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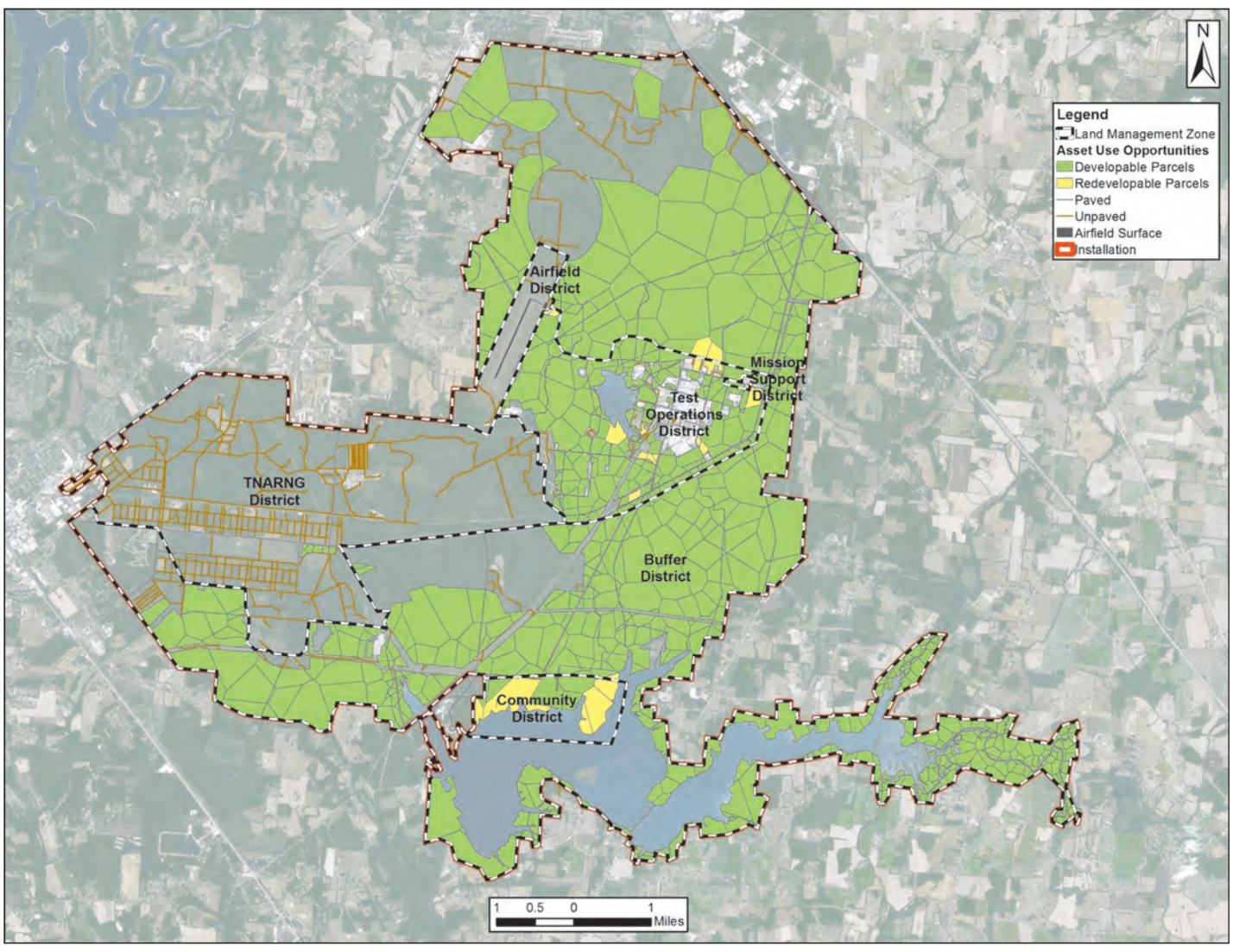

Arnold Air Force Base has significant redevelopment capacity, as shown in this image in light green. In the Installation Development Plan for Arnold AFB, there are a total of 823 identified parcels over approximately 19,413 acres that are potentially available for new development or redevelopment. ***(U.S. Air Force graphic)***

Plan important to future development of Arnold AFB

By Deidre Moon
AEDC Public Affairs

Since 1950 when construction began on Arnold Air Force Base, establishing what was then referred to as an Air Development Center, the land and facilities on the base have continued to change as the nation's defense needs have evolved.

A portion of the land is also granted use by the community, and the public use of Arnold AFB, the headquarters of the Arnold Engineering Development Complex, has adjusted as needed over the years.

As the base's land use changes and the facilities expand or new facilities are built, Ryne Knuckles, community planner with the AEDC Test Support Division's Engineering Section, stated that it is beneficial for Arnold to maintain an Installation Development Plan, or IDP, for the long-term development and management of the DOD's buildings, land and infrastructure.

"An effective plan for the development and management of Arnold requires a thoughtful and comprehensive approach to installation master planning in order to deliver consistent results," he said. "For Air Force activities, planning is the process of providing the efficient use and orderly development of real estate and facility resources in response to assigned missions, functions and tasks."

The requirement for installations to produce an IDP comes from the Unified Facilities Criteria 2-100-01 - Installation Master Planning and Air Force Manual 32-1084, Facility Requirements Standards.

But one might ask, "What is an IDP, exactly, and what does it do?"

"An Installation Development Plan is the official planning document that guides installation physical development activities, primarily for facilities and infrastructure improvements," Knuckles explained. "Additionally, an IDP conveys strategic, efficient and orderly development of the installation around specific mission requirements and incorporates flexibility to adapt to dynamic and changing conditions, such as unforeseen missions or events. Components of a completed IDP are the various district plans that make up the installation, an installation facility standards, vision plan, framework plan and a facility space optimization plan."

Knuckles added that the IDP is essentially a road map for achieving a strategic vision, which allows community planners, engineers and project managers to anticipate the future, prioritize infrastructure actions, reduce risk and improve business processes and policies through a collaborative process.

"The IDP is guided by a vision and focused on mission excellence, but it is

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Lance brings wealth of experience, love for area to new role at Arnold AFB

By Deidre Moon
AEDC Public Affairs

Col. Robert Lance

Formerly the director of the U.S. Air Force Central Command's Program Management Office in Al Udeid, Qatar, Col. Robert Lance assumed the duties as chief of the Arnold Engineering Development Complex Test Support Division, or TSD, Aug. 6.

As Test Support Division Chief, Lance will oversee the organizations providing medical, civil engineering, communications, chaplain, security, logistics, readiness and quality-of-life services at Arnold Air Force Base, the headquarters of AEDC.

Tennessee is vastly different than Qatar, but having grown up in Georgia, Lance said he welcomes being back in the states and back in the southeast.

"My family and I love the area. We love the base and the fact that it's really unique," he said. "The location is great. The weather is great.

"Most of my and my wife's family are about 2-2.5 hours from here, which to me is just the cherry on top."

This is Lance's eleventh move of his 22 years of service, but serving in the military, particularly the Air Force was always his first career choice.

"My dad's a retired Air Force master sergeant," he said. "He retired in 1982, but he was stationed in Turkey when I was born, so I was born at Incirlik Air Base in Turkey. We moved to Beale Air Force Base, California, when I was 18 months old, and my dad retired from there and we moved

See **LANCE**, page 3

Arnold FES urges base personnel to learn sounds of fire safety

By Bradley Hicks
AEDC Public Affairs

"Hear a beep, get on your feet."
"Hear a chirp, make a change."

Fire officials across the country, including those in Arnold Air Force Base Fire and Emergency Services, want everyone to be able to distinguish between these sounds and heed their warnings.

Fire Prevention Week is Oct. 3-9. The theme of this year's campaign is "Learn the Sounds of Fire Safety." The goal is to save lives by educating the public on the meaning of the various sounds emitted by smoke and carbon monoxide alarms.

The National Fire Protection Association, which has sponsored Fire Prevention Week for nearly a century, is urging people to know the difference between a beep and a chirp and take the appropriate action should they hear either sound coming from an alarm. This article opens with a pair of instructions devised by the NFPA as part of this year's Fire Prevention Week effort to help folks remember how to react in both instances.

In smoke alarms, a continued set of three loud beeps indicates smoke or fire. Those met with this sound should exit the structure they are in, remain outside and call 911.

In carbon monoxide alarms, a continuous set of four loud beeps means carbon monoxide is present in the home. Once this alarm goes off, those inside should also exit the building, remain outside and call 911.

To ensure residential smoke and carbon monoxide alarms meet the needs of everyone in the home including anyone with sensory and physical disabilities, the NFPA recommends:

- Installing a bedside alert device that responds to the sound of smoke and carbon monoxide alarms. The use of a low-frequency alarm can also wake a sleeping person with mild to severe hearing loss. Some alarms have a built-in strobe light that triggers when the alarm goes off to alert the hearing impaired, and pillow or bed shakers that work in conjunction with alarms are also available.
- Sleeping with mobility devices, glasses and phones close to the bed.
- Keeping pathways such as hallways lit with night lights and free from clutter to make sure all inside can get out safely.

Arnold FES Fire Prevention/Communications Officer Christian Lyle said these alarms should always be taken seriously and recommended actions should be followed as soon as their warnings blare.

"Get out of the building or get out of the situation and then figure out what's going on," he said. "Don't just ignore it because it is there for your safety."

Along with the loud beeps, both smoke and carbon monoxide detectors emit a "chirping" sound as a call to action.

In both types of detectors, a single chirp produced by the device every 30 to 60 seconds indicates the battery powering the detector is low and needs to be changed.

Chirping that continues after the battery has been replaced in either a smoke alarm or carbon monoxide alarm means the alarm is at the end of its life and the unit must be replaced. Carbon monoxide alarms additionally have "end of life sounds" that vary by manufacturer. These sounds

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HIGH MACH

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Congressman John Rose visits Arnold AFB

1st Lt. Adam Doyle, second from left, a test manager in the Propulsion Test Branch, Test Division, Arnold Engineering Development Complex (AEDC), briefs Rep. John Rose, of Tennessee, about the engine testing conducted using the Sea Level Test Cell 3 (SL-3) as they tour the facility during the representative's visit to Arnold Air Force Base, headquarters of AEDC, Aug. 31. An F135, the engine that powers the F-35 Joint Strike Fighter, is currently installed in SL-3 for accelerated mission testing. *(U.S. Air Force photos by Jill Pickett)*

From left, Travis Vitale, a senior development mechanic with Pratt & Whitney, shows Rep. John Rose, of Tennessee, a section of a second stage fan stator for the F135 being tested to validate a new design of the engine component through accelerated mission testing in Sea Level Test Cell 3. Pratt & Whitney is the manufacturer of the F135. Engine test facilities, such as those at Arnold AFB, allow new engine components to be rigorously tested and proven before being distributed to the fleet.

FIRE SAFETY *from page 1*

indicate that it's time to replace the existing carbon monoxide alarm with a new one.

All smoke alarms should be replaced after 10 years.

"On the back of the detector it will have a manufacturer's date. So, from that date, 10 years," said Arnold FES Fire Prevention Inspector Steve Macon. "If it exceeds 10 years, it needs to be replaced."

It is recommended that carbon monoxide alarms be replaced every five to seven years.

Those who don't remember how old an alarm is are encouraged to go ahead and replace the unit.

More information on the sounds of a particular unit may be found by referring to its user's guide or by searching the brand and model online.

Macon said alarms should be UL listed, meaning the device meets the required safety standards. He also said batteries in both smoke and carbon monoxide detectors should be changed a couple of times annually. A good way to remember this, he said, is to replace the batteries in the alarm when daylight saving time begins in the spring and again when it ends in the fall.

Alarms should be tested monthly and cleaned periodically to remove dust and debris within. They should be installed on each level of a residence to help ensure all can react quickly and get to safety should one go off.

Some alarms may be hardwired into a home or other structure rather than relying primarily on batteries to power them. However, these devices typically have a battery backup and will produce sounds when the backup battery is low or possibly as an end-of-life warning. It is also recommended that hardwired smoke alarms be replaced every 10 years and hardwired carbon monoxide alarms every five to seven years.

There are also two primary types of residential smoke detectors – ionization and photoelectric – named for the types of sensors found within. Ionization alarms are typically more responsive to the smoke produced by flaming fires, such as cooking fires, and those fueled by paper or flammable liquids. Photoelectric alarms are more responsive to fires that begin with a smoldering stage.

Because each type of alarm has its own advantages, dual sensor alarms are also available.

Regardless of the type of alarm one chooses to install in their home or business, the battery and unit replacement recommendations apply.

For facilities at Arnold, a preventative maintenance schedule is in place in which Base Civil Engineering regularly tests fire systems across base to ensure they are operational.

"Our whole goal at the Fire Prevention Office is to make sure everybody is safe and able to go home to their families," Lyle said.

Those with questions or in need of additional information may contact Arnold FES at 931-454-5569 or 931-454-5306.

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.

The Action Line has been expanded to include an option for your ideas, comments, or suggestions on the AcqDemo personnel system. Simply call the normal x6000 commander's action line. You will then be prompted to select option 1 for the Commander's Action Line or Option 2 for the AcqDemo line. They can access the Action Line via the AEDC intranet home page and by calling 931-454-6000.

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. Jeffrey Geraghty
AEDC Commander

Core Values

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

Vision

"NAS delivers the best aerospace testing capabilities today and in the future."

Values

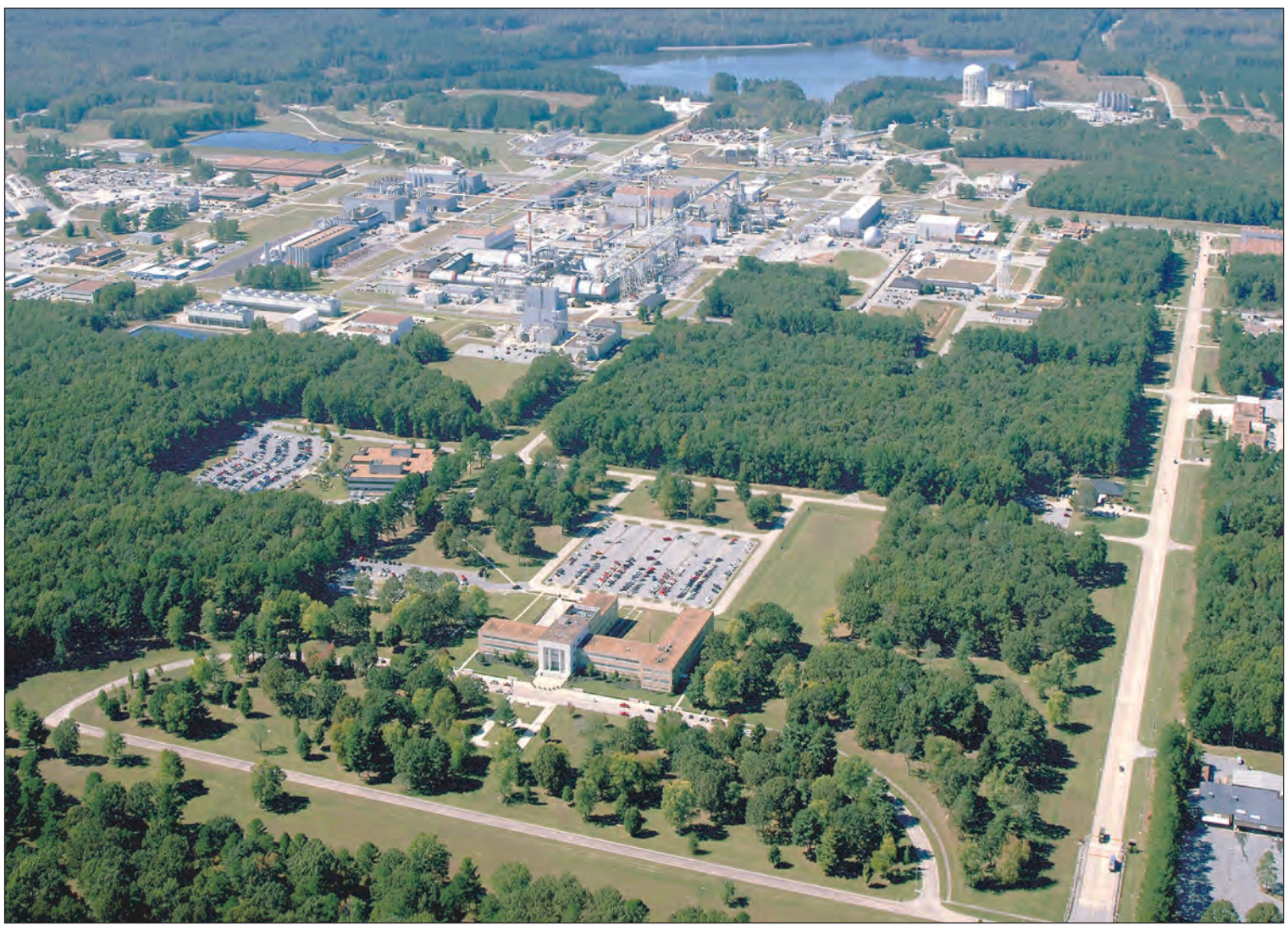
- Ethics. We are uncompromising in our integrity, honesty, and fairness.
- Safety & Health. We are relentless in keeping people safe from harm, and we provide a safe and healthy work environment.
- Security. We are disciplined and vigilant in protecting sensitive AEDC information and ensuring system 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.

PLAN *from page 1*

also developed to achieve plausible, feasible and implementable planning solutions influenced and guided by federal fiscal realities," he said. "The ideas, plans, direction and courses of action provided by the IDP should provide the Installation Commander and staff, as well as the Civil Engineering section and Programming staff, with a clear picture of development priorities and actions for the short-, mid- and long-term."

For Arnold AFB, in 2017 the IDP was updated and placed on the Air Forces web-based Comprehensive Planning Platform, and since that time it has been updated annually. The IDP identified six distinct planning districts. They are: the Test Operations District; the Mission Support District; the Airfield District; the Tennessee Air National Guard (TNARG) District; the Community District; and the Buffer District.

"During that initial planning process in 2017, a total of 27 projects were identified for future solutions to existing shortfalls at that time," Knuckles said. "Several of those projects have come to fruition or are completed, while others are still ongoing."



This image is an aerial view of Arnold Air Force Base, which is the headquarters for Arnold Engineering Development Complex. The AEDC Test Support Division's Engineering Section helps maintain an Installation Development Plan, for the long-term development and management of the DOD buildings, land and infrastructure at Arnold AFB. ***(U.S. Air Force photo)***

The Test Operations District includes numerous test cells, extensive utility systems and supporting administrative facilities. This district comprises the entire area within the AEDC fence line, excluding the airfield and the community services facilities along Von Karman Road near the Main Gate. Also included in the Test Operations District are the munitions storage area, the Secondary Reservoir, the Retention Reservoir, the Fitness Center and running trail, and the fire and police departments.

Within the Test Operations District are several areas dedicated to certain types of test operations. The Propulsion Wind Tunnel and Aeropropulsion System Test Facility make up the two large central blocks within the Test Operations District.

The Mission Support District is a smaller district located within the Test Operations District.

"The Mission Support District was identified as the area where the community services and support functions are located within the main cantonment area," Knuckles said. "Currently, the Base Exchange, Commissary and Medical Clinic are located within this district."

The Airfield District is comprised of the runway, taxiway and ramp/apron, as well as the clear zones on either end of the runway. Knuckles noted that the only existing buildings located within this district are the airfield operations facility and the newly-constructed hangar.

"The facilities and land use within the district are exclusively dedicated to flight operations," he said. "The reactivation of the runway in 2018 required several facility and infrastructure projects in the Airfield District. So, the Airfield District is not anticipated to change significantly in the near future."

The Tennessee Air National Guard District, referred to as the TNARNG District, is 7,578 acres characterized by the land that is leased or licensed to the TNARNG for their training purposes. This district consists of a 10-acre cantonment area off of Industrial Boulevard at the eastern edge of the Arnold AFB boundary; land navigation training areas around the former Camp Forest areas; a variety of small arms, machine gun, and grenade ranges; a live fire shoot house; an urban assault course; a tactical training base; and a drop zone. The range areas cover most of the district.

As its name implies, the Community District offers more access to the community and has some areas that are even public use. The district is characterized by the development along Woods Reservoir on the south side of the base and includes privatized housing areas; the Gossick Leadership Center; Wingo Inn; Arnold Lakeside Center; Crockett Cove cabins; Dogwood Ridge campground; and Fam Camp. Additionally, the Community District has mountain bike trails located north of Northshore Road and numerous other recreational features, such as the tennis courts, softball field and playground.

An outgrant to the Highland Yacht Club is also located within this district. Several hunting areas, such as duck hunting on Woods Reservoir and bow hunting in the wooded areas, exist within the Community District, as well. The district is bound by Woods Reservoir on the south and east and University of Tennessee Space Institute on the west. The northern boundary is about a quarter mile north of Northshore Road. It is nearly three miles south of Wattendorf Memorial Highway and gate 2. As a result of the distance and the heavy forest that covers much of Arnold AFB, the Community District is fairly isolated from the cantonment area.

Lastly, there is the Buffer District, which is made up of the largely undeveloped portions of land that surround the other districts. It includes the Arnold Golf Course, other hunting areas and recreational areas, utility easements and corridors, and Woods Reservoir. It is the largest of the planning districts at Arnold AFB, spanning 25,946 acres.

Knuckles mentioned that as different projects on the installation are completed, the IDP will be modified.

"The IDP for Arnold AFB is a living document and is entered using the Comprehensive Planning Platform created by the Air Force Civil Engineering Center headquartered at Joint Base San Antonio," he said. "During FY21 [fiscal year 2021], Arnold began execution on a total of 41 different projects with an overall cost of $86.6 million while the design work for 31 projects was also conducted to various benchmarks totaling $29.2 million.

"These projects will be vital to the long-term vision of the installation and will create opportunities for future mission sets to bed down here. Through accurate planning and steadfast programming, Arnold's place atop the list of most advanced flight simulation testing centers in the world is further cemented."

LANCE *from page 1*

back to northwest Georgia."

Though he doesn't consider himself a military brat, his family's history of service inspired him to join.

"My first memories aren't from Turkey," Lance said. "I don't remember Turkey at all, but I remember California. I remember being at Beale Air Force Base, then of course, Georgia. Even though I like Georgia, I wanted to see more of the world.

"With my dad being a retired military man himself, it looked very rewarding to me. I wanted to follow in my dad's footsteps, and he encouraged me to try and get in the Air Force Academy, which is what I was fortunate enough to do. Then the rest is history."

At the Air Force Academy, he earned a bachelor of science in mechanical engineering in 1999. He commissioned and from there started his civil engineer career.

He also has a master's degree in human relations from the University of Oklahoma.

Lance mentioned that his role as TSD chief is the first job he's had that hasn't been civil engineering specific.

While in Al Udeid, he supervised the construction of several new facilities, a project that was estimated to cost $7 billion.

"This project came about when Qatar's Minister of Defense came to Al Udeid Air Base and saw the quality of these temporary facilities we were working in, and these old trailers that were 20 years old and falling apart and said, 'I don't want any U.S. service member to go back and think this is what the country of Qatar is like,'" Lance said. "Their defense program agreed to spend the money to replace all the temporary facilities with legitimate permanent facilities. Qataris were building it for us, but the program management office was stood up by the U.S. Air Force to make sure we could use them and they would be to the standard that we need them to be."

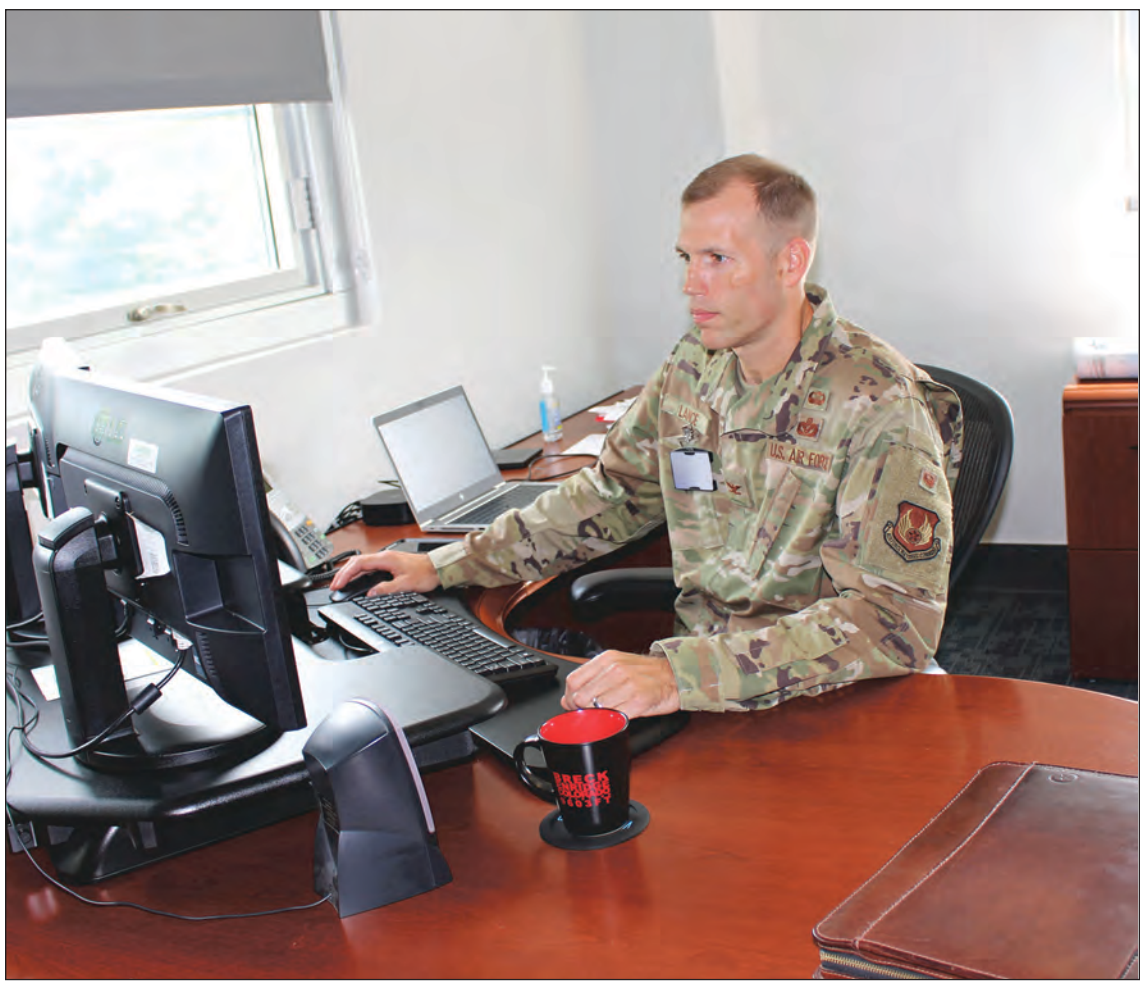
He added that this position gave him a broad overview of a large program, one in management that deals with all kinds of people – DOD civilians, civilian contractors, engineers, military members and foreign national engineers and their military members.

"Though it's a diverse group of people with different backgrounds, they're all moving towards one common goal, and that's what we do here in TSD. We all are moving towards a common goal and making the mission happen."

During a previous assignment before Al Udeid, Lance was a civil engineer squadron commander, and he said he feels this role also helped prepare him for his current job.

"My job there was to coordinate with my fellow squadron commanders to make sure we met the mission, supported the group's needs and supported the mission of the wings," he said. "I was constantly coordinating with the Services Squadron, communications folks, civil engineering folks, etc. Coming to this job, they're all in TSD.

"I have an understanding of what all those communities do and what their mission is. Having that background, working with those guys and building a team with the other support-type functions, really sets me up well to hopefully excel in this job."



Col. Robert Lance, chief of the Arnold Engineering Development Complex Test Support Division, works in his office at Arnold Air Force Base, Aug. 20. ***(U.S. Air Force photo by Deidre Moon) (This image has been altered by blurring a badge for security purposes.)***

Lance mentioned that he's excited to get to work as TSD chief.

"In TSD, we touch the mission more directly than a lot of base systems, because a lot of utilities are so critical to the actual testing," he said. "We maintain and provide those. Whether it's the steam, the fuel or the power, they couldn't test out here without those things.

"The role we play at AEDC is ensuring we can do the mission and the testing and development for new platforms for the Air Force to use. Most bases fly what they've been given and are more tactical in nature. They use what is there to make action happen today. We don't necessarily do that, we look forward to the future to make sure that those folks 10 years from now can continue to make that action happen. Because if they continue to use the platforms we're using today, they might not be viable 10 years from now. What we do is we're enabling AEDC to ensure the Air Force's mission is viable for the future."

While still new to Arnold and AEDC and is still learning the ropes, Lance said he has already set one goal.

"My ultimate goal is to streamline the support function of AEDC; find ways we can make it better and more efficient," he said. "I don't know what those are yet, but we are looking for them. But my goal is to learn the mission, continue to support as we have in the past and make it better.

"My intention anytime I go into a job is to leave it better than I found it. So, when I leave here, whenever that may be, the Test Support Division and AEDC is better than when I got here."

CMSAF reaffirms case for speed, innovation, culture change across the Air Force

By Tech. Sgt. Joshua R. M. Dewberry
Secretary of the Air Force Public Affairs

Gerald Murray, Air Force Association chairman and the 14th Chief Master Sgt. of the Air Force speaks with Chief Master Sgt. of the Air Force JoAnne S. Bass at the 2021 Air Force Association Air, Space and Cyber Conference in National Harbor, Md., Sept. 20. Bass reiterated leadership's involvement in accelerating change, answered questions from the audience and presented this year's 12 Outstanding Airmen of the Year. ***(U.S. Air Force photo by Staff Sgt. Adam R. Shanks)***

NATIONAL HARBOR, Md. (AFNS) – Chief Master Sgt. of the Air Force JoAnne S. Bass presented keynote remarks at the Air Force Association Air, Space and Cyber Conference, at National Harbor Sept. 20.

"What remains a constant in my mind is, where we are today, where we need to be tomorrow, and what are the things we must do now to be prepared to answer our nation's call … anytime, anywhere," Bass said. "We are indeed at that inflection point in history, where the choices we make today will have lasting impacts on the world we have tomorrow."

Bass also mentioned the challenges posed by America's near-peer competitors.

"While on this amazing Air Force journey, I have learned that service in our Air Force is also more like running a marathon than a sprint," she said. "We need our Airmen serving today to think in those terms, because there are forces in this world that also believe they are in a marathon. China is one of them."

She detailed the threat of the Chinese Communist Party's desire to expand their sphere of influence, and explained the need for Airmen to prepare and think long term.

"Whether it's China, or any other strategic competitor … I need every single Airman to understand that future conflict will never look like it has in the past," Bass said. "It will span across multiple domains, using any and all advantages and tactics on both military and non-military targets. The high-end fight that we must prepare for could be unlike anything we have ever faced in our history, and will require us to accelerate the change we need today to win tomorrow."

She highlighted the significance of Brown's action orders of Accelerate Change or Lose.

"When I speak to our Airmen, I let them know those words cannot simply be buzzwords," she said.

Bass explained how Air Force leadership needs to clearly define expectations and move out of the way to let their Airmen accomplish the mission.

"One way to help define the expectations we have for our people are the Airman Leadership Qualities that we released this past spring," Bass said. "They are the roadmap, and the qualities and competencies we expect from our Airmen."

She said these qualities – executing the mission, leading people, managing resources and improving the unit – are being built into the feedback used to develop Airmen, and that Airmen are already leveraging these leadership qualities to accomplish the mission.

"From our Air National Guard firefighters, battling the California wildfires, to our (Tactical Air Control Party specialists) leveraging innovation and technology to provide real-world, real-time information to those firefighters on the front line," Bass said. "Our teamwork remains unmatched."

Bass also mentioned the recent accomplishments of Airmen providing aid and support to refugees from Afghanistan.

"Just a few weeks ago, in Afghanistan, it was our Airmen who stepped up to transport, and deliver hope to more than 120,000 vulnerable Afghans," Bass said. "The adaptability, agility and readiness of our active duty and reserve Airmen led to nine newborns being delivered on board (C-17 Globemaster IIIs). It was our Airmen and their families around the globe that showed incredible resiliency, by providing shelter, safety and a chance at a better life to these Afghan families, while modeling humanity and what right looks like."

She said she is continually impressed by seeing Airmen innovate and overcome adversity.

"It's our Airmen that inspire me when I think about the future of our force," Bass said. "The Air Force of 2030 will not be built in the Pentagon – it is being built in our squadrons, and our work centers. It is being built by you, inspiring your people to enhance your readiness and create a culture that values diversity, inclusion and respect. It's up to you to build the Air Force we need. It's up to us, at the Pentagon, to help support you."

AFMC continues implementation of diversity, inclusion initiatives

By Marisa Alia-Novobilski
Air Force Materiel Command

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – The Air Force Materiel Command continues to make progress on a number of diversity, equity and inclusion initiatives across the command as it leads the Air Force in ensuring all Airmen, uniform and non-uniform, have the right environment, resources and support they need to thrive and succeed.

"We are committed to enabling all of our Airmen and civilians to thrive in a diverse and highly inclusive environment," said Gen. Arnold W. Bunch, Jr., AFMC Commander. "I want AFMC to lead the Air Force in this area. Diversity, equity, and inclusion are critical to the success of our command, and we are continuing our drive, ensuring all of our Airmen have the opportunity to perform to their full potential."

Following the nationwide response to the death of George Floyd in May 2020, the entire Department of Defense took a comprehensive look at existing policies and procedures to identify and take steps to address institutional barriers related to gender, race, ethnicity, and more. AFMC also took immediate action and began examining its own policies and practices, hosting a number of sensing sessions with Airmen across the command and conducting a command-wide survey to help identify problematic areas across the centers and installations.

"To create an environment where every Airman feels accepted, valued and has the opportunity to achieve their full potential, we needed to understand our shortcomings and areas of need so that we could take the right steps to address them," said Keith Tickle, AFMC Diversity, Equity and Inclusion program lead. "We continue to work towards our initial goals and re-vector as needed as we carry on with our efforts to address all aspects of diversity, equity, inclusion and accessibility across the command."

Bunch identified 12 primary focus areas in late October 2020, setting a baseline for a number of initiatives underway across the command. These enduring initiatives include a focus on training, civilian hiring, talent management, mentorship, civilian disciplinary procedures, communication and more.

"Diversity, equity and inclusion continues to be a focus area in both the public and private sectors; however, successful initiatives must be sustainable, seen as valued added by the workforce, measurable over time and embedded into existing platforms, such as our civilian personnel processes," said Bill Snodgrass, AFMC's Director of Manpower, Personnel and Services.

Among the initial first steps was the establishment of Diversity, Equity and Inclusion Councils across the command, which include center and installation leadership representatives. These councils work with commanders to implement AFMC policies at the local level and provide a mechanism for feedback regarding trends and needs to headquarters' teams.

(U.S. Air Force graphic)

"The councils work with commanders to help facilitate cultures of inclusion at the local level so we can continue to develop and retain a high-quality, diverse workforce, while addressing the strategic impact of diversity, inclusion, and equity for civilians and military members of our team," said Tickle.

AFMC standardized command-wide diversity, equity and inclusion training and established a mandatory "Unconscious Bias" training curriculum, with course delivery led by e-Cornell University certified staff. Diversity, equity and inclusion training is also now incorporated into all command leadership education courses, ensuring leaders have the knowledge and education to lead inclusive AFMC organizational teams.

The command also reexamined hiring and selection processes to ensure demographic, cognitive and organizational diversity is captured in human resource actions. The command's centralized selection and hiring processes were refined, moving responsibility for filling critical, entry-level developmental positions to centralized selection cells. Human resource advisors are also monitoring selections for supervisor and higher grade positions, ensuring diverse hiring panels are present for all actions.

"We continue to strive to remove bias from recruitment, promotion and hiring to ensure that the best, most qualified individuals are hired for our missions," said Tammy Lyons, chief, AFMC Personnel Support Division.

Though a large number of initiatives are driven by headquarters' activity, a number of center and installation-driven changes are also helping the command to move the diversity needle.

At the Air Force Installation and Mission Support Center, a new Supervisor Rotation Program will enable supervisors to rotate among different teams to build and expand competencies in leaders as they work in diverse mission areas. The Air Force Life Cycle Management Center launched a "Celebration of the Workforce" development series focused on mentorship and training, featuring representatives from diverse groups working across the mission. Center and installation working groups, and dedicated Diversity, Equity and Inclusion Offices, are also working to create more inclusive work environments by identifying and working to overcome barriers to success at the local level.

"Initiatives will continue to evolve and expand as we implement lessons learned and make course corrections as they mature," said Tickle. "To truly be successful in this area we need to continually learn and implement new knowledge in our activities."

The command is also working on policy related to award and recognition, civilian discipline, talent management and succession, and affirmative employment programs, among others. Sensing sessions continue across the mission to ensure the command maintains the right focus for the diversity and inclusion efforts as well as to uncover any additional areas that need to be addressed.

"Building a more diverse and inclusive workforce is critical to our success as a command and a service. We continue to work diligently to address these issues and remain focused on improvement. By working together, we will become the AFMC we need for the future," said Bunch.

Around Arnold

Cop Corner: Security Quiz

By Dan Hawkins
Arnold AFB Anti-Terrorism Program Manager

Who can answer all of these correctly?

Send your answers to ***AEDC.Arnold.CopCorner@us.af.mil***. The first respondent to get them all right will be acknowledged in our next column.

1. What is the maximum speed limit for the areas below when not posted otherwise?

Mission area: ___
Parking lots: ___
Arnold AFB access roads: ___

2. Which of the following is/are prohibited on AAFB?

a) Use of metal detectors
b) Use of radar detectors
c) Swimming after dark
d) Escorting unvetted foreign nationals
e) BB guns and pellet rifles
f) Throwing stars
g) Nunchucks
h) Explosives, fuses and fireworks

3. Under the new Tennessee Permitless Carry Law, weapons may be brought into the Mission Area as long as they are left in the vehicle.

True or false?

4. In which of these areas is it authorized to fly drones and similar small unmanned aircraft systems?

a) Model Airplane Club
b) Arnold Village beach area
c) Crockett's Cove
d) FamCamp area
e) Arnold Village living quarters
f) Mission area

5. Name three ways of reporting suspicious activity. (Hint: Check the Sept. 7 issue of *High Mach*.)

Please direct any questions or suggestions for future articles to our distribution group: ***AEDC.Arnold.CopCorner@us.af.mil***.

Brown presses case for speed, innovation, culture change across the Air Force

By Charles Pope
Secretary of the Air Force Public Affairs

Air Force Chief of Staff Gen. CQ Brown, Jr. answers questions after delivering his "Accelerate Change to Empowered Airmen" speech during the 2021 Air Force Association Air, Space and Cyber Conference in National Harbor, Md., Sept. 20. ***(U.S. Air Force photo by Eric Dietrich)***

NATIONAL HARBOR, Md. (AFNS) – Invoking the ingenuity and courage of the Doolittle Raiders and other World War II Airmen, Air Force Chief of Staff Gen. CQ Brown, Jr., beseeched the current Total Force in a Sept. 20 speech to embrace a similar "culture of innovation, collaboration and accountability that made the impossible possible."

Change – and a new culture – are needed, Brown said during his address to the Air Force Association's Air, Space, and Cyber Conference, to confront emerging and legitimate threats from China and "near peer" competitors. Such change is required to develop and deploy new capabilities necessary to defend the United States, its interests, and allies.

"We are seeing two significant challenges converge," Brown said. "First, the return to strategic competition with near peer adversaries able to threaten not only the American homeland, but its ideals and values. The second, the need to holistically transform our Air Force to compete, deter, and win in a highly contested environment but blocked by bureaucracy, prioritization, and the application of resources.

Brown's assessment of the threats and what is needed to meet them echoed those presented earlier in the day by Secretary of the Air Force Frank Kendall. Like Brown, Kendall noted growth and ambitions of China as a primary strategic concern and the need for the Air Force to reset the way it operates and thinks to respond successfully.

"To overcome these challenges, we must transform our culture to one that values innovation, collaboration and accountability," Brown said. " … We must move with a sense of urgency today in order to rise to the challenges of tomorrow. Because the return to strategic competition is our nation's greatest challenge."

The main themes in Brown's remarks to an audience of Airmen, industry officials, policy makers and advocates, all echoed the call to action Brown issued more than a year ago shortly after becoming the service's highest-ranking officer. That document, "Accelerate, Change, or Lose" is Brown's blueprint for forcing cultural change, for adding speed to actions and decisions, and infusing a more freewheeling sense of innovation across the force.

While Brown emphasized that the Air Force must push hard to change and to accelerate in order to accomplish its missions and protect the nation, he also noted that such change is possible because of the quality of people in the Total Force.

"I truly believe we have the greatest Airmen and best defense and tech industry in the world," he said. "Together we must work to accomplish what seems impossible. We must rise to the challenges of today to prepare for tomorrow."

Brown said he has seen "progress" on meeting the goals he outlined but he said more is needed.

"Over the last year, I have seen the embers of a culture shift," he said. "Our shift in culture has empowered Airmen to reduce bureaucracy and to decide what to prioritize by what is truly value added."

He added, "Based on our deliberate efforts to change and define culture, I believe we have started to set conditions to ensure U.S. airpower can continue to be decisive in 2030 and beyond."

But, he warned, there is no room for complacency. "A few embers here and there will not bring about the culture change," or transform the service's bureaucracy to move faster and with clarity of purpose," he said.

"My job and our collective job as leaders is to pour fuel, through innovation and collaboration, on the embers to create a fire of culture change. Culture is not just sufficient, it is necessary to accomplish what seems impossible, it is necessary to transform our Air Force to meet the demands of tomorrow."

Brown praised the Air Force's recent performance in Afghanistan "where we saw our Airmen execute the largest airlift in history."

But he offered a bookend to the history in Afghanistan and the 20th anniversary of the 9/11 attack to what is confronted today.

"We cannot wait for a catastrophic crisis – sudden or insidious – to drive change for our Air Force and the joint force," he said. "It will be too late."

He specifically highlighted actions and personal initiatives that highlight the kind of thinking and behavior needed to ensure continued superiority. "While at AFCENT (U.S. Air Forces Central) and USAFE (United States Air Forces in Europe-Air Forces Africa), I saw fighter squadrons prove we can generate combat power with a third less manning," he said. "They were able to achieve this by capitalizing on multi-capable Airmen and agile combat employment concepts."

He called out for praise Master Sgt. Jason Yunker and Master Sgt. Timothy Peters and the so-called VIPER Kit they developed from a concept "drawn on the back of a bar napkin" that allows refueling operations with any existing infrastructure.

"It reduces the footprint required to support combat generation from six vehicles, six personnel, and diplomatic clearances that take up to 15 days per TDY to … three personnel, and no diplomatic clearances," he said. "Not only did this change how the Air Force conducts deployed refueling operations and enable rapid global operations, it changed the lives of these Airmen."

Lt. Miolani Grenier is another example, Brown said. While Grenier is an Air Force intelligence officer, she is certified to operate a forklift "so she could unload aircraft upon initial arrival at a deployed location."

"This is exactly the type of culture we need," Brown said. "If we do not challenge the status quo, we will not be able to provide airpower anytime, anywhere."

Brown's remarks came three days after he issued an "Innovation Letter" to Airmen. While acknowledging in the one-page letter "that innovation instinctively aligned to create the world's dominant Air Force," Brown said more is needed.

"To succeed, we must properly identify problems, empower decentralized solutions by individuals and teams, and infuse an ethos of innovation at all levels. Innovation depends on both creative individuals and supportive organizations to turn concepts into reality," the letter says.

Brown carried that call to action in his remarks at the AFA conference.

"I am extremely proud of the progress we have made towards creating a culture that will ensure our success tomorrow," he told the audience of more than 2,000 at AFA.

"But we still have work to do and we must collaborate and hold each other accountable. … We have the opportunity, but not the time. We must accelerate change to leave our mark and make the impossible possible."

Virtual reality brings T-7A tasks to life

By Daryl Mayer
AFLCMC Public Affairs

WRIGHT-PATTERSON AFB, Ohio (AFLCMC) – The Air Force is looking to use three-dimensional (3D) models and virtual reality to certify and verify technical orders for the T-7A Red Hawk advanced pilot trainer.

Faced with the daunting challenge of verifying the accuracy and usability of over 1100 maintenance tasks in a 7-month period, the team hopes to continue the digital trend with this fully digitally-designed aircraft.

"The goal is to align with the Air Force Materiel Command Digital Campaign where the desire is to create a collaborative, integrated digital environment that guides, orchestrates, and delivers the means for each individual across the enterprise to access the data, functions and elements needed to do his or her job in a purely digital manner," said Fred Tschirner, T-7A Virtual Reality (VR) Team Lead. "We have 13 personnel and 3 aircraft which makes this a pretty high-risk effort and requires an out-of-the-box approach."

Collaborating with their Boeing Company counterparts, the Technical Order (TO) Team was forced to look for mitigations to reduce the risk of failure. The team considered several options, to include use of prototype aircraft and use of instrumented test aircraft. Unfortunately, nothing was acceptable based on current guidance and policy. Finally, The Boeing Company suggested the use of their virtual reality lab.

The AFLCMC T-7A Virtual Reality Team has begun the daunting task of certifying and verifying technical orders for the T-7A Red Hawk – a task made easier using 3D tools and virtual reality. ***(Boeing rendering by Eric Shindelbower)***

"The idea of completing tasks that are traditionally completed on a production representative aircraft, in a virtual environment, was met with differing levels of skepticism. However, the team agreed to evaluate this opportunity with an open mind," Tschirner said.

The T-7A TO Team evaluated the Boeing Integrated Development Center (IDC) or VR lab that is operated in St. Louis, Missouri.

"The IDC consists of multiple systems, but we focused our evaluation on the HTC Vive gaming platform. It is a relatively inexpensive platform but the capabilities of this system provides the best support for our verification effort," Tschirner said.

The team conducted an evaluation of 11 maintenance tasks in both the virtual environment and on aircraft. These tasks consisted of non-complex (i.e., doors and panels) to complex (i.e., engine removal). Utilizing a "blind study" process, two independent teams--one team in the IDC and one team on aircraft--were established with no interaction during tests and no discussion until each element completed all tasks in their respective environments.

Team members Christopher Teague and Master Sgt. Bryan Holloway worked on the actual aircraft. Bill Dean, Orlando Mack, Norman Watts, and Staff Sgt. Jacob Hamblen worked with the virtual tools while Tech. Sgt. Kyle Porter provided an in-depth technical evaluation of procedures.

"We determined that due to system maturity, only non-complex tasks like opening/closing doors and removal/installation of panels that do not have wires/coaxial cables attached can be completed at this time," Tschirner said.

The aircraft has 144 doors and panels with around 110 of those considered candidates for virtual verification. Currently, there are between 1100 and 1287 tasks to be verified by performance. This equates to approximately 8 to 10 percent of the performance tasks.

The current T-7 verification schedule is very aggressive, according to Tschirner, so even utilizing the Boeing IDC for non-complex tasks will save valuable on-aircraft time.

"We will also mitigate a portion of the program risk associated with completing time-constrained technical order certification/verification effort, and advance the Air Force initiatives regarding digital engineering," he said.

Currently, the TO Team received approval to complete verification of the approximately 110 performance tasks and is working towards development of a new VR verification process. Updates to the T-7A Technical Order Life Cycle Management and Technical Order Life Cycle Verification Plans will further define and clarify these program processes. Submittal of TO 00-5-3 policy change requests will provide recommendations toward achieving the Air Force's vision for digital engineering, and the establishment of VR verification policy and guidance for the service.

Retirement brings reflections on service, people

By Marisa Alia-Novobilski
Air Force Materiel Command

WRIGHT-PATTERSON AFB, Ohio – A billboard, a newborn and imminent unemployment set the stage for the start of a stellar 30-year Air Force career for the Air Force Materiel Command's senior enlisted leader, who hung up his uniform and retired from active service, Oct. 1.

"I still remember driving down the highway and seeing a billboard that said, 'Aim High,'" said Chief Master Sgt. Stanley C. Cadell, AFMC Command Chief. "It started a conversation with my brother-in-law who was in the vehicle with me…and by the end of the conversation, we were in the recruiter's office, and I joined the Air Force."

Cadell, newly married with his first child, had just received notice that the company he worked for was going out of business, and he needed a way to support his family. So he joined the service, intending to serve for a few years.

"As an individual who barely passed high school and from a pretty rough neighborhood…the environment (I grew up in) was not set up to be conducive for any type of constructive future," said Cadell. "The Air Force challenged me…and everyday became a chance to learn something new."

During his first assignment, a "tough supervisor" challenged Cadell to consider his future and the possibility of higher education. This set the stage for a career of continuous learning and growth, with Cadell earning his associate, bachelor and master's degrees, all while continuing to serve across the globe.

Chief Master Sgt. Stanley Cadell provides his thoughts on barriers to communications during a panel at the inaugural Air Force Materiel Command Women's Leadership Symposium, Nov. 13, 2019. ***(U.S. Air Force photo by Scott Ash)***

"Staff Sergeant Greg Vernon was my very first supervisor in the Air Force, and he was tough. But, I credit him for a lot of the success I have had in my career. He pushed me harder than I thought I could go at the time, and he also put in a desire to learn more, to want to know more," said Cadell. "He instilled in me how important education is to making yourself better but also how important it is for our Air Force future."

As Cadell continued to grow and pursue "more," he amassed 24 different assignments in 15 different locations, including four overseas deployments. While each one had its own unique challenges and opportunities, what he remembers most about his career journey is not the jobs or the locations, but the people he's met, learned from and helped along the way.

"When I think about different significant milestones…it's all about the teams I've been honored to be a part of, whether that's some of the deployed teams that I was with, or some of the assignments while serving overseas. It's those people – those friends that you get to know – they're family members," he said.

Though Cadell spent a large part of his early career working 'hands-on' in the maintenance career field, it's when he became a first sergeant in 2005 that he came to understand the importance of taking care of people and how leaders can make a difference for the future of the service. It was this point that he came to see the 'why' behind the efforts of those in the past who pushed him hard to succeed.

"When I first became a first sergeant, a master sergeant sat down with me and walked me through what it really meant to be a first sergeant – the importance of that job and focusing on and investing in people. He said, 'Someday you're going to take the uniform off, and these individuals are going to continue to serve. All that you put into them now – all that you invest in them right now – is going to pay off dividends in the future.' Now, as I start wrapping up a 30-year career, I see the truth. Those individuals that we invested and continue to invest in are the individuals that are going to continue to serve our nation and make sure that our nation is safe and secure for the future," said Cadell.

For the past three years, Cadell has served as the senior advisor for all matters affecting the readiness, training and professional development for the more than 24,000 enlisted personnel and at AFMC. It's a job that required him to take another step back to learn more – even after 30 years of service – and it gave him a great appreciation for the diversity of the people, the complexity of the command missions and the impact of AFMC on the work across the entire enterprise.

"When I arrived here, one thing I didn't understand and I did not have as much of appreciation for, is what our non-uniform Airmen bring to the fight. The dedication that that those individuals have to the mission and to make sure that they get it 'right' around our Air Force is impressive. They love this country. They love our Air Force, and they go to work each and every day to make sure that this nation stays safe and secure," said Cadell.

As he approaches his final days of service, Cadell says he has thought about how the service has changed and things that have stayed consistent over the years. His conclusion: the missions may have evolved and the methods in which they're done are different, but at the end of the day, it's the people who serve that make all the difference.

"When I first came into the Air Force, we didn't have computers… so obviously we've come a long way since then," said Cadell. "When I look at where we're at now, a lot of great technology has helped us to be able to do our jobs uh much easier. Sometimes I think we need to take a take a step back and realize that we're the world's greatest Air Force, and it's because of people that have built it over these years."

As for parting advice for those who continue to serve, Cadell offers just a few simple words.

"Bloom where you're planted. Be good in your job, and enjoy the journey. If you're willing to take a step back, and if you're willing to open your aperture and learn something, you'll find a lot of value in whatever you do."

Cadell is looking forward to spending some down time with his family after hanging up his uniform on Oct. 1, but he also feels that he is not done serving yet.

"I'm going to look for a way to continue to give back. Our Air Force has given our family so much. We're going to continue to figure out a way that we can still continue to serve and give back to Airmen and to our military," said Cadell.

Kendall presents unsparing blueprint for confronting China and other threats

By Charles Pope
Secretary of the Air Force Public Affairs

NATIONAL HARBOR, Md. (AFNS) – Department of the Air Force Secretary, Frank Kendall, offered a blunt and unsparing blueprint Sept. 20 for the Air and Space Forces, Congress and others to follow if they are to meet – and overcome – challenges to the nation's security posed by China and others.

Time is short, he said in a 30 minute, closely watched address to the Air Force Association's Air, Space, & Cyber Conference and the challenges are large. That combination requires a cultural and operational reset across the Air and Space Forces as well as with industry, Congress, allies and other partners.

"While America is still the dominant military power on the planet today, we are being more effectively challenged militarily than at any – any – other time in our history," he said.

If there was any confusion about the most pressing security concern, Kendall quickly made it clear. "So what are my intentions now that I have this job? At a breakfast on Capitol Hill shortly after I was sworn in, I was asked by Sen. Jon Tester what my priorities were. My answer was that I had three; China, China, and China."

In all, Kendall mentioned "China" 27 times in the speech compared to a single mention of Russia and Afghanistan three times.

A West Point graduate with more than 50 years' service as an Army officer, a senior defense official in the Obama administration and with defense contractors, Kendall said he circled back to public service largely because of China's emergence. He recognized that development in 2010 and briefed then-National Security Advisor Susan Rice and other senior officials on China's capabilities.

Since becoming Air Force Secretary in July, "I have had the opportunity to catch up on the intelligence about China's modernization programs. If anything, China has accelerated its pace of modernization, and taken it in some disturbing directions," he said.

While the proper response is multi-layered, including new technologies, tactics and equipment, such as the B-21 strike bomber, as well as cultural changes within the services, Kendall said his overarching organizing principle is found in four words: "One team, one fight."

That principle, he said, embodies more than simply shared purpose and effort across the Air and Space Forces. It includes locking arms with other services to perfect multi-domain operations and with industry to develop and produce new equipment that maintains the crucial advantages historically enjoyed by the U.S. and its allies.

Kendall told the audience, which included several thousand active duty personnel, staffers from Congress and the administration, as well as those from the defense industry, that recent history provides a telling example of the consequence in failing to have a "one team" approach.

"There is a lesson from the fall of Afghanistan to the Taliban that we as Americans, and we as Airmen and Guardians, should not miss," Kendall said. "Historians and policy analysts will be trying to sort out what happened and why, after 20 years of American and allied support, the Afghan government fell so quickly.

"One thing, however, is painfully clear: The Afghan government and military were not 'one team' engaged in 'one fight.' Even when faced with an existential threat to their freedom, they could not overcome their internal divisions and unite against a common enemy. As a direct result, the people of Afghanistan have lost their freedom."

In presenting his perspectives for managing the needs and wants of a service with nearly 700,000 Airmen, Guardians and civilians and a $168 billion budget and for confronting an array of complicated threats, Kendall presented an "inside and outside" strategy. Each part was tailored to confronting China's emergence from a regional threat to a more global concern.

Kendall endorsed the aggressive push for speed and nimble, innovative operations by Air Force Chief of Staff Gen. CQ Brown, Jr., saying, "I resonate completely" with Brown's "Accelerate, Change or Lose" mandate.

He similarly embraced the Space Force's focus and direction as articulated by Gen. Jay Raymond, Chief of Space Operations. Raymond, he said, has presented "a clear list of five priorities for the Space Force, with which I am in full agreement."

But Kendall offered a footnote too.

"To be stronger we are going to have to change. … We have to respond with a sense of urgency, but we also have to take the time necessary to make smart choices about our future and our investments," he said.

"To get change right we must improve our ability to analyze and understand the operational possibilities that technology is providing. We must be open-minded and objective about the operational doors that technologies like autonomy, artificial intelligence, and data analytics can open for us," he said.

And because time is short and the challenges large, Kendall named names to underscore his point.

"We should not be doing demonstrations and experiments unless we can link them to true operational improvements and unless they move us down the field to lower-risk acquisition programs," he said. "I intend to strengthen these linkages and to use state-of-the-art analytical tools to do so.

"A case in point is the Advanced Battle Management System, or ABMS, the Air Force's component of Joint All Domain Command and Control. My early observation is that this program has not been adequately focused on achieving and fielding specific measureable improvements in operational outcomes.

"To achieve effective change we must also keep our eye on the ball. For me that means focusing on the fielding of meaningful military capability into the hands of our operational users. It does not mean one or two leave-behind unmaintainable token prototypes that came out of an experiment," he said.

Kendall also told Congress that, while the support it provides remains crucial and is appreciated, adjustments are necessary since time is short, money – as always – is limited, and the challenge presented by China continues to grow. That means, he said, that the Air Force must be allowed to have a mix of aircraft, systems and capabilities that maximize the ability to carry out any mission, anywhere, anytime. The service cannot afford to carry older and less capable equipment.

"To be stronger we are going to have to change. Our strategic competitors have studied how we fight and they have taken asymmetric steps to exploit our vulnerabilities and to defeat us. We have to respond with a sense of urgency, but we also have to take the time necessary to make smart choices about our future and our investments," he said.

Kendall noted too that success in

Frank Kendall
Secretary of the Air Force

confronting China and addressing other security challenges demands that the Air and Space Forces address lingering internal problems such as those involving diversity and sexual assault and harassment.

"I couldn't be more proud of the people who are currently serving in the Air and Space Forces, not just as Department Secretary, but as an American citizen," he said, adding that he was "an awed observer" of the Air Force's performance evacuating people from Afghanistan.

"I intend to be relentless in supporting our Airmen and Guardians and in seeing that they have what they need to be successful. I'm also aware however, that we have some areas where change is needed here as well.

" …The data is very clear that we are not doing as well as we should be in ensuring that every Airman and Guardian has the opportunity to achieve their full potential and contribute to the extent of their ability to our shared missions. There is significant disparity in almost every aspect of the Air Force experience between the outcomes and the perceptions in areas such as promotions, law enforcement, sexual harassment, and assignments between members of less well represented groups and the white male majority. One notable perception gap is between a majority that generally thinks things are basically fine, and everyone else where there is a strong perception that it is not all fine," he said.

"My intent is to actively address each of these issues. There are some programs already ongoing in each of these areas. The Department has not ignored them by any means, but I believe we can do better," he said.

Growing the Flowers family business: Longest-serving Airman promotes son to brigadier general

By Shireen Bedi
Air Force Surgeon General Public Affairs

FALLS CHURCH, Va. (AFNS) – U.S. Air Force promotions are significant moments in every Airman's career, but for Brig. Gen. Alfred K. Flowers Jr., Air Force Medical Service Manpower, Personnel and Resources director, his promotion also means continuing in the Flowers family business.

On September 7, Flowers Jr. was pinned with his current rank by retired Maj. Gen. Alfred K. Flowers Sr., who is the longest-serving Airman in U.S. Air Force history.

"Having my father pin on my rank here at the Air Force Memorial means a lot because last time we were here, we were taking photos when my father retired," Flowers Jr. said. "This is where he ended his career in 2012 and here is where I am taking on a new role."

Flowers Sr. has been to every single one of his son's promotions. And while it is often the case that Airmen are inspired to serve by close family members, few can say they can call upon a general officer for advice at any time. Especially one who had served for more than 46 years, started his Air Force career as an enlisted supply warehouseman at Grand Forks Air Force Base in North Dakota, and retired as the deputy assistant secretary for budget in the Office of the Assistant Secretary of the Air Force for Financial Management and Comptroller.

"Every assignment or challenge I have faced, I would think, 'What would dad say or what would he do in this situation?'" Flowers Jr. said. "His guidance has been my 'True North' compass in many of the decisions I have made, and he still remains my confidant when I am faced with a tough decision. I am just blessed to have him as that resource. Sometimes I feel I am at an unfair advantage to have someone like my father with his legacy to call when I need advice."

Flowers Sr. has seen the Air Force change significantly since he enlisted as a 17-year-old in 1965.

"I have seen the Air Force grow tremendously," Flowers Sr. said. "I started off as an airman basic, making $97 a month. Now, Airmen make as much as lieutenants did when I started. The capabilities I see in the Air Force today is amazing. It is as if we started with a cart and buggy when comparing to what we have today."

Following in his father's footsteps, Flowers Jr. was compelled to serve his nation. Instead of working for a civilian hospital, Flowers Jr. opted to commission into the U.S. Air Force's Medical Service Corps. He graduated Commissioned Officer Training School in 1997. Since then, he held positions at squadron and at headquarters levels. In addition to serving in the Office of the Secretary of Defense, he also served as the command surgeon for Space Operations Command prior to his current role.

During his promotion ceremony, Flowers Jr. reflected over his 24-year career, recognizing and thanking those who have helped him get to this point, including AFMS leadership, both past and present. He also recognized how much his father has impacted him as an Airman and leader.

"I first want to recognize Maj. Gen. Alfred K. Flowers, aka dad…. The Air Force embodies Al Flowers and our family," Flowers Jr. said. "I was born in Wilford Hall carrying a [common access card] in my hand … and I am proud to stand here as a member of a legacy and heritage to serve this great nation. I am the keeper of the family business and I am minding the family store."

This family legacy is furthered by the fact that Flowers Sr. is also the longest-serving African American service member in Department of Defense history.

Retired Maj. Gen. Alfred K. Flowers Sr., left, the longest-serving Airman, stands next to his son, Brig. Gen. Alfred K. Flowers Jr., Air Force Medical Service Manpower, Personnel and Resources director, during Flowers Jr.'s promotion ceremony at the Air Force Memorial in Arlington, Va., Sept. 7. ***(U.S. Air Force photo by Josh Mahler)***

Throughout his career, Flowers Sr. has come to understand exactly how diversity serves to strengthen the Air Force.

"Diversity, inclusion and equity makes us all better, but equity is something we don't talk a lot about, but I try to stress its importance," Flowers Sr. said. "It's great to be diverse, it's great to be included, but if there is no equity, you're still not at the table. We ought to strive to make as much investment in hiring qualified people regardless of what they look like, and not be afraid of diversity."

For Flowers Jr., fostering diversity and inclusion will continue to be key to his current position and leadership role.

"I have great gratitude and praise for the senior minorities in the AFMS," Flowers Jr. said. "For me, in addition to diversity, there is inclusion and belonging. I hope to play a pivotal role in supporting that and continue to serve my Airmen and Guardians in this new role."

As Flowers Jr. takes on a new rank and leadership position, the Air Force family tradition continues with his two sons who also have military career aspirations, with one son at the U.S. Air Force Academy and another at Texas A&M.

During Flowers Jr.'s promotion ceremony, his father reminded him of what it means to pin on the brigadier general rank and to be a leader in the U.S. military, imparting his own servant leadership style.

"This promotion to general officer is important and you know it's not about you," Flowers Sr. said. "You know that well. It is about the Air Force's and the nation's confidence in you and your ability to lead and accomplish the mission with our sons and daughters."

DAF awards Rolls-Royce B-52H engine contract

The Department of the Air Force has awarded a $2,604,329,361 contract to Rolls-Royce Corporation, Indianapolis, Indiana, for B-52H Stratofortress military derivative commercial engines. ***(U.S. Air Force photo by Senior Airman Keifer Bowes)***

By Secretary of the Air Force Public Affairs

WASHINGTON (AFNS) – The Department of the Air Force has awarded a $2,604,329,361 contract to Rolls-Royce Corporation, Indianapolis, Indiana, for B-52H Stratofortress military derivative commercial engines.

The competitive single award contract provides for 608 military derivative commercial engines, plus spare engines, associated support equipment and commercial engineering data, to include sustainment activities, to be used on the B-52H bomber fleet.

The Rolls-Royce F130 engine will replace the TF33-PW-103, which has powered the B-52 since the 1960s, and is projected to no longer be supportable beyond 2030. The B-52 original equipment manufacturer, Boeing, is responsible for integrating the engines onto the aircraft. The Air Force plans to finalize integration activities and deliver the first lot of B-52H modified aircraft by the end of 2028.

"The B-52 CERP is a complex upgrade that not only updates the aircraft with new engines, but updates the flight deck area, struts and nacelles," said Brig. Gen. John Newberry, Air Force bombers program executive officer.

"Our current virtual digital prototyping efforts are giving us an opportunity to integrate the engines and other changes to the B-52 before doing any physical modifications. This has allowed us to develop the most cost-efficient solution while reducing the time from concept to production."

The B-52H is a long-range, heavy bomber that can perform strategic attack, close-air support, air interdiction, offensive counter-air and maritime operations. The bomber is capable of flying at high subsonic speeds at altitudes up to 50,000 feet. It can carry nuclear or precision guided conventional ordinance with worldwide precision navigation capability.

The new engines on the B-52s are expected to remain on the B-52H through at least 2050, increase fuel efficiency, increase range, reduce emissions in unburned hydrocarbons, and significantly reduce maintenance costs.

"The B-52 Commercial Engine Replacement Program is the most important and comprehensive upgrade to the B-52 in over half a century," said Maj. Gen. Jason Armagost, director of Strategic Plans, Programs and Requirements at Headquarters Air Force Global Strike Command, Barksdale Air Force Base, Louisiana. "The B-52 is the workhorse of the nation's bomber force and this modification will allow the B-52 to continue its critical conventional and standoff mission into 2050's."

The first two fully modified B-52s are projected to deliver by the end of 2025 and will undergo ground and flight testing. The first lot of operational B-52s with the new engines is projected to deliver by the end of 2028 with the entire fleet modified by 2035.

AFMC announces MAJCOM Spark Tank semifinalists

By Marisa Alia-Novobilski
Air Force Materiel Command

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – The Air Force Materiel Command has selected five semifinalists from more than 100 submissions to the command-wide 2022 Spark Tank competition.

The semifinalists will present their innovative and game-changing ideas, Oct. 8, to a panel of leaders during the fall AFMC Senior Leader Conference. The top two ideas as identified by the panel will represent the command in the 2022 Air Force-wide Spark Tank competition.

"A last minute push helped us to exceed the number of submissions received last year, which tells us that our AFMC Airmen continue to think outside-of-the-box to find ways to do things better despite the challenges of working in a COVID environment," said Bethany Weiser, 2022 AFMC Spark Tank coordinator and member of the Commander's Accelerated Initiatives Office. "In addition to the five semifinalists who will present their ideas to our senior leadership, we received a number of additional submissions that we plan to work outside of the competition. Our military and civilian Airmen are helping build the AFMC and Air Force we need for the future."

The Air Force Materiel Command has selected five semifinalists from more than 100 submissions to the command-wide 2022 Spark Tank competition. ***(U.S. Air Force graphic)***

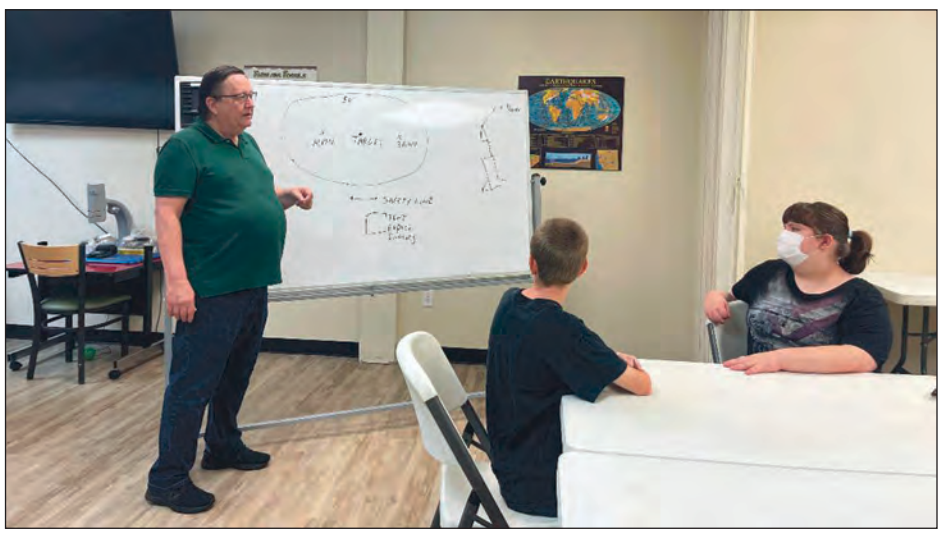
The AFMC semifinalists are:

- **Flying Log Interactive Test System**, submitted by Greg Monroe, Air Force Life Cycle Management Center.
  - The web-based system would allow for coordinated test planning across geographically-dispersed teams across the world.
- **Part Supply Technicians Integration**, submitted by Jason Davis, Air Force Sustainment Center.
  - By utilizing a smart DD-1348 with integrated QR codes instead of four separate bar codes, service members can get real-time updates for their assets.
- **Ground Surgical Team Tactical Anesthesia Workstation**, submitted by Maj. Thomas Heering, Air Force Research Laboratory.
  - Surgical teams lack the ability to secure vital equipment when mobile or in deployed environments. The TAW seeks to solve this problem on the field by replicating the safety systems in place within in-garrison hospitals.
- **Forms 202 and 107 Technical Assistance Request (TAR) Consolidation**, submitted by Zach Pickard, Air Force Materiel Command Headquarters
  - This idea seeks to consolidate the 202 and 107 TARS into a single form that leverages an automated system and can be used by any field or depot maintenance organization.
- **F-22 Open Systems Architecture Rack**, submitted by Maj. Allen Black, Air Force Test Center.
  - The F-22 was recently upgraded with an Open Systems Architecture Rack. This idea seeks to leverage and partner with the F-35 FoX Table effort to enable interoperability between the systems and airframes.

For more information on the AFMC We Need effort and to submit a game-changing idea to the team, visit ***https://www.afmc.af.mil/About-Us/AFMCweNeed/***. The Commander's Accelerated Initiatives Office continuously seeks new ideas and innovations that can improve processes across the command.

As of 9-13-21. Subject to change. Please call to verify. Services eligibility required except Golf-Open to Public. Contractors follow company policy when necessary. No federal endorsement of sponsors intended.

Area youth show off their engineering skills in rocket launch competition



Jim Burns, deputy of the Arnold Engineering Development Complex Space Test Branch at Arnold Air Force Base and an American Institute of Aeronautics and Astronautics member, outlines the objective of the competition to the participants of this year's Reach for the Stars event at the Hands-on Science Center in Tullahoma, Aug. 21. *(Courtesy photo)*

By Deidre Moon
AEDC Public Affairs

Area students ages 10 to 18 competed in the annual Reach for the Stars competition, hosted by the Hands-on Science Center, or HOSC, in Tullahoma last month.

The participants built their rockets Aug. 21, but due to rain, the launching portion was postponed until Sept. 12.

Members of the Tennessee Section of the American Institute of Aeronautics and Astronautics, the Coffee Airfoilers, and Olga Oakley, the Science, Technology, Engineering and Mathematics, or STEM, Program director for the HOSC, organized the 2021 Reach for the Stars event for students from across southern middle Tennessee.

Competitors started the first day at the HOSC with a pep talk on the importance of STEM from Col. Jeffrey Geraghty, Arnold Engineering Development Complex commander.

Jim Burns, deputy of the AEDC Space Test Branch and AIAA member, along with Coffee Airfoilers Club member Ken Herrick and volunteer John Marchi, were on hand to share their expertise and provide assistance to the participants.

After two launches and parachute landings, the competitor with the closest average distance to an on-field target wins.

The 2021 winner of the local Reach for the Stars competition was Alex Winn, a freshman at Tullahoma High School. Winn, who also won the competition last year, has been invited to celebrate with the other national winners at an event at the Space and Rocket Center in Huntsville, Alabama.

Oakley congratulated Winn and all those who competed in this year's event.

"Reach for the Stars is an annual educational outreach program meant to provide a fun, hands-on learning opportunity," she said. "The students are always excited for the chance to build and launch their rockets. They do a really great job and put a lot of effort into it.

"I also want to thank everyone who participated, Commander Geraghty for being our speaker at this year's event and especially to our volunteers for giving of their time."

Rosie Johnson is pictured with the rocket she launched as part of the 2021 Reach for the Stars competition held Sept. 12 at the Hands-on Science Center in Tullahoma. *(Courtesy photo)*