS (SEPT. 19, 2012)
1st Lt. Ashleigh Peck

WASHINGTON—As intercontinental ballistic missiles gain prominence in the Air Force's nuclear enterprise, Service officials related the importance of maintaining the system during the 2012 Air Force Association Air and Space Conference and Technology Exposition here Sept. 18.

Panelists included Maj. Gen. William Chambers, assistant chief of staff for strategic deterrence and nuclear integration; retired Lt. Gen. Frank Klotz, senior fellow for strategic studies and arms control council on foreign relations; and Elbridge Colby, global strategic affairs principal analyst, CNA.

"The ICBM is stabilizing, lethal, responsive, survivable, and highly credible," Chambers said, adding that he sees ICBM as a homeland-based force that maintains strategic stability and supports conflict resolution below the nuclear threshold.

"It does this by imposing great costs on any would-be aggressor and denying any adversary a nuclear coercion option," he explained.

Chambers also noted that ICBMs are among the most reliable and inexpensive strategic systems to operate and maintain.

"In fiscal year 2011, the Air Force provided an ICBM capability to the nation for one percent of the overall Air Force budget," Chambers said. "That's not a lot of money for the overall global stability that this force provides America."

While some advocates of deep reductions have called for total elimination of ICBM, the panel assured that the ICBM is essential to deterrence and strategic stability.

Retired Lt. Gen. Frank G. Klotz speaks about the continued significance of homeland-based Intercontinental Ballistic Missile force facing 21st century security challenges during a panel discussion at the 2012 Air Force Association Air and Space conference in Washington, D.C., Sept. 18, 2012. Klotz is a senior fellow for Strategic Studies and Arms Control Council on Foreign Relations. ICBM force attributes were compared and discussed in light of ongoing debates concerning U.S. nuclear force structure.
U.S. Air Force photo/Senior Airman Steele C. G. Britton

"If the ICBM were eliminated, the number of strategic targets an adversary would have to attack to seriously undermine or even destroy the U.S. nuclear deterrent force would be reduced from more than 500 to perhaps a dozen," Klotz said.

The panel underscored the importance of maintaining the ICBM in the 21st century.

"It's very important to think about new capabilities and maintaining the same fundamental approach to deterrence—putting the fear into your opponent so you don't ever have to go to war," Colby said.

The panelists acknowledged that though opinions may vary about ICBM's future, the system must continue to progress.

"The most pressing task is to work toward a broad, national consensus on the steps that need to be taken to maintain a safe, secure and effective nuclear arsenal in the years ahead and to demonstrate real ... purpose in achieving them," Klotz said.

KC-46 Enters Critical Design Review Phase

AIR FORCE DISTRICT OF WASHINGTON (SEPT. 21, 2012)
Senior Airman Tabitha N. Haynes

WASHINGTON—The Air Force KC-46A program director described the critical development phases of the next-generation refueling aircraft during the 2012 Air Force Association Air and Space Conference and Technology Exposition in Washington, D.C., Sept. 18.

Maj. Gen. John F. Thompson, program executive officer for Tanker Programs, Air Force Life Cycle Management Center, Wright-Patterson Air Force Base, Ohio, said that while KC-46's preliminary aircraft design review is complete, additional steps must be taken to develop a final aircraft design that meets system requirements.

Thompson added that 18 months into the aircraft development program, the KC-46A is on track for critical design review in the fourth quarter of next year.

"There is a possibility in any program to have 50 number one priorities; I have never believed in that concept," Thompson said. "I will have a lot of number two and ... number three priorities, but my number one priority ... is to successfully get through the critical design review next year."

The aircraft configuration will advance, Thompson explained, from the commercial Boeing model 767-200ER aircraft to a Boeing model 767-2C Provisioned Freighter variant before final modification into a military certified KC-46 tanker, Thompson explained.

Select design features will allow the aircraft to carry out its "multi-role capabilities," including cargo transportation, passenger transportation, and patient transportation, in addition to its primary role of aerial refueling," Thompson added.

The KC-46 aircraft features an improved refueling system with 212,000 pounds of fuel delivery capabilities, capability to receive fuel in flight, 65,000 pounds of cargo carrying capability, passenger aero-medical capabilities, and engines each producing 62,000 pounds of thrust.

"Our goal is one program, one plan," Thompson said. "We are actually bending metal on this aircraft—it is not just a paper design anymore."

Currently, testing has begun for the KC-46. Testing to date includes live fire and system integration lab testing.

"From a sustainment and supportability standpoint ... our goal is to go to 100 percent organically managed sustainment on this weapon system," Thompson said.

This means the Air Force may partner with industry for certain sustainment repair activities, but will remain in the lead for management purposes.

Despite the work that still remains in the KC-46 development, 18 next-generation refuelers are scheduled to join the fleet by 2017, Thompson said, adding that a total of 179 KC-46 aircraft are slated to be delivered by 2027.

Threat of Terrorist IEDs Growing, Expanding, General Says

AMERICAN FORCES PRESS SERVICE (SEPT. 21, 2012)
Jim Garamone

WASHINGTON—The threat posed by crude homemade bombs known as improvised explosive devices is growing and spreading across the globe, and will be the terrorists' weapon of choice for decades, the commander of the Joint Improvised Explosive Device Defeat Organization said yesterday.

"We still need to do more," Army Lt. Gen. Michael D. Barbero told the House Appropriations Committee's defense subcommittee, adding that his organization is rapidly fielding critical counter IED capabilities. "But let me say up front that I believe the IED and the networks that use these asymmetric weapons will remain a threat to our forces and here at home for decades."

These bombs, he said, will be the weapon of choice for terrorists because they are cheap and readily available. Bomb makers use off-the-shelf technology to make the deadly explosives. IEDs were the number one killer of American troops during the war in Iraq.

"This trend is readily apparent in Afghanistan ... where IED events continue to rise," Barbero said. "In the past two years, IED events have increased 42 percent, from 9,300 events in 2009 to 16,000 events in 2011. And this year, we're on track, for 2012, to meet or exceed the historic number of IED events we saw last year."

While the overall number of IED events is high, coalition casualties are down, the general said. This is because the coalition's ability to find IEDs before they explode is steadily improving. This has reduced U.S. casualties by more than 40 percent this past year, he said.

The decrease in IED effectiveness is a result of an across-the-board effort against these devices, he said, noting that troops deploying to Afghanistan receive the latest counter-IED training and use the latest technology from airborne sensors to handheld devices.

"Commanders and troopers on the ground are continuously refining their tactics, techniques, and procedures tailored to the threat they face in the region," Barbero told the subcommittee. Meanwhile, U.S. forces and civilian personnel "will remain the target of insurgent IED attacks, and the IED will remain the weapon of choice," Barbero said. "From our experience in Iraq, the reduction of U.S. forces must not equal a reduction in counter-IED or other critical capabilities."

The general said that as the military footprint in Afghanistan gets smaller, troops there "will require flexibility to shift priorities rapidly, providing the requisite counter-IED capabilities, situational awareness, and security and protection," he said.

Barbero said the IED threat is growing and morphing to other areas of the world.

"Since 2007, IED incidents outside of Iraq and Afghanistan have increased to average more than 500 incidents per month around the globe," the general said. "Since January 2011, there have been more than 10,000 global IED events occurring in 112 countries, executed by more than 40 re-

Rich Landry of the Load Carriage Prototype Lab, Product Manager Soldier Clothing and Individual Equipment, at Natick Soldier Systems Center, hopes that the Modular Backpack Panel will help Soldiers carry unwieldy loads such as ammunition, electronics or medical gear. U.S. Army photo

gional and transnational threat networks. The extremist networks that employ the IEDs have proven to be resilient, interconnected, and extremely violent."

Wherever there is turmoil and insecurity, there will be IEDs, Barbero said.

"I believe U.S. forces will operate in an IED environment," he said. "I believe it's a reality of 21st century warfare, and we must plan accordingly."

Modular Backpack Panel to Allow Soldiers to Carry Heavy, Unwieldy Loads

U.S. ARMY GARRISON-NATICK PUBLIC AFFAIRS (SEPT. 25, 2012)
Bob Reinert

NATICK, Mass.—Lightening soldiers' loads has always weighed heavily on Rich Landry's mind.

While more and more equipment is being developed to assist them on the battlefield, Landry worries how soldiers will carry it all over rugged terrain in places such as Afghanistan without incident or injury. As an individual equipment designer with the Load Carriage Prototype Lab, Product Manager Soldier Clothing and Individual Equipment at Natick Soldier Systems Center, that's his job.

Recently, Landry and colleague Murray Hamlet were tasked to come up with another solution for a load carriage problem. They took the frame and suspension from the Modular Lightweight Load-carrying Equipment, or MOLLE Medium rucksack and affixed a panel that allows a soldier to add a variety of equipment or modular packs to accommodate unwieldy ammunition, medical, or electronic loads, depending on the situation.

"This is just a pack board, or a foundation for an entire range of tactical equipment beyond that of what we call the soldier's fighting load," Landry said. "Anything that is MOLLE-compatible, you're going to have the ability to have a suspension system that's designed to support upwards of 60 pounds that you can truly tailor specific to what your tactical mission is."

The Modular Backpack Panel, or MBP, transforms the MOLLE Medium, intended to carry up to 60 pounds of essential gear for 72 hours, into an even more versatile system, Landry said.

"We've had calls from various organizations that carry all kinds of odd loads," said Landry, adding that the rucksack sometimes was in the way. "Anybody who's carrying large, crew-served weapons would find this application useful—the mortar guys, who are carrying a base plate, the tube, the various rounds, etcetera. They could utilize a modular setup to support those unusual loads."

As Landry pointed out, the MOLLE's frame, made of injection-molded plastic originally used in automobile bumper technology, has already proved itself over 15 years in the field.

"Car bumpers have to survive that huge range of temperatures, extremely hot and extremely cold," said Landry, "and that made perfect sense to us."

To that sturdy frame, Landry added the adaptable panel.

"It's very basic load carriage capability," Landry said. "They still need to carry their basic, critical individual equipment. So we will provide a set of larger pouches, which will attach to the panel but still allow the larger items to be carried."

That includes water, which presented an early stumbling block for Landry, until he added a little something to the MBP.

"You've got a pocket inside here that's designed specifically for the hydration system," Landry said. "It's got a little bit of extra room, so you can actually put some smaller items—cold-weather clothing, wet-weather gear, ration components, things like that, down inside here."

Landry, a former 82nd Airborne Division pathfinder, can't wait to get the MBP into the hands of light infantrymen.

"That is my customer," Landry said. "It's the guy that's got to carry this on [his] back, and, obviously, light infantrymen are kind of the soul of that. That's where we get our best information on things like that, because they're out there carrying it. Let's see where we can make it fit, and let's see what improvements we need to make to it."

Landry and Hamlet will use the feedback from the infantry and others to refine the prototype's design.

"The great thing about this job is, every day is something different and you can always improve," Landry said. "Everything can get better, and we can do that here."

Army Developing New Fixed-Wing Aircraft

ARMY NEWS SERVICE (OCT. 1, 2012)
Kris Osborn

WASHINGTON—The Army is refining an initial capabilities document for a new fixed-wing utility aircraft that is designed to replace more than 112 airframes with a common platform. The new platform should be able to perform a range of key mission sets and services, officials said.

"We manage 73 different series of aircraft and more than 40 different designs," said Col. Brian Tachias, project manager, fixed-wing, Program Executive Office Aviation. "A common cockpit and platform will reduce the amount of resources needed to train pilots and sustain the aircraft. Moving to one common fleet will reduce the manpower needed and allow us to gain efficiencies by reducing the number of contracts."

PM Fixed-Wing, established in October of last year, was stood up to create a central hub to manage the Army's fleet of fixed-wing aircraft. As many as 37 different fixed-wing aircraft programs are now consolidated and centrally managed under the purview of the project office.

"Centrally managing Army fixed-wing aircraft will help to achieve improvements in safety, airworthiness certification, configuration management, and aircraft maintenance. We will also gain efficiencies by reducing the number of contracts where it makes sense," Tachias said.

The Army has a current fleet of approximately 377 fixed-wing aircraft spanning a range of functions. Plans to develop a new Fixed-Wing Utility Aircraft emerged out of a fleet-wide Army assessment of fixed-wing aircraft conducted by PM Fixed-Wing and the TRADOC Capability Manager-Lift, Tachias added.

"The Fixed-Wing Utility Aircraft initial capabilities document is now in staffing at the Pentagon," Tachias said. "Once this is finalized, we will start an analysis of alternatives. We are teaming with the Army's aviation schoolhouse and military intelligence schoolhouse to build one common aircraft able to perform a range of functions, such as [intelligence, surveillance, and reconnaissance], utility, and transport missions."

The analysis of alternatives will, among other things, examine the costs associated with sustaining older aircraft compared with buying new ones. The new utility aircraft program

This newly manufactured UV-18C for the U.S. Army's Golden Knights parachute team, will eventually be modified and painted with the Golden Knights paint scheme. The Army is refining an initial capabilities document for a new fixed-wing utility aircraft that is designed to replace more than 112 airframes with a common platform, which will reduce the amount of resources needed to train pilots and sustain the aircraft. U.S. Air Force photo

is designed to address obsolescence issues within the fleet and engineer a common platform for the future.

While specifics related to the acquisition of the new aircraft are still being evaluated, the initial notional plan is to begin procurement in the next program objective memorandum cycle, Tachias explained. With this in mind, the Army has stood up a special fixed-wing contracting division at Army Contracting Command, Redstone Arsenal, Ala., in order to consolidate contracts for fixed-wing programs.

Alongside the effort to build a new Fixed-Wing Utility Aircraft, PM Fixed-Wing will also manage a wide range of Army aircraft, such as the now-in-development Enhanced Medium Altitude Reconnaissance and Surveillance Systems, which are King Air 350 planes engineered with high-tech cameras, sensors, data link, and surveillance equipment able to gather and distribute key, combat-relevant information. Four EMARSS aircraft are slated to deploy to Afghanistan as part of a forward operational assessment.

In addition, PM Fixed-Wing is making progress to procure new UV-18C Twin Otter short takeoff and landing utility aircraft for the Army's prestigious Golden Knights Parachute Team.

PM Fixed-Wing is also teaming up with the Air Force in an effort to acquire four new T-6B Texan II aircraft designed for use in testing with the Army's Test and Evaluation Command. The aircraft will be T6 Hawker Beechcraft two-seater planes configured with mounted cameras and sensing devices designed to measure testing events.

"The Air Force has allowed us to participate in their ACAT 1C program. This is saving the Army money because a lot of their sustainment is already in place," Tachias explained.