



HIGH MACH

Serving the World's Premier Flight Simulation Test Complex



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AEDC team providing essential support to engine test facilities

AEDC craft personnel perform maintenance on the C-Plant Turbine Chiller 3 (TC3) at the Aeropropulsion Systems Test Facility for test support of the C-2 engine test cell at Arnold Air Force Base. Chiller units like TC3 enable altitude testing in the C1 and C2 engine test cells. In addition to the crane and ironworker support from the AEDC Model and Machine Shop, those involved in completing the work include: outside machinists David Brooks, Steve Cowan and John Meeks and boilermakers Scott Murphy and Stevie Sullivan. In recent years, C-1 has principally tested F119 engines for the Lockheed Martin F-22A Raptor aircraft and F135 engines for the Lockheed Martin F-35 Lightning II aircraft. C-2 has tested various large turbofan engines such as the Trent 900 and GP7200 for the Airbus A380, the PW6000 for the Airbus A318, the Trent 1000 for the Boeing 787, the XF7-10 for the Japanese P-1 and the BR725 for the Gulfstream G650. (U.S. Air Force photo/Jacqueline Cowan)



Facility
Support
Services
Source
Selection
efforts begin



Col. Scott Cain

AEDC Commander, Col. Scott Cain recently provided an update on AEDC's Source Selection efforts to the entire workforce via email. Below is his message sent February 28.

Team AEDC,

On February 7, 2014, AEDC's new contract acquisition strategy was approved

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Groups and programs in place to ensure safety across Arnold

By Bradley Hicks
AEDC Public Affairs

Late last year, AEDC Commander Col. Scott Cain set a lofty yet critical goal for the upcoming 12 months. "Our ultimate goal in 2018 is zero Class A/B mishaps," Cain wrote in his Commander's 2018 Safety Guidance memorandum disseminated on Dec. 15, 2017. "Mishaps, at whatever level, reduce our capacity to conduct the mission, a mission which is crucial to continued U.S. aerospace dominance. A focus on our safety culture, which includes all Airmen, and embracing the AFSMS (Air Force Safety Management System) is how we will protect our precious resources and prevent mishaps in 2018."

AEDC Chief of Safety James Raabe said AEDC safety efforts are beginning to line up with Cain's December 2017 memorandum, in which the AEDC Commander announced that the AFSMS would be the AEDC safety focus for 2018 while providing expectations to AEDC to improve the overall safety culture in the areas of Policy and Leadership, Risk Management, Assurance, and Promotion and Education – the four pillars of the AFSMS.

"His expectations align with and are the foundation of the Air Force Safety Management System, which was designed to prevent mishaps," Raabe said.

There are groups and programs in place across Arnold Air Force Base help ensure Cain's goal is achieved.

"We must all be aware of our surroundings and address questionable procedures or hazards to the appropriate level of supervision/management," Raabe said. "Just because we've done it this way forever does not mean it is the right way. An effective safety program must have employee buy-in to effect culture change, and AEDC is improving via contractor safety programs such as these."

Just as their names imply, the Manufacturing Safety Leadership Council and the Base Operations Safety Leadership Team, or SLT, share the same goal of safety for base-wide operations, and these groups work to keep this aspect of the AEDC culture at the forefront.

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Arnold STEM Center passes 'fun in learning' to Hands-On Science Center

By Raquel March
AEDC Public Affairs

As the Arnold Air Force Base Science, Technology, Engineering and Mathematics Center closes, the Hands-On Science Center of Tullahoma picks up the baton. Through an Air Force partnership, learning tools and support will transfer to the HOSC, continuing STEM support to regional youth.

"For years the Arnold AFB STEM Program has been checking out our equipment to schools, STEM teams and individuals through our STEM Lending Library," said Jere Matty, Arnold AFB STEM Center coordinator. "This equipment [Arnold AFB STEM Program] will now be managed by the Hands-On Science Center who will continue to support local schools, STEM Teams and individuals who are interested in furthering their love of Science, Technology, Engineering and Math."

The budget for STEM outreach at Arnold AFB increased in fiscal year 2018 over what was received in fiscal year 2017, and by

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High school students design vehicles during the Arnold Air Force Base Student Design Competition Feb. 20 at the Hands-On Science Center. The SDC is an event that the HOSC supports in partnership with Arnold AFB and other local engineering societies and businesses. (Courtesy photo)

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HIGH MACH
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Air Force
Base



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Core Values

- Integrity first
- Service before self
- Excellence in all we do



Vision

"NAS will be integral to the success of AEDC, the U. S. Air Force's premier aerospace testing facilities, while applying the highest standards of ethics, innovation, safety, security, and quality to daily operations."

Values

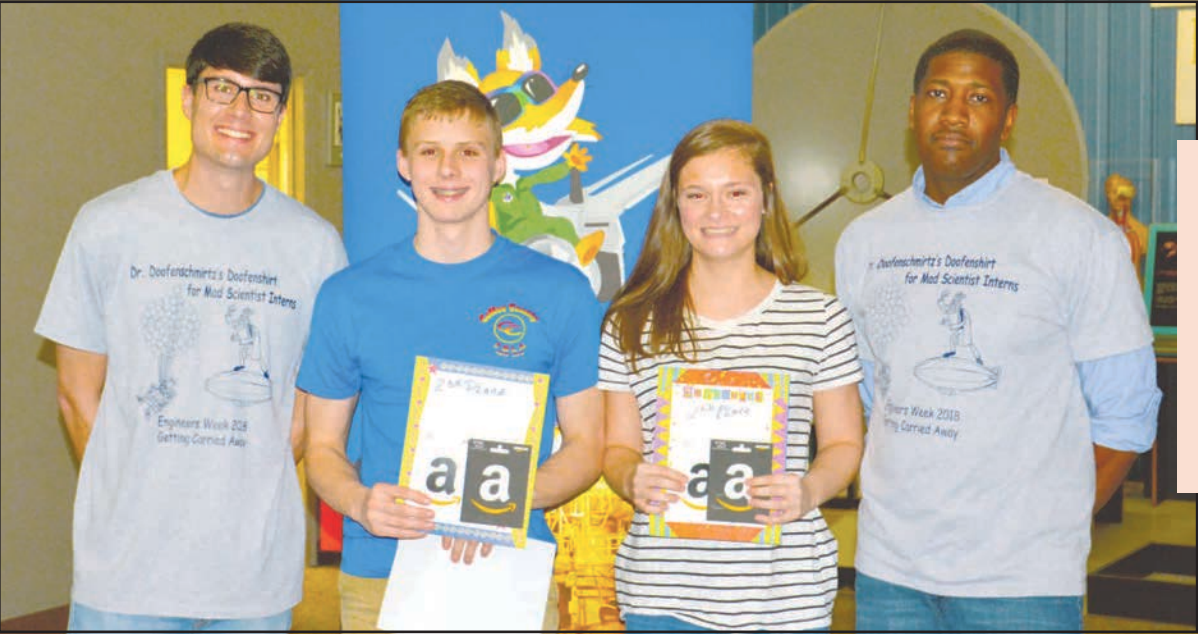
- Ethics. We are uncompromising in our integrity, honesty, and fairness.
- Safety & Health. We are relentless in keeping people safe from harm, and we provide a safe and healthy work environment.
- Security. We are disciplined and vigilant in protecting sensitive AEDC information and ensuring system integrity to support national security and our customers.
- Excellence. We thrive on challenge, accomplishment, and mission success.
- Quality. We are passionate about doing our work right the first time.
- People. We have a mission-focused, inclusive workforce who have a diverse skill set, are committed to success, demonstrate innovation and have a can do attitude.
- Culture. Our team is proud of our diversity, inclusiveness, and collaborative work environment. We are proud of what we do and how we do it.
- Relationships. We build positive, long-term business relationships through trust, respect, and collaboration.
- Innovation. We overcome challenges through creativity, perseverance, technology, and flexibility. We actively seek to continually improve.
- Sustainability. We plan and act for the long term benefit of our communities and our environment.

Arnold Engineers Week participants prepare for the future



Volunteer engineers organized events in recognition of National Engineers Week, Feb. 18-24, to help students prepare for future careers in engineering. During the Arnold Air Force Base Engineers Week Student Design Competition Feb. 20 at the Hands-On Science Center, Tullahoma, Alina Parks and Leanne Turpin, from Franklin County High School, maneuver a Blimpinator around obstacles to a predetermined destination while SDC referee Dr. Taylor Swanson observes. The team was able to maneuver with the best time and skill and won first place in the competition. Twenty-one, two-student teams were challenged to construct a vehicle, from provided scraps and materials, which would travel through the air while also moving around obstacles. Seven schools from four counties participated in the competition. (Courtesy photo)

Parks and Turpin from Franklin County High School took first place in the competition. Pictured from left is Arnold AFB engineer Rylan Cox, Parks, Turpin and Arnold engineer Jeremy Morris. (Courtesy photo)



Jack Beachboard and Chloe Spry from Coffee County Central High School win second place in the competition. Pictured from left is Arnold AFB engineer Rylan Cox, Beachboard, Spry and Arnold engineer Jeremy Morris. (Courtesy photo)

Kendall Purdom and Timothy Barlow from Community High School, Bedford County, take third place in the competition. Pictured from left is Arnold AFB engineer Rylan Cox, Purdom, Barlow and Arnold engineer Jeremy Morris. (Courtesy photo)



Smoking Policy

1. The following revised Arnold AFB smoking policy is effective immediately and applies to all individuals on Arnold AFB.
2. Traditional Tobacco products (e.g. cigars and cigarettes):
 - a. Smoking is permitted solely in Designated Tobacco Areas (DTAs) identified by designated signage. If no signage exists, smoking is not permitted in that area. It is the responsibility of all smokers to keep DTAs clean of cigarette butts.
 - b. Tobacco use on the Arnold AFB Golf Course is permitted, but discouraged based on the health hazards of tobacco use and secondhand smoke. No smoking is permitted within 50 feet of golf course buildings except in the approved DTA.
 - c. Smoking in government-owned/leased vehicles is strictly prohibited. Personnel are allowed to smoke in their personal vehicles at any time; however, at no time will personnel discard cigarette butts outside their vehicle.
 - d. For government employees, the fact that a person smokes has no bearing on the number of breaks they may take. Breaks should be taken in accordance with the current supervisory and personnel policies that afford all employees the same break opportunities consistent with good work practices and accomplishment of the mission.
3. Smokeless Tobacco products (e.g. snuff and dip):

Smokeless tobacco products are not to be restricted to DTAs. Smokeless tobacco use will be permitted in all workplace areas (inside and out) subject to reasonable safety and sanitary conditions. Specifically, containers of tobacco waste product, including sealed containers, must not be left unattended or disposed of in trash receptacles. Users of smokeless tobacco must flush tobacco waste down the toilet.
4. Electronic Cigarettes (also known as "e-cigs"):

Pursuant to Air Force Instruction (AFI) 40-102, Tobacco Free Living, e-cigs are considered to be equivalent to tobacco products; however, e-cigs are not restricted to DTAs and are allowed to be used outdoors at a minimum distance of 25 feet from building entry/egress points. (This policy is dated July 27, 2016)

Action Line

Team AEDC

I believe in free and open communications with our Team AEDC employees, and that's why we have the Action Line available. People can use the Action Line to clear up rumors, ask questions, suggest ideas on improvements, enter complaints or get other issues off their chests. They can access the Action Line via the AEDC intranet home page and by calling 454-6000.

Although the Action Line is always available, the best and fastest way to get things resolved is by using your chain of command or by contacting the organization directly involved. I encourage everyone to go that route first, then if the situation isn't made right, give us a chance.

Col. Scott Cain
AEDC Commander

Flight Systems CTF refocuses on safety and security during operations stand down

By Bradley Hicks
AEDC Public Affairs

Following what he described as a series of “significant events,” Flight Systems Combined Test Force Director Lt. Col. David Hoffman made the decision to stand down Flight Systems CTF operations.

In lieu of normal testing and maintenance operations on Feb. 5, Hoffman led several sessions at the Arnold Air Force Base Main Auditorium during which he emphasized the importance of safety and security to the CTF personnel and urged them to refocus on these priorities.

“There is nothing more important than our safety, so much so that we are not testing today on the base’s number one and number two priority tests,” Hoffman said to personnel during one of the morning sessions. “Our work is at the leading edge of a new type of warfare. This technological warfare starts here at Arnold. The test cells are

our flight line. It is here that we are working on programs that enable Secretary of Defense (Jim) Mattis’ DOD focus on ‘great power competition.’”

The decision to stand down operations and hold these discussions was predicated by recent security issues and what Hoffman described as a “near miss” safety event that occurred recently in Propulsion Wind Tunnel 16-foot Transonic Tunnel.

Hoffman said no one was injured in the safety-related incident, adding the event is under investigation. He said the event occurred because procedures were not followed.

“It created a situation where we could have hurt someone,” Hoffman said. “Thankfully, we didn’t. We didn’t damage anything, but that lack of adherence to the process is what concerns me.”

See FLIGHT, page 4



Flight Systems Combined Test Force Director Lt. Col. David Hoffman speaks with CTF personnel during a recent session to discuss safety and security issues. CTF operations were stood down on Feb. 5 for safety and security discussions. (U.S. Air Force photo/Bradley Hicks)

Drivers must follow AF requirements when operating a vehicle on Arnold AFB

By Deidre Ortiz
AEDC Public Affairs

Drivers are required to follow Air Force guidelines when operating a motor vehicle on Arnold Air Force Base.

Air Force Instruction 91-207 “implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs*, and the guidance portion of Department of Defense Instruction (DODI) 6055.04, *DoD Traffic Safety Program*. The Traffic Safety Program’s goal is to prevent or reduce the frequency and severity of vehicular mishaps involving Air Force (AF) and Air National Guard (ANG) personnel, equipment and operations. This instruction applies to all persons on Air Force installations, Air National Guard (ANG) installations, Air Force Reserve (USAFR) installations and AF-controlled installations, hereafter referred to as AF installations, and to all persons operating a motor vehicle conducting official duties off of an AF installation.”

Section 3.5 of AFI 91-207 focuses on Operator and Passenger Protection, and a main portion of this section outlines the requirements on seat belt safety.

David Dawkins, a Safety, Health and Environmental employee at Arnold AFB, explained similar to steel-toed shoes being mandatory when doing work in the industrial areas on base, seat belts are always a requirement when driving on the Complex.

“The Air Force guidance states that anyone operating or riding in a motor

vehicle on a military installation are required to use seat belts or the proper restraint systems,” he said. “If the vehicle we’re operating has seatbelts, we need to be using them and wearing them correctly.”

The only exceptions for seatbelts, from the information provided in AFI 91-207, section 3.5.1.1, are vehicles that are “not designated for seat belts such as buses, some off-road motor vehicles, combat/tactical vehicles not designed with belts or vehicles with a manufactured year of 1966 or earlier. Nothing in this section will require seat belt installation into these vehicles unless mandated by applicable host nation, state or territory laws. Occupants are required to wear seat belts if they have been installed in the vehicle.”

Therefore, it is the vehicle operator’s responsibility to ensure that passengers are wearing their seat belts and that children are in their safety seats or have the necessary personal protection equipment.

Another requirement outlined in the AFI is that cell phone usage is prohibited at any time while operating a motor vehicle.

Section 3.3.1 states, “Operators of motor vehicles on an AF installation will not use hand-held electronic devices unless the vehicle is safely parked. All drivers must comply with applicable federal, state, local and host nation laws that are more stringent than this guidance regarding distractions while driving (e.g. using cellular phones, text messaging).”



Cynthia Bevel, AEDC employee at Arnold Air Force Base, demonstrates seat-belt safety by buckling in before driving on base. As outlined in Air Force Instruction 91-207, it is mandatory for anyone driving on a military installation to be wearing his or her seatbelt. (U.S. Air Force photo/Deidre Ortiz)

According to Nick Edwards, AEDC Chief of Security Forces at Arnold AFB, following these requirements is important for everyone’s safety and not doing so can have unfortunate consequences.

“In addition to the obvious safety concerns regarding distractions while operating a vehicle, personnel should also be cognizant of ramifications stemming from failure to follow established prohibitions such as speeding, texting or using a handheld device while driving on a military installation,” Edwards said. “Military members could be in violation of Article 92, Uniformed Code of

Military Justice and violations by civilian employees could result in disciplinary actions including potential revocation of on-base driving privileges.

“If you must take a call, please use a hands free device or pull over and safely park your vehicle on the side of the road. Operating a motor vehicle is a huge responsibility that we must all take seriously.”

To view AFI 91-207 on The U.S. Air Force Traffic Safety Program in its entirety, visit <http://www.e-publishing.af.mil/> and view the Air Force publications under Safety.

Prescribed fire sustains Arnold land management goals

By Arnold AFB Natural Resources

Proper utilization of prescribed fire is both art and science, as it takes a combination of fuel conditions, weather conditions, smoke management, ignition techniques and timing to result in the appropriate fire intensity to accomplish site specific management goals.

All of the Arnold Air Force Base ecosystems, from forests to grasslands, are perpetuated by disturbance regimes. Disturbances can be natural or man-made, such as major storm events, fires, floods, timber harvesting, herbicide applications, insect infestations and natural mortality.

Prescribed fire is a tool used by land managers to accomplish a suite of management goals as efficiently as possible. Prescribed fire is by far the most cost effective tool at a land manager’s disposal, especially when compared to other management techniques such as bush-hogging, under-brushing woodlots or herbicide applications.

The base has three primary management goals for which prescribed fire is the best tool: manipulating structure type, competition control and fuels re-

duction. Arnold uses prescribed fire to improve, maintain, or sometimes, completely change the structure of a site. An example would be using fire to maintain grasslands that benefit grassland dependent wildlife, such as Henslow’s Sparrow.

The use of prescribed fire also promotes new growth by removing dead vegetation and suppressing woody species that would eventually grow into a forest in the absence of fire. The process is very useful for competition control on sites where the desired species is fire tolerant. It is used in the base pine plantations to control the encroachment of hardwood and other undesirable species. The loblolly pines, in the pine plantations at Arnold AFB, tolerate much higher fire intensity than the undesirable species. Fuels reduction is accomplished by periodically using a low intensity prescribed fire to consume dead fuels, such as leaves, broken branches, dead grasses and timber. Reducing fuels with prescribed fire does not kill the forest overstory, or larger and taller trees and decreases the chance of wildfire.

The majority of prescribed fire oper-



This prescribed fire shown at Arnold Air Force Base is a necessary process that promotes new growth by removing dead vegetation and suppressing woody species that would eventually grow into a forest in the absence of fire. (AEDC photo)

ations occur from March – May. During this timeframe both weather and fuel conditions are generally conducive to accomplishing prescribed fire management goals.

For more information contact the Arnold AFB Natural Resources Manager at 454-3230.



Team
AEDC
Spotlight

AEDC Turbines CTF engineer recognized for exemplary support during engine test

By Deidre Ortiz
AEDC Public Affairs

A Lead Operations Engineer of one of the AEDC jet engine test cells at Arnold Air Force Base is applauded for his support during the U.S. Air Force Research Laboratory’s Adaptive Engine Technology Development (AETD) core program.

According to Scott Grigsby, an Aeropropulsion test cell supervisor at Arnold Air Force Base, Ryan Allen’s “thoroughness and attention to detail” was on full display throughout the AETD Fan demonstration test, which was conducted at the AEDC J2 Engine Test Facility last summer.

As the J1 Lead Test Operations Engineer, Allen mentioned he’s responsible for leading the mechanical portion of the test team through all phases of the project.

“During testing, Test Operations Engineers safely lead and coordinate activities of the test cell, plant and test article to meet project objectives,” he said.

The AETD testing is unique in that military turbofan engines typically have two airstreams, one that passes through the core of the engine and another that bypasses

the core. The development of a third stream will provide an additional source of air flow to improve propulsive efficiency, lower fuel burn and provide additional cooling air, or to deliver additional air flow through the core for higher thrust. Having a third stream of air that can be modulated to adapt the engine’s performance across the flight envelope means a fighter can access an on-demand increase in thrust or smoothly shift to highly efficient operations during cruise, and the capability provides an ideal balance for combat scenarios requiring both high-end acceleration and increased range.

Of the test program Allen said, “The AETD core demonstration test is one of the most complex turbine engine tests ever performed at Arnold.”

Grigsby added, “With its multitude of unique support systems, the test required top-notch skills that Allen consistently demonstrates for safe, efficient and effective execution of all phases of the test program.”

He further mentioned Allen has gone above and beyond to ensure the success of the team on other projects as well.

“Allen provides solid leader-



Ryan Allen, at right, a lead test operations engineer, and Troy Stokes, lead outside machinist, set up a GN2 panel for system checkouts prior to a test in one of the jet engine test facilities at Arnold Air Force Base. In his position as operations engineer, Allen leads and coordinates activities of the test cell, plant and test article during a test. (U.S. Air Force photos/Deidre Ortiz)

ship, not only in his primary area of responsibility, but within his entire Jet and Turbines group, often providing mentoring for apprentice test operations engineers,” Grigsby said.

Allen came to work at AEDC after graduating with a bachelor’s

degree in mechanical engineering from Tennessee Technology University, and has been working on base for 13 years.

Aspects of his job he likes the most include “the unique and interesting work, working with great people and that we get to contrib-

ute to our national defense.”

Supporting several test projects over the years, he said there’s not one that stands out more than the others.

“Every project is different in some way, which makes them all enjoyable,” he said.

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Flight Systems CTF Test Operations and Sustainment Manager Jon Guertin also spoke to CTF personnel about the importance of safety. Guertin said while staying on

schedule with maintenance and testing is important, it does not supersede safety.

Guertin reminded personnel that they have the ability to slow down or stop a process if uncertain

or uncomfortable. The goal is not speed but rather compliance and excellence.

“If it can’t be done with speed because it compromises excellence and to-

morrow’s mission, then don’t do it with speed,” Geurtin said.

Guertin emphasized that staff should rely on best practices and procedures to avoid safety and security issues. When plans change, operations become more vulnerable to such issues. Personnel should also stop and reevaluate to ensure the correct processes are followed.

“We don’t have a mission unless you’re here tomorrow,” Geurtin said during the morning sessions.

Guertin encouraged personnel to stop and ask questions when unsure as a clear understanding of safety and security is vital. Along with stopping when unsure, another NAS Quality Absolute is Owning Your Signature. Guertin said employees should not sign off on work they are unsure of.

While Hoffman said there was not a specific security incident that led to security becoming a topic of focus during the Feb.

5 sessions, he said recent trends created concerns in that area and the need for a renewed focus on it.

Akima Facility Security Officer Tamalena Breiding talked about items not permitted in classified areas. These include cell phones, Fitbits, key fobs, smart watches, bluetooth devices, smart calculators, USB thumb drives, radio transmitters, AM/FM radios, personal audio/video players, and photography and recording equipment. Such items present a security risk if brought into classified areas and can be confiscated and searched if found to have been brought into classified areas. Breiding urged personnel to be cognizant of signage marking classified areas and also covered the AEDC’s camera pass policy.

Those who observe violations or potential violations have a responsibility to notify security officials. Breiding said “not reporting is not an option,” adding those who observe a violation but fail to notify

security staff run the risk of losing their own security clearance.

“If you see something that just doesn’t look right, report it,” Breiding said.

Deviations to security procedures are not common, Breiding said, adding any deviations are designated only for short periods of time and are approved on a case-by-case basis. Breiding also discussed the five security responsibilities. These are Awareness, Information Protection, Reporting, Compliance, and maintaining a positive attitude when it comes to security.

“If folks don’t have a positive attitude about security, things can slip through the cracks,” she said.

All CTF personnel were required to attend one of the three sessions held Feb. 5. Following the sessions, CTF staff took part in smaller group sessions conducted by supervisors.

“Standing down and taking the time to refocus is important to me,” Hoffman said.

Hoffman received the support of Base management and security officials, who quickly responded by helping him coordinate the sessions.

“There are many actions that were generated out of our dialogues today, and I am looking forward to working with the team to increase our safety and security while seeking efficiencies when able,” Hoffman wrote in an email to the CTF announcing the return to operations. “I know our team is stronger from having gone through this, and I am optimistic that by incorporating what we learned we may be able to avoid having to accomplish this again for the foreseeable future.”

First command-wide exercise of 2018 ends, identifies key lessons

By Air Force Materiel Command Public Affairs

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – Teamwork, the commitment of Airmen, and ongoing observations of command processes were among the highlights of the week-long exercise that concluded throughout Air Force Materiel Command Feb. 2.

“No exercise is perfect, but this exercise was the perfect opportunity for us to learn,” said Gen. Ellen M. Pawlikowski, AFMC commander.

The recent exercise was the first in a series of forthcoming AFMC-wide training scenarios. Each shares the goal of ensuring the command can execute its responsibilities in support of the Air Force mission to fly, fight and win in all operational situations. All eight of the

command’s installations, in addition to Headquarters AFMC, took part in the training.

Command officials identified three key takeaways from the week-long, AFMC-wide exercise that began Jan. 29. They include the following:

- Providing good lessons for the whole Air Force via the command’s support to installations, including personnel readiness, preparation for deployment, and uninterrupted operation of AFMC bases when large numbers of Airmen have deployed;
- Efficiently executing centers’ war-planning processes, demonstrated through enhanced aircraft availability and rapid development of



Airman 1st Class Jeremiah Harvey, 96th Security Forces Squadron, tightens his gas mask during a chemical, biological, radiological, nuclear and explosive training exercise at Eglin Air Force Base, Florida, Feb. 1. The Airmen were taught the proper procedures before executing the tactics by themselves during the command-wide exercise. (U.S. Air Force photo/Samuel King Jr.)

new and improved w a r f i g h t i n g capabilities; and,

- Organizations’ clearly defined ownership

of processes and understanding the command and control relationships within those processes.

The exercise broadly provided AFMC leaders with the ability to outline and define processes used to plan and manage the transition from peacetime weapon system support to those required to surge and maintain both contingency and wartime support levels.

“Ultimately, we are exercising to ensure we can perform our wartime responsibilities whenever and wherever we’re called upon to do so,” Pawlikowski said.

This focus on readiness aligns with the Sec-

retary of Defense and Air Force senior leadership’s No. 1 priority of restoring full-spectrum readiness.

In visiting different Wright-Patterson Air Force Base facilities as part of the exercise, Pawlikowski said that she witnessed first-hand the teamwork among Airmen – both civilian and military, whether junior or more seasoned – needed to get the job done.

“We have amazing Airmen. They were excited and energized, and it’s rewarding to see that,” she said. “This is exactly what makes our command so great. Our Airmen and this command are the engine that drives the entire Air Force.”

While the general monitored the exercise from Wright-Patterson AFB, AFMC Deputy Commander Maj. Gen. Warren Berry and AFMC Command Chief Jason France observed Airmen’s participation at other AFMC installations.

“Our Airmen were excited, committed and asking when they can do this again,” Berry said. “They had such great enthusiasm. We’re extremely proud of each and offer them a huge ‘thanks’ for their great attitude.”

France said that Airmen’s participation in the training showcased great ideas and demonstrated their “adaptive leadership.”



Gen. Ellen M. Pawlikowski, Air Force Materiel Command commander, discusses job responsibilities with Capt. Paul Merrill and Matthew Decker, 375th Operations Group instructors and examiners, during her tour of the U.S. Air Force School of Aerospace Medicine at Wright-Patterson Air Force Base, Ohio, Jan. 30. The general’s tour of the facility took place as part of a week-long, command-wide exercise that began Jan. 29. The 711th Human Performance Wing USAFSAM, is responsible for expeditionary training to flight nurses, aeromedical evacuation technicians, and Critical Care Air Transport Team military members. (U.S. Air Force photo/AI Bright)

SOURCE from page 1

and resulted in six contracted efforts. The Facility Support Services (FSS) contract is one of the six contracted efforts implemented in support of this strategy. The FSS contract performance began on December 1, 2015, and if all option years are exercised, will end November 30, 2019. Due to the time it takes to perform a service acquisition of this size, I have asked the source selection office to begin the acquisition process to ensure there are no interruptions in FSS services after the current contract ends.

This week, a Sources Sought Synopsis will be posted on FedBizOps to alert industry of our intentions to acquire the follow-on FSS contract to begin performance on December 1, 2019. This contract will likely include the same services provided today except for janitorial, refuse collection, and grounds maintenance (Big 3). These services will be provided by the AbilityOne Program.

The AbilityOne Program was established by the Javits-Wagner-O’Day Act to help people with disabilities find employment. Information on the AbilityOne Program is available on the website <http://www.abilityone.gov/>. The AbilityOne

process is administered by SourceAmerica (<https://www.sourceamerica.org/>).

On April 24, 2014, SourceAmerica selected CW Resources as the contractor for the Big 3 services. CW Resources is a non-profit agency whose goal is to provide employment opportunities to disabled individuals. The agency, which began in 1956, has a long tenure within the government for a variety of services and has experience transitioning to new contracts. Among CW Resources’ customer base are Shaw Air Force Base, South Carolina, the U.S. Coast Guard Academy, Fort Hood Army Base,

Texas, the Mark Center in Alexandria, Virginia, and many others throughout the government and private sectors. More information can be found at www.cwresources.org.

I realize that contract changes have significant impacts to our workforce. I will be providing updates during this process to ensure you are kept well informed along the way.

The Air Force’s partnership with our contracted workforce is vitally important to accomplishing AEDC’s mission. Thank you all for your dedication and commitment.

Col. Scott Cain

SAFETY *from page 1*

The MSLC is a group comprised of representatives from all shops and groups within the NAS Manufacturing Group. The purpose of the MSLC is to provide craft employees with a proactive opportunity to actively engage in safety improvement initiatives, according to former NAS Manufacturing Group Manager and current Acquisitions Functional Manager Mike Ramsey.

“The vision of these teams is to promote and maintain a safety relationship between management and employees while building on the foundation of the NAS safety program,” Ramsey said.

MSLC membership consists of at least one craft employee from each shop/craft area, the group manager, at least one planner/scheduler, one salaried/NES representative, and the assigned Safety, Health and Environment representative. There are 15 members on the team.

Over the past year, the MSLC has identified 231 safety issues related to Manufacturing Group work and work areas. Of these, 179 issues have been closed or resolved. Ramsey said the majority of the identified issues were discovered during a “Hazard Hunt” competition between the various shops and work areas. This hunt began in January 2017 and occurred during a one-hour safety stand-down, during which craft and administrative team members worked together to examine their work areas for hazards. Points were awarded for the highest number of hazards identified, the most hazards corrected during the hunt, the most serious hazard discovered, the most ideas generated to improve safety, and the area inspected with the fewest unsafe findings.

“Significant improvements in work areas, equipment and processes have been made from these efforts,” Ramsey said.

Ronald Skipworth, base operations director and a management member of the Base Operations SLT, said the purpose of the SLT is to get members from each crew meeting to discuss safety issues and concerns and to take back information to their crews. The group covers the facilities and utilities areas across AEDC.

“The SLT is able to reach a much larger percentage

of the employees and resolve issues at the lowest level,” Skipworth said.

The SLT is led by Union employees and management from each area who attend the meetings, which are conducted twice per month, to support the teams’ efforts. The current SLT is a combination of AEDC Test Operations and Sustainment contract personnel including NAS employees, Chugach personnel and, at times, those from nLogic. The team members serve for a period of time before rotating off, giving others a chance to be involved.

The Base Operations team was originally established at Arnold Air Force Base under a previous contractor, and the current incarnation of the SLT was established in August 2016 after the TOS contract transition.

“In the Base Operations area, some of the Union employees brought the idea to management and everyone agreed it would be a great way to improve our safety culture,” Skipworth said.

Since August 2016, the Base Operations SLT has tracked 45 safety items and closed out 21. Seven of these items have been moved to long-term funding status.

The first meeting of the SLT each month focuses on the NAS monthly Safety Campaign topic.

“We have completed safety audits or had a subject matter expert present on the monthly topic,” Skipworth said.

Akima Support Operations, AECOM and Protective Solutions Incorporated – the three subcontractors that make up Facility Support Services (FSS) – also have a team devoted to ensuring the safety of FSS personnel.

This group, the ASO Contract Safety Council, is comprised of employees and managers from each of the three FSS subcontractors. The group meets every other month to work together on safety, and the meetings typically average around 20 attendees.

“It’s been a really well-attended group,” said Daryle Lopes, AECOM site manager for the FSS contract and Arnold Fire & Emergency Services chief.

The Contract Safety Council is guided by the Safety

Program Management Plan, which is a written safety program developed with input from the three FSS subcontractors to produce solid safety performance.

Included within this overarching plan are the Life-Preserving Principles, a set of nine ideals based on an AECOM program. The principles include preplanning, the encouragement of employee participation in safety, and a demonstration among FSS management to take the lead on safety. Lopes said FSS management has adhered to the latter principle as five FSS supervisors in 2017 were certified through the Board of Certified Safety Professionals as Safety Trained Supervisors. To earn this certification, supervisors must demonstrate an ability to work with safety personnel, complete 30 hours of documented training and complete a test administered by the Board of Certified Safety Professionals.

“It proves we have the background to manage our safety programs and really lead them well,” he said of the certification.

Another key to safety within the FSS is observation. Personnel are encouraged to say something if they see something out of place. Lopes said this allows for the identification of safety issues and quicker resolutions.

“We have a few different programs that are working out for us,” Lopes said.

The efforts to emphasize safety among FSS is paying off in the mission, Lopes said. He said a safer environment leads to work getting done without the cost of missed time due to injury. FSS had only a single recordable injury during the 2017 calendar year.

The subcontractors within FSS not only work together on safety, but FSS also works with NAS Safety, Health and Environmental officials to coordinate SHE standards and to resolve any issues that may arise.

Lopes added he is encouraged by the efforts of contractors across Arnold for the emphasis they have placed on safety through their programs and groups.

“All the contractors, employees and managers, have done a great job of making safety personal and staying involved in it,” he said.

STEM *from page 1*

consolidating the Air Force program with the HOSC in March, the program administrators will be able to leverage resources to reach a greater number of students, teachers and schools.

The HOSC is expected to receive a Discovery Dome for viewing planet and star constellations, wind tunnels, a vacuum bell jar, 3D printer, rocket launchers, robot kits and many other items.

The Arnold STEM center is known for supporting STEM events and the local school teams who participate.

“STEM teams and activities will also continue to be supported to include the *FIRST*® *LEGO*® Robotics Program, CyberPatriots, StellarXplorers, STEM Aviation, Civil Air Patrol Glider Academy, NASA Human Exploration Rover Challenge, MathCounts® and others.”

Accessing the equipment is expected to be an easier process, according to Matty.

“I believe that the ease of access afforded by the Hands-On Science Center being located off base will increase the number of students and STEM teams that can be supported,” he said. “The Arnold AFB STEM program will also have the ability to support the large number of stu-

dents and teachers that regularly visit the HOSC and make use of the wide variety of STEM equipment that the Air Force can provide. We are planning the transition such that the STEM Programs and teams supported by the Arnold AFB STEM Program will continue uninterrupted.

“The professionals at the Hands-On Science Center are very enthusiastic in their support of STEM, and we believe this partnership with the Air Force will greatly increase the quality and number of students and teachers involved in both programs for years to come.”

The non-profit HOSC serves 11 counties in the Middle Tennessee area according to the Center website.

“The number of students that get to participate in STEM activities will be greatly increased,” said Deb Wimberley, the HOSC executive director. “We host field trips and after-school programs for many schools, and these students will get a chance to see new demonstrations and participate in STEM programming here at the Hands-On Science Center.”

Beverly Lee, a member of the HOSC Board of Directors, shared similar thoughts as Wimberley.



Four *FIRST*® Tech Challenge Teams sponsored by the Arnold Air Force Base STEM Program scrimmage with the robots they’ve programmed to compete at the high school level at the *FIRST*® *LEGO*® League (FLL) Qualifying Tournament in December 2017 at Coffee County Raider Academy, Manchester. The Hands-On Science Center of Tullahoma will begin managing the Air Force STEM Program in March. (Courtesy photo)

“With new exhibits, programs, and the network of educators familiar with the STEM resources Mr. Matty has showcased over the years, the Center should see a dramatic increase in field trips, STEM nights, and programs in robotics, math, rocketry and aerospace engineering,” Lee said. “Our families will have state-of-the-art STEM learning opportunities, camps, experiments and special events, available locally without having to travel to Nashville.”

Arnold AFB STEM teams received volunteer assistance in technical subjects which will be continued through the HOSC.

“Over 22 years ago, the engineers and scientists at AEDC [Arnold AFB], UTSI and community helped build the Hands-On Science Center,” Lee said. “The Cen-

ter relies on these volunteers with their incredible technical expertise to teach, manage programs, build exhibits and share their love of science. With our volunteers, the incredible STEM resources, and a closer collaboration with the Air Force, the Hands-On Science Center will serve as a premier STEM center in Middle Tennessee. The Hands-On Science Center volunteers can now take a basic concept, teach and mentor youth, and discuss college and career opportunities with the technology resources right in their hands igniting that spark of possibilities and making this world a better place.”

To volunteer or for more information about Air Force STEM program at the HOSC, call (931) 455-8387 or email hosc@lighttube.net; or visit the website at www.hosc.org.



Jere Matty (far right), Arnold Air Force Base Science, Technology, Engineering and Mathematics Center coordinator, records history with Bel Aire Elementary School in Tullahoma by taking a photo after speaking to the group about planets and stars using the Discovery Dome. The Discovery Dome is one of the learning tools that will be transferred to the Hands-on Science Center in Tullahoma through and Air Force STEM Program partnership. (Courtesy photo)

Air Force demonstrating hydrogen as alternate fuel source

By J. Brian Garmon
AFIMSC Public Affairs

TYNDALL AIR FORCE BASE, Fla. (AFNS) – The U.S. Air Force is demonstrating hydrogen as an alternate fuel source at Joint Base Pearl Harbor-Hickam, Hawaii.

In a recent visit to JB Pearl Harbor-Hickam, members of the Air Force Civil Engineer Center’s Energy and Operations directorates were given a tour of the installation’s hydrogen production facility and shown several of the vehicles that use this alternative fuel. This project, with assets housed at the 647th Logistics Readiness Squadron and with the Hawaii Air National Guard, is part of a cooperative agreement between the Air Force Research Laboratory and the Hawaii Center for Advanced Transportation Technologies. This state organization supports the Hawaii ANG, the National Guard Bureau, and the U.S. Air Force. It is tasked to demonstrate hydrogen technology and its potential applications within the Defense Department.

In areas like Hawaii, where renewable energy resources account for a large portion of the grid’s total electrical capacity, intermittent renewable energy resources, such as wind and solar, become less desirable. Continual sources of renewable energy, such as hydrogen, become an important focus in the shift towards cleaner, cost-effective energy. This is due to the need for a consistent supply of power to meet electrical load demands.

This hydrogen project has been in place for over a decade, originally installed in 2006 as a mobile hydrogen production, compression, storage, and dispensing unit, and was upgraded in 2010. Both systems were set up to support all DOD hydrogen vehicle testing, to include both hydrogen internal combustion and fuel cell vehicles. Some of the hydrogen vehicles currently supported by



This 25 passenger crew bus is one of the vehicles powered by a hydrogen fuel cell used at Joint Base Pearl Harbor-Hickam in a demonstration of hydrogen as an alternative fuel source. (U.S. Air Force photo/J. Brian Garmon)

this station include a 25 passenger crew bus, a MJ-1E fighter weapons loader and a U-30 heavy aircraft tug.

“HCATT’s partnership with AFRL, AFCEC, NGB, HANG, and the invaluable support from Hawaii Senator Brian Schatz, are key to the program’s success in demonstrating the versatility of hydrogen fuel cell vehicles within DoD,” said Stan Osserman, HCATT director. “These proofs of concept not only provide alternate vehicle choices for the Air Force’s flight line of the future, but also will help the state of Hawaii in its effort to increase hydrogen usage across the islands.”

This project not only supports the Air Force’s goal of increasing its renewable energy usage, but also aligns with the Hawaii Clean Energy Initiative, launched originally in 2008. HCEI seeks to achieve the nation’s first 100 percent renewable portfolio standards by 2045

and to reduce petroleum use in Hawaii’s transportation sector.

“AFCEC is extremely interested in developments in clean and efficient energy production and storage that may enhance energy resilience for critical Air Force missions,” said Mike Rits, AFCEC subject matter expert on renewable energy and energy resilience. “Efforts to test and expand that portfolio, such as this one, help the Air Force make the most lifecycle cost-effective decisions toward that end.”

In a hydrogen electrolysis unit, water is separated into hydrogen and oxygen using electricity. This hydrogen is collected, compressed and stored for fuel while the oxygen is either released into the air or can be collected and used in other applications. In many cases, excess electricity created during peak production by other renewable sources, such as

wind and solar, can be used in this process to reduce cost and provide nearly emission-free fuel for the fuel cells.

The collected hydrogen can then be used in hydrogen fuel cells to create electricity as needed. The hydrogen enters the fuel cell, where it has its electrons stripped by a chemical reaction. These electrons then travel through the circuit in the form of electricity and finally return to the cell, where they combine with oxygen entering from the air and the hydrogen ions created from the initial reaction. The only byproduct of this reaction is water, which then drains from the cell.

“Hydrogen fuel cell use is growing exponentially worldwide in the private sector,” added Osserman. “The DOD could benefit, on many different levels, by embracing the adaptability and scalability of hydrogen and fuel cell systems.”

Dover AFB partners with AFRL to innovate in fuel efficiency

By Roland Balik
436th Airlift Wing Public Affairs

DOVER AIR FORCE BASE, Del. (AFNS) – As Air Mobility Command focuses on the innovations necessary to maintain the Air Force’s competitive advantage, Mobility Airmen provided insight to help the Air Force improve C-17 Globemaster III capabilities and save money in the future.

The Air Force Research Laboratory’s Advanced Power Technology Office from Wright-Patterson Air Force Base, Ohio, collaborated with Dover AFB Airmen and private companies on programs to make the entire C-17 Globemaster III fleet lighter, safer and more fuel efficient Jan. 30, 2018.

Three programs currently being developed by APTO to improve the C-17 fleet include the installation of Microvanes, the use of synthetic tie-downs instead of cargo chains and the use of winch cables instead of steel cables.

In September 2017, APTO showcased three ongoing programs using a C-17 set up by 736th Aircraft Maintenance Squadron personnel to Roberto Guerrero, deputy assistant secretary of the Air Force for operational energy.

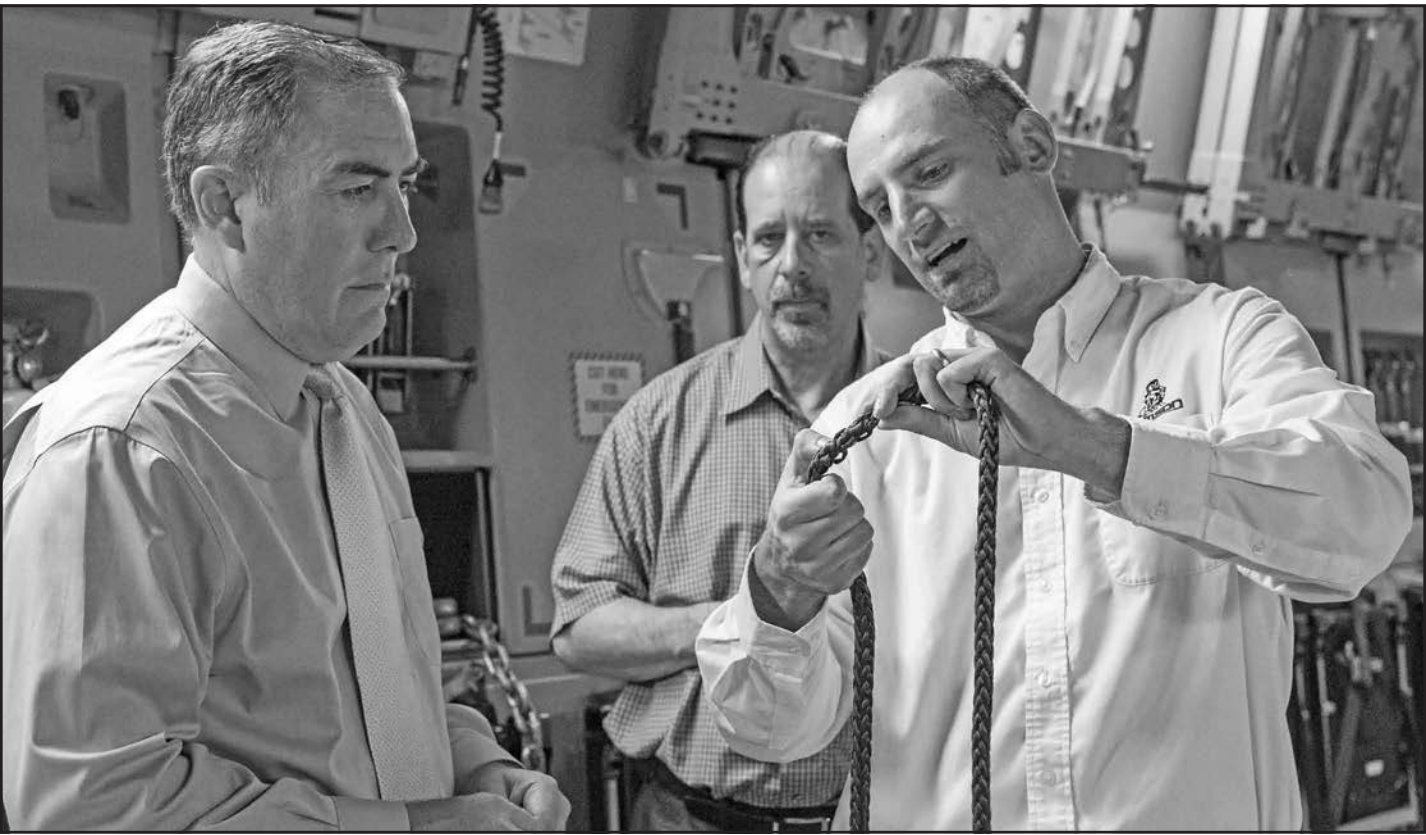
“We visited Dover (AFB) late last year (2017) to do some demonstrations, and we received useful feedback from the local crew for redesigning our system. We wanted to come back to see how they liked the changes and get more feedback from them” said Justin Smoak, Samson Rope application engineering manager, from Ferndale, Washington.

Microvanes

The nylon Microvanes being tested are filled with 3D printed glass beads. Each Microvane is 2.4 inches tall and 16 inches in length. The addition of Microvanes to the C-17s are an effort contracted with Lockheed Martin to reduce drag and fuel consumption that is currently being considered for transition by AMC.

Using a Mylar template, 736th AMXS maintenance personnel installed 12 Microvanes, six on each side at the rear of a C-17 fuselage that gave Guerrero a first-hand look.

“Microvanes essentially clean up the airflow in the region of the cargo door by



Justin Smoak, Samson Rope application engineering manager, right, shows Roberto Guerrero, deputy assistant secretary of the Air Force for operational energy, left, and Ed Clark, AFRL aircraft programs support contractor with Concurrent Technologies Corporation, the weaving of the synthetic winch cable, Sept. 6, 2017, at Dover Air Force Base, Del. The proposed 280-foot synthetic winch cable weighs 14 pounds and is 83 percent lighter than the current 80-pound steel wire cable. (U.S. Air Force photo/Roland Balik)

re-energizing the air with small vortices that delay separation, smooth the flow, and reduce drag,” said Capt. Randall Hodkin, AFRL Advanced Power Technology Office aviation working group lead. “Historically, cargo aircraft have airflow issues in the aft region of the airframe due to the required upsweep of the fuselage to integrate a cargo ramp.”

According to Hodkin, if all 222 Air Force C-17s had Microvanes installed, fuel savings per year could range up to 2 million gallons, equating to five to seven million dollars depending on fuel prices and mission.

“With support from Dover AFB, we were able to validate that the tooling developed as part of the AFRL program can position C-17 Microvanes in the correct location to achieve the expected 1 percent fuel savings,” said Hodkin.

C-17 Microvane flight testing was conducted by the 412th Test Wing at Edwards AFB, California, between August and December 2016. This valuable flight test program was able to validate that Microvanes reduce drag by 1 percent when

in cruise. In addition, the Edwards AFB flight tests also included several test scenarios to validate that Microvanes do not affect the critical C-17 air drop mission capability.

Synthetic Tie-downs and Winch Cables

In addition to installing the Microvanes, the team also tested synthetic tie-downs and winch cables. Tie-downs are ropes, cords, straps or chains that secure items during airlift operations. Winch cables help adjust the tension on tie-downs, securing the load.

AFRL, Hodkin, Samson Rope application engineers, along with an AMC subject matter expert, also returned to Dover AFB at the end of January to demonstrate fit-for purpose synthetic tie-down assemblies and a custom engineered winch cable. These solutions were developed after feedback from an operational evaluation at Charleston AFB in 2016 and the previous demonstration at Dover AFB.

“For the winch cable, safety is definite-

ly paramount,” said Senior Master Sgt. Jeff Witherly, Headquarters, AMC C-17 evaluator loadmaster, from Scott AFB, Illinois. “The steel cable we currently have could possibly snap and whiplash, whereas the new synthetic cable fails in a more predictable and controlled manner.”

The proposed use of the 280-foot synthetic winch cable weighing 14 pounds is 83 percent lighter than the current 80-pound steel wire cable.

Loadmasters from the 3rd Airlift Squadron also helped Witherly, Hodkin, and Samson Rope application engineers with concerns regarding how the synthetic chain would fit in a slotted interface designed for steel chains on the buffer stop assembly, a device used during specific airdrop missions to keep pallets from shifting forward in the cargo compartment.

“We received excellent feedback on the final version of the synthetic tie-downs even though they did not interface as nicely with the BSA grooves as we’d

Arnold welcomes local students to Engineer for a Day



Engineer for a Day students get an overview of turbine engine test operations from AEDC engineer Melissa Tate while touring Arnold Air Force Base. The Feb. 21 tour was part of the Arnold Air Force Base Engineers Week. (U.S. Air Force photos/Rick Goodfriend)

AEDC engineer Tom Hartvigsen (background left) answers students questions during a tour of the Arnold Air Force Base Model Shop Feb. 21 with James Stephens (from left), Jimmy Stewart and Jessee Mil-saps.



AEDC aerospace engineer Kevin Holst (right) describes the operation of the Aerodynamic and Propulsion Test Unit to Kaleb Smith (from left), Tim Barlow and Kendall Purdom. The local students were invited to participate in Engineer for a Day on Feb. 21 as part of the Arnold Air Force Base Engineers Week.



Misa Jefferson (right) checks out a specimen at the Arnold Air Force Base Chemical Lab with engineer Mary Forde during the Arnold Air Force Base Engineer for a Day Feb. 21.

Air Force to institute new method to protect PII

By Secretary of the Air Force Public Affairs

WASHINGTON (AFNS) – Air Force officials announced Feb. 6 emails containing personally identifiable information, and similar numeric constructs, will be blocked from transmission unless the email is encrypted. For members unable to send or receive encrypted emails, members will be directed to utilize the AMRDEC SAFE application.

This is not a change in policy, but a new method to halt PII breaches via email. PII is information about an individual that identifies, links, relates, or is unique to, or describes a member. For example – social security numbers (full or partial), age, marital status, race, salary, home/personal cell phone numbers, other demographic biometric, personnel, medical and financial information.

“The Air Force depends on reliable, secure communications to operate,” said Under Secretary of the Air Force Matthew Donovan. “Ensuring confidentiality of every Airman’s personal information is part and parcel for maintaining operational security, as well as an inherent command responsibility”.

Users will be notified via a dialogue pop-up box or email response and provided with the option to either remove PII content, encrypt or send via AMRDEC SAFE. There are no user accounts for AMRDEC SAFE and authentication is handled via email and password. Everyone has access to AMRDEC SAFE. The application is convenient and intuitive to utilize.

If users send an email that contains a series of numbers that resemble PII information, the system will also block the email transmittal. In order for the email to transmit, the user will need to treat the email as if it does

How to send personally identifiable information (PII)

OPTION 1

ENCRYPT
and you're good to go!

OPTION 2

AMRDEC SAFE!
it's convenient
and everyone has access!

OPTION 3

**OR...
BE BLOCKED!**
make sure your message
gets there...
It's all about PII Security!

Courtesy Graphic

contain PII by encrypting the email or using AMRDEC SAFE. Feedback to the Help Desk in these instances will aid in changing the blocking tool “sniffers” to differentiate non-PII data in the future.

“Ideally, email would be the last medium used to transmit PII information,” said Col. Patrick Ryan, reserve advisor to the chief, information dominance and chief information officer. “However, if you have to send PII via email for mission accomplishment, then either

encrypt or use AMRDEC SAFE.”

AMRDEC SAFE can be accessed through the following website: <https://safe.amrdec.army.mil/safe/Guide.aspx>.

Additional Air Force CISO PII resources can be found under “Data Privacy Day 2018,” <http://www.safcioa6.af.mil/Organizations/CISO-Homepage/Resources/>.

For more information, contact the PII Program Lead at (571) 256-2515 or DSN: 260-2515.

