

### DoD, Lockheed Martin Agree to More F-35s

AMERICAN FORCES PRESS SERVICE (NOV. 30, 2012)

Claudette Roulo

WASHINGTON—DoD and Lockheed Martin have reached an agreement in principle to manufacture 32 F-35 Lightning II joint strike fighter jets, Pentagon Press Secretary George E. Little said today.

The jets are part of Low-Rate Initial Production batch 5—the fifth production lot of the aircraft. Unit cost data will be made available once the contracts are finalized and signed, Little said.

“Production costs are decreasing and I appreciate everyone’s commitment to this important negotiation process,” said Navy Vice Adm. Dave Venlet, the F-35 program executive officer.

The agreement also covers the costs of manufacturing support equipment, flight test instrumentation, and additional mission equipment, he added.

“It was a tough negotiation,” Little said, “and we’re pleased that we’ve reached an agreement.”

According to a news release from the F-35 program office, Lockheed Martin will produce 22 F-35A conventional takeoff and landing variants for the Air Force, three F-35B short takeoff/vertical landing variants for the Marine Corps, and seven F-35C carrier variants for the Navy.

Aircraft production was started in December 2011 under a previously authorized undefinitized contract action, the release said. Undefinitized contract actions authorize contractors to begin work before reaching a final agreement on contract terms.

The agreement sets the program to move forward according to improved business timelines, Little said. “It’s good for all nations that are partnered with us in this important effort for our future national security.”

The United Kingdom, Italy, the Netherlands, Australia, Canada, Denmark, Norway, Turkey, Israel and Singapore are partners or participants in the aircraft’s development



#### U.S. Marine Corps JSF F-35B Lightning II

On March 7, 2011, the first F-35B Joint Strike Fighter test aircraft (BF-1) completed its 100th flight with BAE test pilot Peter Wilson at the controls. BF-1 flew in short take-off, vertical landing (STOVL) mode to continue expansion of the STOVL flight envelope to demonstrate design durability and in preparation for shipboard testing. The F-35B is the first JSF variant with two aircraft completing 100 flights and will be the first stealth fighter for the U.S. Marine Corps.

Photo courtesy Lockheed Martin.

program, and the Japanese government announced in December 2011 it will buy 42 of the fighters.

### **Official Explores Cost-saving Logistics Initiatives**

AMERICAN FORCES PRESS SERVICE (DEC. 3, 2012)

Amaani Lyle

WASHINGTON—A senior Defense Department official today underscored the importance of contractors, industry partnerships, and allies at a time of fewer federal dollars and amid a transition to a post-war era.

Gary J. Motsek, deputy assistant secretary of defense for program support, told the Defense Logistics 2012 conference that the post-Iraq and Afghanistan transition is leading the U.S. military to streamline efficiencies across the Services and focus on performance-based logistics improvements to meet unique, modern-day challenges.

"We have helped our combatant commanders ... make efficient use of our department's contributions, ... but we have to preserve our U.S. military forces for the highest priority mission," Motsek said.

Government, military, and defense contractors are attending the conference, which is being sponsored by defense-related industries. At today's session, Motsek cited the emergence of contractor solutions to logistics issues.

"Twenty-five years ago, if one of our combatant commanders required surgical capability downrange, ... we could send them a combat support hospital," he said, explaining that the Defense Department now enables commanders to subdivide and specify components of a hospital or a unit they need deployed.

"In Iraq today, there are no U.S. military hospitals, [and] there are no U.S. military hospital teams," he said, noting contractor support of what U.S. military still remain there, attached to the embassy.

Motsek also explained the significant role of international partners in seeking more efficient ways to build sustainment and deliver support and services downrange.

"Our partners look to us for that strategic movement, by and large. ... No one can do the sustainment of our forces better, and we've proven that over and over again," Motsek said. "We're examining commonalities of efficiencies and effectiveness to support and gain budget savings. We're developing Web-based programs where we and our allies can put up on a screen the holes that we see in our logistics

[and support] packages that may need filling and see how other nations can contribute."

NATO has made a seminal change by combining several agencies and developing a derivative of materiel commands and the defense logistics agency, Motsek noted, enabling the alliance to contract and send support staff to the field.

"More and more contracting support will be required in the future," he said. "There is value to consolidating contracts. I believe you're going to see more and more contracts that reduce redundancy and excess supply services."

Of the major lessons learned from the Iraq transition, flexibility is perhaps the most vital, Motsek said.

"We have to plan our contracting support and logistics base to support no wars or tens of thousands of troops," Mostek said, citing the need to optimize the contracts as missions dictate. "Everything is going to have to be synchronized far better than we have in the past," he said. "We don't have the luxury of analyzing, building some doctrine, testing the doctrine, and executing in the field."

Mostek touted the Better Buying Power initiative, designed by former Defense Secretary Robert M. Gates and Deputy Defense Secretary Ashton B. Carter. The program was introduced in September 2010 to deliver the capabilities needed for the money available by getting better buying power for warfighters and taxpayers. The 23-point strategy was designed to restore affordability in defense procurement and to improve defense industry productivity.

"Better Buying Power 2.0 establishes a paradigm where we can talk again," Motsek said. "We have had walls established between the contract community and the acquisition, logistics, and sustainment ... community that are extraordinarily high and extraordinarily thick."

Mostek said contracted players, playing themselves in joint exercises—as opposed to military members acting as surrogates—will be among the markers of success.

"We're in a transition today in Afghanistan, and we'll build ... a support structure as necessary ... with partners," Mostek said. "My job is to synchronize what the U.S. is doing with NATO [and] other allies."

He also noted the need to understand the costs of efficient logistics and avoid the knee-jerk reaction to simply increase funding. "Throwing money against the problem is not the

solution any more," Motsek said. "We have to be far more sophisticated."

### **Official Discusses Enhanced Sustainability, Cost Reduction**

AMERICAN FORCES PRESS SERVICE (DEC. 3, 2012)

Amaani Lyle

WASHINGTON—The assistant secretary of defense for maintenance and policy today outlined the issues and challenges facing the maintenance community with consideration to current conflicts and steep costs.

Speaking at the Defense Logistics 2012 conference, John B. Johns examined future maintenance, sustainment, and cost reduction goals and stressed the importance of prioritization with across-the-board spending cuts looming if a sequestration mechanism in the Budget Control Act takes effect in January.

"If sequestration does happen, there would have to be significant effort on prioritization, and [a] focus on providing the best value to the warfighter given the threat environment as assessed by the department," Johns said.

Because the Defense Department's materiel maintenance operations support a spectrum of weapon systems that includes about 280 ships, 14,000 aircraft, 800 strategic missiles, and 350,000 ground combat and tactical vehicles, the distribution of maintenance workloads between the public and private sectors is instrumental in maintaining a robust and viable industrial base, program officials said.

Johns also noted the maintenance and logistics community's need to understand and adjust as the U.S. military pivots its focus to the Asia-Pacific region. "The maintenance and logistics community's priorities need to follow the warfighting priorities," he said.

As the United States sharpens its focus on innovation in space and cyberspace, maintenance priorities also must encompass emerging technology, Johns said.

"A shift toward [intelligence, surveillance, and reconnaissance] any systems that require software and all of our programs, to include sustainment of those systems, needs to reflect that shifting priority," he said.

The conference, which runs through Dec. 5, is bringing government and military officials together with defense contractors, and is sponsored by defense-related industries.

### **Space Launch Vehicle Core Purchases Balance Needs with Lower Cost, Competition**

AIR FORCE NEWS SERVICE (DEC. 7, 2012)

WASHINGTON—Purchasing core elements used to launch 28 rockets into space for National Security Space (NSS) missions is the focus of negotiations between the Air Force and United Launch Alliance to establish a requirements contract, according to Defense Under Secretary Frank Kendall.

The plan is to procure 36 Evolved Expendable Launch Vehicle cores over a five-year period, beginning in Fiscal Year 2013, according to a memo from Kendall to Secretary of the Air Force Michael B. Donley. Kendall is the undersecretary for acquisition, technology and logistics (USD [AT&L]).

According to Donley, the purpose of the space launch acquisition is to balance operational needs with lowering launch costs and foster competition.

"Our fundamental priorities are to be good stewards of the American taxpayer and control cost growth through further competition," said Donley. "We will continue to work with potential new entrants as they progress toward certification, all the while maintaining mission assurance." Donley added that the Air Force will achieve these goals through launching national security satellites like GPS and other critical military missions.

A core is defined as the basic cylindrical unit of the rocket used to launch a payload into space. Some payloads require three cores combined together in a "heavy lift" configuration to reach the prescribed orbit. The 36 launch vehicle cores represent a total of 28 launches, including 24 single core launches and four requiring the "heavy lift" configuration.

This space launch acquisition approach is based on the United Launch Alliance response to the Air Force's March 2012 request for proposal, a new entrant independent assessment, and an assessment of space vehicle deliveries.

"We made an informed decision based on criteria to the Congress about a year ago," said Scott Correll, Air Force Program Executive for Space Launch. "This acquisition decision provides the best balance between operational requirements, budget, and enabling a competitive environment. It also allows us to reduce costs while maintaining our focus on the warfighter and delivering 100 percent mission success.

In addition, the USD (AT&L) agrees with the Air Force's approach to pursue competition for up to 14 missions as early as fiscal year 2015 with launches starting in fiscal year 2017.

A separate request for proposal will be released at a later date for these 14 competitive missions.

According to Air Force officials, the purpose of this space launch acquisition approach is to achieve a balance between meeting operational needs, lowering launch costs, and enabling competition for NSS missions a new entrant may have the capability to launch. If no certified competitor is viable at the time of need, these missions will be awarded to the incumbent under 'variation in quantity and configuration' provisions to be negotiated into a contract with United Launch Alliance.

### **More Effort Needed to Counter IEDs, General Says**

*AMERICAN FORCES PRESS SERVICE (DEC. 14, 2012)*

*Jim Garamone*

WASHINGTON—The Joint Improvised Explosive Device Defeat Organization has made progress against IEDs, "but it isn't enough," Army Lt. Gen. Michael D. Barbero told the Senate Foreign Relations Committee yesterday.

In Afghanistan, much of the fertilizer used in explosives comes from Pakistan; and Barbero, who directs JIEDDO, said he understands the importance of working with Pakistani officials.

"The U.S., led by the State Department, continues to seek a relationship with Pakistan that is constructive and advances both U.S. and Pakistani interests," the general told the Senate panel yesterday.

The importance of countering the threat posed by IEDs and of attacking threat networks cannot be overstated, Barbero said.

"Counter-IED is an area ripe for cooperation between the United States and Pakistan and I am also encouraged by the recent positive tone in our discussions with the government of Pakistan and the assurances from our Pakistani counterparts," he said.

But Barbero emphasized that Pakistan must do more. More than 60 percent of U.S. combat casualties in Afghanistan, both killed and wounded in action, are caused by IEDs. This year IEDs killed or wounded almost 1,900 Americans. Pakistanis have also suffered from these devices.

"It is in their interest to increase counter-IED cooperation with us and take effective actions against these networks," Barbero said.

Afghanistan has banned ammonium nitrate-based fertilizers. Yet these remain the main explosive used in IEDs. "Today more than 85 percent of the IEDs employed against coalition forces are homemade explosives," Barbero said. "And of those, about 70 percent are made with ammonium nitrate derived from the fertilizer calcium ammonium nitrate, referred to as CAN, a common agriculture fertilizer produced in and transited through Pakistan."

While the fertilizer is produced elsewhere, Pakistan is almost exclusively the source of the chemical compound used in IEDs, he said. Another chemical compound, potassium chlorate, is used in Pakistan's textile and matchstick industries, and is also being used to make IEDs in Afghanistan.

"In concert with our Pakistani partners, we must address the continued flow of ammonium nitrate-based fertilizers and other IED materials into Afghanistan," the general told senators.

Coalition and Afghan forces seized 30 tons of fertilizer in 2009, compared to 440 tons so far in 2012. "The high number of IED incidents and the growing seizure rates highlight the continued lack of effective measures to impede the supply of IED materials into Afghanistan from Pakistan," he said.

Barbero said he is working with the Pakistani fertilizer producer to counter the illicit use of the product as an explosive. The general said he is also working with U.S. and international fertilizer organizations to put controls in place on fertilizers.

"While international and U.S. professional fertilizer associations are receptive and actively addressing these issues, the producers within Pakistan have been less than cooperative," he said. "Despite making minor packaging, tracking, and marketing changes, they have not implemented any effective product security or stewardship efforts."

The Pakistani producers can and must do more, Barbero said.

"While the government of Pakistan has taken military actions to address the IED threat and go after these networks, these efforts remain focused on Pakistan's domestic threat and have had no measurable effect on the number of IED events in Afghanistan, on the flow of precursor materials smuggled across the border, or on the threat of networks operating in Pakistan who attack our troops in Afghanistan," the general said.

He emphasized that the U.S.-Pakistan dialogue has been improving, but more still must be done.

"We must move from discussing cooperation to actual cooperation," Barbero said, noting Pakistan has passed legislation, but has done little to implement the laws.

Military cooperation also remains stalled, Barbero told committee members.

"We must move beyond talking about cooperation to developing a comprehensive framework and then work together to address the shared problems," he said.

### Space Fence Program Moving Forward

66TH AIR BASE GROUP PUBLIC AFFAIRS (DEC. 20, 2012)

Patty Welsh

HANSCOM AIR FORCE BASE, Mass.—The Air Force Life Cycle Management Center here recently put out a request for proposal to move the Space Fence program forward.

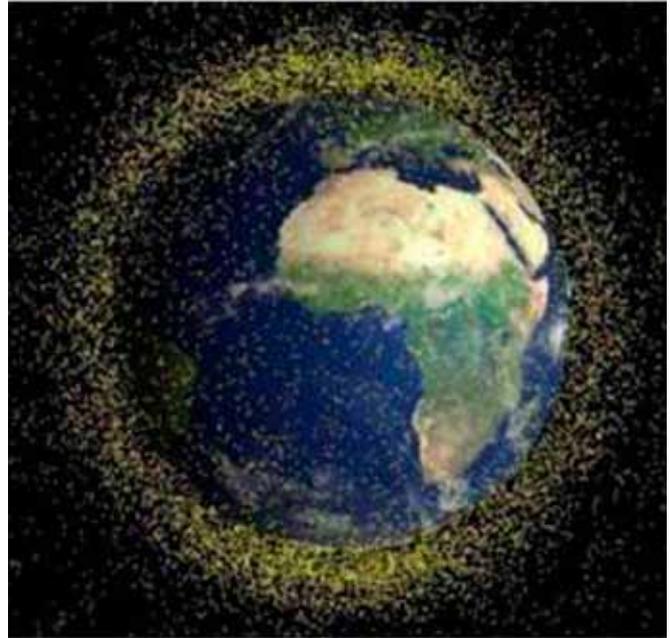
Space Fence will be a system of up to two land-based radars, the first site located at Kwajalein Atoll in the Marshall Islands, to track objects entering earth's orbit. According to program officials, it will form the foundation of improved space situational awareness by expanding the ability to detect, track, identify, and characterize orbiting objects such as commercial and military satellites, smaller objects, maneuvering satellites, break-up events, and lower inclination objects.

"Space situational awareness is a continual concern and challenge for U.S. and ally nations," said Ken Francois, Space Fence program manager. "The Space Fence program will increase the capability to provide predictability in reducing the chance of a collision or attack."

The RFP is for the final development and construction of the Space Fence Operations Center, Site 1, and an option for Site 2. It is a full and open competition that will conclude with a contract award, currently anticipated in spring 2013. The award will bring the program forward to final system development, fielding, and initial operational capability.

During a Defense Acquisition Board held in August, some changes were made to the program's acquisition strategy.

"The most significant change is that we are moving to an incremental approach. Increment 1 includes the Space Operations Center and Site 1 facilities construction and radar build," said Francois. "Increment 2 includes Site 2 and system integration. This approach maximizes our efficient use of resources and will allow us to reduce costs to the Defense Department and the Air Force, ultimately saving money for the taxpayer."



Graphic depicts resident space objects surrounding Earth. The Space Fence program will provide the ability to detect, track, identify and characterize orbiting objects.

Courtesy graphic

A lot of previous work got the program to this point.

In early 2011, awards were made to Lockheed Martin and Raytheon for an 18-month period of performance to develop preliminary system designs and prototypes and conduct radar performance analyses, evaluations, and other technical activities.

As part of that, two preliminary design reviews for the Space Fence program were completed with final events demonstrating working radar prototypes capable of detecting and tracking a resident space object.

"The PDRs were conducted through a series of four detailed incremental reviews, leading up to the two-day final events," said Francois. "This approach was used so the government could review various aspects of the designs over time and provide timely feedback on any issues."

The incremental reviews included overall system design and architecture, radar hardware and software configuration items, allocated baseline, logistics, facilities, test, modeling and simulation, along with the radar prototype demonstration. Following the reviews, the contractors worked on risk reduction activities and design maturation.

"All the work up to now and as we go forward is so we can ensure the mature technologies that are needed are available and to reduce risks associated with the program," said Francois.

Initial operational capability for Space Fence is anticipated in 2017, and full operational capability in 2020.

### **Obama Signs \$633 Billion Defense Authorization Act**

AMERICAN FORCES PRESS SERVICE (JAN. 3, 2013)

*Jim Garamone*

WASHINGTON—President Barack Obama signed the \$633 billion fiscal 2013 National Defense Authorization Act into law yesterday.

The legislation, which cleared Congress last month, authorizes the department to act in any number of instances. "There are certain things that cannot be done without [the authorization act]," said a senior defense official speaking on background.

The act allows the department to institute pay raises, bonuses, and incentive pay for personnel. "All military construction has to be authorized under this act," the official said.

It includes a 1.7 percent pay raise for military personnel, and contains \$527.5 billion for DoD's base budget, \$88.5 billion for overseas contingency operations, and \$17.8 billion for national security programs in the Energy Department and Defense Nuclear Facilities Safety Board.

It also extends the Commanders' Emergency Response Program that has been used in Afghanistan and Iraq. It authorizes a one-year extension of the Afghan Infrastructure Fund and extends the Coalition Support Fund and the Pakistan Counterinsurgency Fund. In Iraq, the law authorizes U.S. training activities, the official said.

The law also authorizes changes needed to deter sexual assault in the military.

In addition, it establishes the Military Compensation and Retirement Modernization Commission, which will examine all aspects of military compensation. Officials stress that any possible changes to military retirement benefits that the group recommends will not affect current service members. Air Force structure was of some concern to the department going into the process, but officials say they were pleased with the outcome. The Air Force also received 32 more C-130 aircraft than requested.

"But the Air Force is allowed to do everything else. They are allowed to do their divestitures and moves," the official said. "The only thing kept out of [the] Service's force structure plan was we had to keep the Global Hawk Block 30 [unmanned aircraft]."

The act raises the co-pay for medications under TRICARE through 2022. The legislation also limits any annual increases in pharmacy co-payments to increases in retiree cost of living adjustments.

"It is a little bit toward what we need to start paying for how much health care is costing," the official said.

The authorization also provides DoD funds for service-women who need abortions in case of rape or incest. "So they don't have to take leave and come home or go out on the economy," the official said. "This is the first time this has been approved."

Among other programs, the act authorizes the defense bio-fuel initiative as well as counternarcotic authorities. "We use this a little bit in Afghanistan, but it's mostly in the southern border and Colombia," she said. "It has to get done."

Passage of the legislation is particularly important this year because the department is operating on a continuing resolution through March, which may be continued again through the rest of the fiscal year. The resolution maintains funding at 2012 budget levels. Without this authority, "Things really do shut down," the official said.

"It actually is things that keep the war going and things that ... keep the economy going because it is pay, recruiting, military construction," the official said.

### **AF Opens New Nuclear Training Center**

90TH MISSILE WING PUBLIC AFFAIRS (JAN. 4, 2013)

*Air Force Staff Sgt. Torri Savarese*

F.E. WARREN AIR FORCE BASE, Wyo.—Almost 10 years of joint effort and cooperation culminated in a ribbon-cutting ceremony at the new Nuclear Security Tactics Training Center in Guernsey, Wyo., Dec. 13.

The \$4.2 million facility boasts 14,500 square feet of functional space for training classrooms and cadre offices, and has been something the leadership of the 20th Air Force has been hoping for since 2004.

"This facility has been a vision of Air Force nuclear leaders, as well as Wyoming state leaders, for years," said Maj. Gen. Michael J. Carey, 20th AF commander. "It was truly a joint

effort between the town of Guernsey, the state of Wyoming, and the Air Force to make that vision come to fruition.”

Carey was the keynote speaker for the ceremony, and shared the honor of cutting the ribbon with Maj. Gen. Luke Reiner, The Adjutant General of Wyoming, and Maj. Jay Parsons, 620th Ground Combat Training Squadron commander.

“The Air Force has always had a requirement to secure nuclear weapons, to ensure the safe and secure transport of these weapons, and to deny any unauthorized access to secure areas,” Carey said. “Camp Guernsey [Wyo.] is the only place in the world where this type of specialized training to prepare security forces airmen for that mission takes place. This facility gives us the necessary infrastructure for both cadre and students to participate in professional training for nuclear security.”

Carey expressed the importance of the 620th GCTS mission, both in training nuclear security forces airmen, and airmen who are preparing to deploy overseas for contingency operations.

“This allows more fielded forces to benefit from structured, focused training and further develop in-home squadron advanced training,” Carey said.

The new facility increases the training capability by four times what it was before, Carey added. Instead of only 100 students able to receive training at one time, now 400 are able to train at Guernsey.

“We work hand-in-hand with Guernsey and the surrounding communities,” Parsons said. “We do a lot for each other, and having that relationship helps us all get a lot of things done.”

He explained how the members of the 620th GCTS participate in everything local from parades to clean up to cattle branding.

“It really makes us a tighter group,” he said.

Dave Lycan, 620th GCTS deputy commander, who has been involved in the project since the beginning, cited how beneficial the increased space will be for the 620th GCTS, as well as incoming students.

“We’re not limited in class size, so we can have 150 students per classroom, allowing students to get all their classroom training before going out for the application piece,” he explained. “This increases throughput, as well as gives us more room for staff and cadre.”

The new facility adds to the existing 23,000 square-foot building the squadron inhabits on Camp Guernsey.

Carey, Parsons, and Lycan all stated how good it was to see the project all come together, and how it could not have been completed without the joint efforts of local, state, and Air Force leadership.

Along with his appreciation for the local community, Carey concluded his visit with a thank-you to the men and women who serve at Camp Guernsey every day.

“Thank you. I salute you, and I’m proud of you,” he said.

### **U.S. Pursues Better Ballistic Missile Defenses**

*AMERICAN FORCES PRESS SERVICE (JAN. 9, 2013)*

*Donna Miles*

PETERSON AIR FORCE BASE, Colo.—While refining the systems that protect the homeland against long-range ballistic missile attacks, the United States is advancing technologies to counter the growing threat of short- and medium-range missiles launched by rogue states or terrorists, a top U.S. Northern Command officer told American Forces Press Service.

North Korea’s successful long-range missile launch last month in violation of U.N. resolutions, and Iran’s reported testing of a new, mid-range surface-to-air missile last week represent two ends of the spectrum that U.S. missile defenses must be prepared to address, said Air Force Brig. Gen. Kenneth E. Todorov, Northcom’s deputy operations director.

Toward that end, Todorov said he envisions an integrated system capable of detecting and intercepting the full range of ballistic missile threats, conceivably within the decade. And ideally, he said it will dovetail with NATO’s European Phased Adaptive Approach Missile Defense System being phased in to counter short-, medium- and long-range missiles, primarily from the Middle East.

Almost since its inception more than a half-century ago, North American Aerospace Defense Command has focused primarily on long-range ballistic missile threats. However, in light of proliferation, and the willingness of bad actors to deliver sophisticated missile technology to countries or organizations hostile to the United States, it also recognizes the threat posed by shorter-range missiles, Todorov said.

NORAD commander Army Gen. Charles H. Jacoby Jr and his staff monitor the half-dozen space launches that take place around the globe every day and assess if any pose a threat to the U.S. or Canada. But because NORAD’s mission

is missile warning—not missile defense—Jacoby would act in his capacity as Northcom commander to authorize an engagement, Todorov explained.

“General Jacoby refers to this mission as part of the sacred trust he has with the American people,” Todorov said. “He, and we as a command, are responsible for defending the U.S. homeland against ballistic missile threats.”

That capability is delivered through the Ballistic Missile Defense System. Todorov described it as a “system of systems architecture” of networked space-based and terrestrial sensors able to detect and track missile threats to North America.

Currently arrayed toward both the Atlantic and Pacific, the deployed sensors are postured to identify inbound threats from either theater, he said. Based on well-rehearsed protocols, the system is designed to destroy threat missiles in space before they reach their intended targets.

Members of the Alaska National Guard’s 49th Missile Defense Battalion stand on 24/7 alert at Fort Greeley, Alaska, ready to launch the 26 ground-based interceptors there at a moment’s notice. Other members of the Colorado National Guard’s 100th Missile Defense Brigade maintain and man four additional interceptors at Vandenberg Air Force Base, Calif.

“These are 300 National Guardsmen defending 300 million citizens of the United States, Todorov said. “They are the no-kidding, 24/7 watch, watching for threats and waiting for them to come. And if they come, they are going to shoot them down.”

Jacoby said he’s confident in Northcom’s ability to leverage existing capabilities to defend the United States against limited long-range ballistic missile threats. But as these threats evolve, he said ballistic missile defenses must evolve, too.

That, Todorov said, requires building on existing ballistic missile defenses to keep a step ahead of potential adversaries. Much of the United States’ missile defense focus has been on the NATO system that will offer broad protection to Europe once it is fully deployed in 2020—and by extension, to the United States and Canada.

Meanwhile, Northcom is collaborating closely with the Missile Defense Agency to improve the capability of the Ground-based Midcourse Defense System, which is designed to defeat long-range ballistic missiles.

“We have focused very hard on improving GMD system capabilities since it became operational in 2006,” Todorov said. “But as we go forward as a command, one thing that we will change will be our emphasis and focus on short- and medium-range missile defense of the homeland.”

Instead of developing new independent systems to address these threats, Todorov said the better approach is to build on existing defense capabilities.

“Rather than looking at these systems independently—the GMD system to fight the long-range threat and another system that might fight the medium-range one and another that might fight the short range—let’s try to build them into an interconnecting group of systems that we can refer to as an integrated air and missile defense,” he said.

“The same sensors won’t be able to do it all,” he acknowledged. “But hopefully there will be some connects and shared data, with shared information and shared situational



Technicians prepare a ground based Interceptor for emplacement into Missile Field 2 at the Missile Defense Complex at Fort Greeley, Alaska, Feb. 25, 2012. U.S. Northern Command is collaborating closely with the Missile Defense Agency to improve the capability of systems designed to counter threats to the homeland.

Missile Defense Agency photo by Ralph Scott

awareness between the sensors. Each of those will help us tie the picture together.”

With work on this integrated system already under way, Todorov anticipates “cylinders of capability” that will be fielded as they are developed, probably within the next few years.

“Then as it develops and matures, I think we will start to knit the capabilities together to strengthen the numbers, if you will, and overlapping sensors from the short-range to the medium-range to the long-range,” he said.

Within the next 10 years, Todorov said he hopes to have an interconnected and overlapping system of systems that provides stronger, more reliable defenses than any individual systems could. “With the synergy among all of it, one plus one will equal three,” he said.

The success of that endeavor will be vital to the United States’ long-term security, he said.

“We can’t take anything for granted,” Todorov said. “There are adversaries out there and groups of people and nation states that would like to do us harm.”

The 9/11 Memorial outside the NORAD and Northcom headquarters, built of rubble from the World Trade Center in New York and the Pentagon and soil from the Shanksville, Pa., crash site, offers a daily reminder to workers here of the gravity of their homeland defense mission.

“I think it is our job, every day, to walk past that 9/11 Memorial as we come in here and think, ‘We are not going to let anybody do harm to us like they did on that day,’” Todorov said.

### **DoD Electric Vehicles Will Supply Power to Local Grids**

AMERICAN FORCES PRESS SERVICE (JAN. 10, 2013)

Nick Simeone

WASHINGTON—As the military continues to move away from dependence on fossil fuels, the Defense Department plans to spend \$20 million on a fleet of electric vehicles unique in their ability to export their own power and offset their cost.

Camron Gorguinpour, special assistant to the assistant secretary of the Air Force for installations, environment and logistics, said the department expects to lease as many as 500 electric vehicles at six different installations beginning later this year. All will be modified versions of electric vehicles

already on the market with costs ranging from \$30,000 to \$100,000.

“What we have identified is a path forward that will allow us to bring electric vehicles into our fleet that are less costly than conventional vehicles,” he said.

The Air Force has the lead on the project, which envisions Los Angeles Air Force Base becoming the first federal facility to replace everything from passenger sedans to shuttle buses with electric versions. “The three main criteria we’re focused on is reducing fleet expense, enhancing mission capabilities, and meeting our energy efficiency goals,” Gorguinpour added.

Manufacturers have been producing electric cars for years. But the department expects to use these idle, charged vehicles to resupply power grids at times of peak demand, thereby providing stability to stressed electrical grids and, in the process, generating a financial return for the government. “It’s about being able to deliver electricity on demand. It will be a sizable amount of power when all of the vehicles are aggregated together,” Gorguinpour said.

Concurrent Technologies Corp., which conducts scientific and technical projects for the government, is under contract to select the first noncombat vehicles for the electric fleet. Also required will be construction of charging stations to accommodate a fleet that could be deployed to up to 30 military installations.

### **Viability of Industrial Base Concern for Army Aviation**

ARMY NEWS SERVICE (JAN. 11, 2013)

C. Todd Lopez

WASHINGTON—With already declining budgets, a potential sequester later this year, and a difficult economy, sustaining the industrial base that provides the Army with aircraft and aviation logistics support is a complex problem.

One area of concern, for example, is with suppliers of critical aviation safety equipment. Suppliers of that type of equipment undergo extensive and expensive certification before being allowed to sell to the Army—so they are valuable partners to the Army aviation community, leaders said. They voiced concerns today during the Association of the U.S. Army’s Annual Aviation Symposium.

With a force drawdown coming in Afghanistan, there will be a lower operations tempo for the Army, and that means Army aviation will use less supplies than it had before. A stock supply of equipment and parts that during a high operations tempo might have lasted the Army only six months, might instead last two years during a period with a lower

operations tempo. That could mean problems for suppliers, said Maj. Gen. Lynn A. Collyar, U.S. Army Aviation and Missile Command.

"How do I keep the small manufacturer in business as I draw [on] that two years of stock? How do I draw that down and still buy enough from the manufacturers to keep them economically viable?" he said.

Collyar suggested that if the Army can show manufacturers what the force has in stock, and can also show usage rates, manufacturers might be better equipped to manage raw material purchases, for instance. That could lower operational costs for them, and in turn decrease what the Army must buy to keep a manufacturer viable.

"It really comes down to partnering," Collyar said.

Opening up military sales to foreign nations is also a possibility for helping ensure America's industrial base weathers tough economic times, said Maj. Gen. William T. Crosby, program executive office aviation.

While the general said there are some areas where technology transfer is a security issue, the U.S. does have good partnerships with both European and Pacific nations. In those places, foreign military sales can help sustain the industrial base back home while at the same time help the Army get even better equipment, he said.

"When we slow down production, to maintain and sustain that industrial base, it behooves us to help our original equipment manufacturers partner with those customers. And sometimes, by nature of when they come in to procure something, they can procure an upgrade we are unable to afford," Crosby said. "Not only does that keep the production line warm, it is then something that can flow over into our side."

Taking care of financial business in-house is also a priority for the Army aviation community. Collyar cited as an example of possible cost overages the number of T-700 engines now in depot repair.

Today, he said, the Army has about \$5 billion worth of those engines on operational aircraft—"on wings today," Collyar said. But another \$2.5 billion of those engines are in supply depots or maintenance depots or in transit—a significant dollar amount of engines that are not currently inside an operational aircraft.

"[Of] items getting back to depot for repair, about 50 percent of those that are received should never go back to that level. They should have been repaired forward," Collyar said. "If we fixed them in the right place, there's a significant savings to be had."

The general cited both shipping costs and administrative costs as two places where savings could be found if T-700 engines were being repaired at the lowest level possible.

New systems procurement is also an issue in an austere fiscal environment. Collyar said that an often-cited statistic is that 30 percent of the cost of a system is procurement, while 70 percent is sustainment through its life cycle. But that statistic is really for systems with an expected 20-year life cycle. But Collyar said many Army systems are actually 30-to-50-year systems now. As the Army has kept platforms longer, the percentage may change to 20/80 or 10/90.

With longer-term systems, Collyar said the Army must plan upfront, at procurement time, for systems that will last longer. The Army may have to spend a little more today and not take shortcuts in procurement, he said, to keep down the cost in the future of maintaining a system that may be in service for as much as half a century.

"Knowing that a platform is going to be there for 20 or 30 years, is that the same platform we need today that we are going to need 30 years from now?" he asked.

Planning will make it possible to have a basic platform be the same 30 years from now, but look and fly different, he said. The Army must plan at procurement time for long-term sustainment. One example, he said, is to ensure that systems built today are developed in a way that allows them to be upgraded in the future at lower cost. He also said condition-based maintenance will allow the Army to maintain systems for less money.

Crosby said that with systems in the Army today, ensuring future sustainment is a problem, in particular with "technology insertion," or keeping those systems technologically up-to-date into the future.

With systems like Chinook, Black Hawk, and Combat Shadow, for instance, he said sustainment is a challenge.

"The challenge we have is how do we keep those platforms viable ... so far as technology insertion," he said. "The platform is what we have, but how do we insert these new technologies?"



Maj. Gen. William T. Crosby, Program Executive Office Aviation, and Maj. Gen. Lynn A. Collyar, U.S. Army Aviation and Missile Command, discuss the status of Army aviation during the aviation symposium hosted by the Association of the United States Army, Jan. 11, 2013, at the National Harbor in Maryland, just outside of Washington, D.C.

U.S. Army photo

In particular, he cited sensors as an example of the kind of technology that will continue to evolve, and which must be continually added to systems as they reach maturity.

“We can’t continue to strap on tools,” he said. “We’ve got to find a way with these digitized platforms to integrate those systems and upgrade them without re-designing them.”

At the same time, Crosby said, the Army must be cognizant of weight when upgrading and integrating systems— weight, he said, decreases aircraft performance.

Crosby also addressed the Armed Aerial Scout program, acknowledging that industry is “chomping at the bit” for answers on how the program will move forward and an Armed Aerial Scout competition. But he cautioned that with budget constraints, Army leaders will need time to make the right call.

“The Army wants to make some tough decisions. It’s not as simple as do you do a competition. It’s not as simple as what the competition will be. There are so many aspects that have to go into that decision that our senior leaders are wrestling with,” he said. “It’s much bigger than Army aviation. They’re looking at the future of our Army. Let’s don’t

rush and compel and force people into a decision that we are going to have to change in six months or a year.”

### Ready, Set, Design—DARPA’s First FANG Challenge Begins Today

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY NEWS RELEASE (JAN. 14, 2013)

More than 700 participants are set to begin collaboration to design the mobility and drivetrain systems of a next-generation, amphibious infantry fighting vehicle

For the more than 700 registered competitors, the journey to winning DARPA’s first FANG Challenge begins today. After months of planning and organizing into more than 150 teams, participants from across the United States will begin collaborating on mobility and drivetrain subsystem designs for the Fast Adaptable Next-Generation Ground Vehicle (FANG). At the end of the competition, DARPA plans to award a \$1 million prize to the team whose design submission best achieves established requirements for performance, lead time, and cost using the META design tools and the VehicleFORGE collaboration environment. The winning team will also have its design constructed as an automotive test rig in the iFAB foundry.

In October, DARPA called upon innovators with expertise in designing and engineering of drivetrain and mobility systems to register for the first of three planned challenges. The FANG Challenges will tap expertise from both within and outside the traditional defense industry for fresh ideas while testing the VehicleFORGE platform along with specially developed META design tools and model libraries. The goal of the competition is to compress the design-to-production time of a complex defense system by up to a factor of five.

"Today's launch marks a significant milestone in exploring a radically novel collaborative approach to the military vehicle design-to-production process," said Army Lt. Col. Nathan Wiedenman, program manager in DARPA's Tactical Technology Office. "We have the potential to create a whole new engineering and system development process, disrupting the current approach to building not only military vehicles, but all forms of complex systems."

DARPA is expected to host a second FANG Challenge in early 2014, which will focus on chassis, structural and survivability subsystems, potentially culminating with another \$1 million prize. A third and final FANG Challenge, which would result in a full vehicle design, is anticipated in early 2015 with a \$2 million award.

New competitors may continue to register for DARPA's first FANG Challenge until April 1. For more information or to register, go to [vehicleforge.org](http://vehicleforge.org).

### **SecArmy McHugh Gains Hands-On Look at Rapid Equipping Force**

ARMY NEWS SERVICE (JAN. 17, 2013)

*Ali Sanders*

FORT BELVOIR, Va.—Secretary of the Army John McHugh spent the afternoon of Jan. 15, gaining a first-hand look at the latest and most innovative capabilities being placed into the hands of soldiers by the Army's Rapid Equipping Force, known as REF, at Fort Belvoir, Va.

"It impresses me every time I have an opportunity to see the novel solutions developed by our soldiers," said McHugh. "The REF is the tip of the spear for speed and innovation in that regard."

In a hangar beside the organization's headquarters building, REF Director Col. Peter A. Newell and his staff walked McHugh through a series of recent and game-changing technologies, ranging from tactical surveillance blimps to traumatic blast sensors. The systems, many of which spawned from the direct ideas and feedback of soldiers

themselves, are helping pave the way for a more agile and proactive Army.

"The soldier doesn't need someone to tell him the problem he's facing," Newell said. "He needs someone looking over his shoulder fixing it."

Based on soldier-defined priorities, the projects on hand during the visit included improvised explosive detection and reconnaissance in the form of multiple robots; ground-pressure machinery and rocket-launched exploding line charges; tactical ground vehicles for responsive maneuvering; and hand-held enemy visualization tools and sensors for understanding the effects of blasts on the human body and vehicle. A recent addition to REF's repertoire of life-saving soldier support is its Energy to the Tactical Edge, or E2E, suite of capabilities, which includes hybrid generators, soldier-worn universal battery chargers, and light-weight mobile solar panels for dismount operations.

"Every great idea we put into the fight demands power," said Bill Garland, REF's E2E effort lead. "So we asked the question, 'What can we do to reduce the energy burden placed on our warfighters?'"

Also during the systems tour, Steven Mapes, the product lead for Soldier Power at PEO Soldier, explained to McHugh a project born from a partnership with REF: the Soldier-Worn Integrated Power System. The system alleviates battery load and charging requirements for soldiers on dismount patrols. These cross-Army partnerships are the lynchpin of REF's success in fast-action support to ground troops.

"The REF doesn't do anything in a vacuum," Newell said. "It's our partnerships that make us who we are."

In a briefing following the tour of systems, Newell outlined his vision for REF's future, which included directly linking soldiers in the fight to the scientists, engineers, and innovators stateside to deliver solutions in real time. Part of that, he explained to the group, will mean making it easier for small business and individual inventors to work with the Department of Defense.

"There are so many great ideas floating around out there, but we don't hear them," Newell said. "We want to give [industry] an easy way to share ideas."

After gaining a full-immersion in the REF's current technologies and future ambitions, McHugh commended the REF and its people for the work done for soldiers every day.



Army Sgt. 1st Class Gary Wilson, Rapid Equipping Force current operations officer, briefs Secretary of the Army John McHugh on the capabilities of the Man Portable Line Charge, Jan. 15, 2013, at Fort Belvoir, Va. U.S. Army photo

"It's clear you make soldiers' lives safer, and there's no doubt that you have saved a lot of lives," McHugh said. "The challenge we all face now is how do we take what you've built, and ensure that this capability continues."

*For additional information about the Rapid Equipping Force, call REF Public Affairs Office at 703-704-9433.*