AEDC team providing essential support to engine test facilities

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 continuing 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 craft personnel perform maintenance on the C-Plant Turbine Chiller 3 (TCS) at the Aeropropulsion Systems Test Facility for test support of the C-2 engine test cell at Arnold Air Force Base. Chiller units like TCS enable attitude 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 Creason and John Medal and boilermakers Scott Murphy and Donn Sullivan. In recent years, C-1 has principally tested F15 engines for the Lockheed Martin F-22A Raptor aircraft and F15/20 engines for the Lockheed Martin F-35 Lightning II aircraft. C-2 has tested various large turbofan engines such as the Trent 500 and GP7200 for the Airbus A380, the Trent 800/900 for the Airbus A318, the Trent 1000 for the Boeing 787, the XF-719 for the Japanese P-1 and the BR725 for the Gulfstream G650. (U.S. Air Force photo/Jacqueline Cowan)

Groups and programs in place to ensure safety across Arnold

“His expectations align with and are the foundation of the AFSMS. Just as their names imply, the Manufacturing Safety and AEDC is improving via contractor safety programs such as these.”

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 during engine test operations stand down as the AFSMS (Air Force Safety Management System) 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.

“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 AFMS 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 AFMS.

“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 affect culture change, and AEDC is improving via contractor safety programs such as these.”

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

By Bradley Hucks
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 continuing 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.”

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Smoking Policy

1. The following revised Arnold AFB smoking policy is effective immediately and applies to all individuals on Arnold AFB.

2. Tobacco products include all tobacco products, including those that contain no tobacco.
Drivers must follow AF requirements when operating a vehicle on Arnold AFB.

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 harvest, 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 to control vegetation. In addition, there are other management techniques such as brush-bucking, underbrush 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 reduction. 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 procedure 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 physiology, pests, in the pine plantations at Arnold AFB, tolerate much higher fire intensity than the undesirable species. Fuel reduction is accomplished by periodically using prescribed fire to consume dead fuels, such as leaves, broom 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 operations occur from March – May. During this timeframe both weather and fuel conditions are generally conducive to accomplishing prescribed fire management objectives, should March – May. For more information contact Arnold AFB Natural Resources Management at 454-1200.
AEDC Turbines CTF engineer recognized for exemplary support during engine test

By Deirdre Orta

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 and his Supervisor, 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, 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 to meet coordinate activities of the test program.” Grigsby said.

Allen came to work at AEDC after graduating with a bachelor’s degree in mechanical engineering from Tennessee Technological University, and has been working on base for 13 years.

“Of the test program Allen said, ‘It’s most include ‘the unique and interesting work, working with great people and fast we got to contribute to our national defense.’”

Supporting several test projects over the years, he said there’s not one project stands out from the others.

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

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“Allan provides solid leader -

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Allen came to work at AEDC after graduating with a bachelor’s degree in mechanical engineering from Tennessee Technological University, and has been working on base for 13 years.

“He further mentioned Allen has gone above and beyond to contribute to the AETD adaptive engine project, which is one of the most complex engine test vehicles ever per- formed at Arnold,” Grigsby added.

“With its multi- 
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Allen received the Hoffman received the support of Base manage-
ment and security officials, who quickly responded by helping me coordinate the sessions.

“There are many ac-
tions that were generated out of our dialogues today, and I am looking forward to working with the team to increased our safety and security while seeking ef-fi-
ciencies when able,” Hoffman said.

Hoffman was in an email to the CTF announcing the return to operations, “I know our team is stronger than this, and I am optimistic that by incorporating what we learned we may be able to avoid having to ac-
climate the CTF for the foreseeable future.”

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climate the CTF 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 new and improved planning processes, demonstrated through enhanced aircraft availability and rapid development of processes and understanding the command and control relationships within those processes.
- Organizations clearly defined ownership of functions and the command and control responsibilities with 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 Secretary 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 firsthand 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 exercised 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."
The MSJC a is group comprised of representatives from all schools and groups within the NASA Manufac-

turing Group. The purpose of the MSJC is to provide

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the vision of these teams is to promote and main-

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Male workers and employees at the lowest level,

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craft employees will be able to leverage resources to

a premier STEM center in Middle Tennes-

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and others.“

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turing Group. The purpose of the MSJC is to provide craft employees with a proactive opportunity to actively engage in safety improvement initiatives, according to the vision of these teams is to promote and maintain a safety relationship between management and employees while building on the foundation of the NASA Manufacturing Group, shared similar thoughts with Ronald Skipworth, base operations director and a member management of the Base Operations SLT, said the purpose of the SLT is to get members from each craft to discuss safety issues and concerns to develop a plan to combat these hazards and to cover 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.

On Science Center of Tullahoma will begin managing the Air Force STEM Program, which will be continued through the 2017-2018 school year. “With new exhibits, programs, and the opportunity to work with safety personnel, complete 30 hours of training, and mentor youth, and discuss college and career opportunities with the technol-
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Last Week's Answers

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Dover AFB partners with AFRL to innovate in fuel efficiency

By Roland Balik

Airlift Wing Public Affairs

DOVER AIR FORCE BASE, Del. (AFNS) – The U.S. Air Force is demonstrating hydrogen as an alternate fuel source at Joint Base Pearl Harbor-Hickam in a demonstration by an AFRL program. (U.S. Air Force photo/L. Brian Garner)

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 alternate fuel source. (U.S. Air Force photo/L. Brian Garner)

This hydrogen project has been in development for over a decade, originally in California and now in Ohio, collaborating with Dover AFB Air Mobility Command, the U.S. Air Force Research Laboratory, and the Hawaii Clean Energy Initiative, a U-30 heavy aircraft tug. This station include a 25 passenger crew bus, a MJ-1E fighter weapons loader and a U-234 aircraft tug.

In September 2017, APTO showcased the 412th Test Wing at Edwards AFB, CA., a MJ-1E fighter weapons loader and a U-234 aircraft tug. The demonstration engineers, along with an AMC sub-contractor and the 736th AMXS installation engineers, along with an AMC sub-contractor and the 736th AMXS installation engineers, along with an AMC sub-contractor, conducted a demonstration to help ensure the Air Force can transition to new technologies and systems, including hydrogen. This demonstration was aimed at ensuring that hydrogen can be used as an alternative fuel source for aircraft, which can help reduce the Air Force’s carbon footprint and support its efforts to reduce greenhouse gas emissions.

The demonstration involved the use of hydrogen fuel cells to power a 25 passenger crew bus, a fighter weapons loader, and a cargo aircraft tug. The hydrogen fuel cells were designed and manufactured by the Air Force Research Laboratory and the Hawaii Clean Energy Initiative, and were integrated into the aircraft to demonstrate their potential for use in future aircraft.

In addition to the demonstrations at Dover AFB, other tests and demonstrations of hydrogen fuel cells are ongoing at other locations, including Edwards AFB in California, where a fighter jet was powered by hydrogen fuel cells. These demonstrations are part of the Air Force’s broader efforts to reduce its carbon footprint and support its transition to alternative fuel sources.

The demonstration at Dover AFB was a significant milestone in the Air Force’s efforts to demonstrate the viability of hydrogen fuel cells as an alternative to traditional fossil fuels. The demonstration showed that hydrogen fuel cells can be used to power aircraft, and that they offer significant advantages over traditional fuel sources, including lower emissions and reduced dependence on foreign oil.

The demonstration at Dover AFB also helped to validate the technological readiness of hydrogen fuel cells for use in aircraft, and to demonstrate the feasibility of transitioning to this new fuel source. The demonstration was a significant step forward in the Air Force’s efforts to reduce its carbon footprint and support its transition to alternative fuel sources.
Air Force to institute new method to protect PII

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. 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 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.

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)
WASHINGTON (AFNS) – The Air Force announced Feb. 21, 2018, that the Advanced Pilot Trainer (T-X) will replace T-38 Talon aircraft at existing undergraduate pilot training bases, with Joint Base San Antonio-Randolph, Texas, named as the preferred location for the first T-X aircraft scheduled to arrive in 2022.

The other locations include Columbus Air Force Base, Mississippi; Laughlin AFB, Texas; Sheppard AFB, Texas; and Vance AFB, Oklahoma.

Current pilot training installations rely on a unique runway structure and special on-aircraft capable of supporting high volume pilot training which makes them ideal for the new aircraft.

“As we bring the T-X training aircraft into service, we’ll base them at existing undergraduate pilot training bases which have the air space and runways needed for the mission,” said Secretary of the Air Force Heather A. Wilson.

The new trainer will provide student pilots with the skills and competencies required to transition into 4th and 5th generation fighter aircraft.

“We need the T-X program to properly train our pilots to fly our growing fleet of 4th and 5th generation aircraft,” said Chief of Staff of the Air Force Gen. David L. Goldfein. “This new training capability will enable pilots to receive realistic training in a system similar to our combat aircraft.

The Air Force announced Feb. 21, 2018, that the Advanced Pilot Trainer (T-X) will replace T-38C Talon aircraft at existing undergraduate pilot training bases, with Joint Base San Antonio-Randolph, Texas, named as the preferred location for the first T-X aircraft scheduled to arrive in 2022.

The T-X will replace T-38 aircraft at pilot training bases, with Joint Base San Antonio-Randolph first, home to Air Force instructor pilot training, is an essential step to establishing a T-X instructor pilot pipeline and sets the foundation for transitioning to this revolutionary new training capability. The next step prior to fleet-wide implementation is to have the new aircraft approved in official AMC requirements. If approved, additional ground or flight testing would be required to better restraint the BSA.