



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



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VKF wind tunnel repairs moving along on schedule

By Patrick Ary
Aerospace Testing Alliance

As the deadline nears for having a major test facility back online those involved with getting it back in service say the work has gone well so far.

Damaged diffuser plates from the von Kármán Gas Dynamics Facility Wind Tunnel A are back on-site and work crews are finishing their installation. The diffuser plates were damaged during an equipment failure in the tunnel last fall.

The latest milestone in the tunnel's return to service means things are moving right along.

"We're still shooting for mid-April," said VKF test asset manager Tom Miller, who is on the return-to-service team. "We're on schedule."

Wind Tunnel A went down during

preparation for a Standard Missile test. An actuator failed and some of the diffuser plates that direct air flow up to speeds of Mach 5.5 fell into the tunnel, bending the plates and breaking pins that held them in place.

Since the failure, AEDC employees have been hard at work getting the tunnel back online. Repairs involved welding and machining the plates back into service in the Model Shop, repairing damaged foreign object screens and removing and reinstalling all of the complex control systems that move the plates.

In the meantime, the test that was supposed to take place in Tunnel A has been rescheduled, and the customer has been testing in Propulsion Wind Tunnel 16T

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Dean Shoemake positions upper diffuser plate C-D before dropping it down between the sidewalls of the von Kármán Gas Dynamics Facility's Wind Tunnel A Feb. 28. Several plates were damaged during an equipment failure last fall and had to be re-shaped and drilled in AEDC's Model Shop. (Photo provided)

Governor Haslam visits AEDC



AEDC Commander Col. Michael Panaris uses the facility model of the Propulsion Wind Tunnel to explain how the tunnels operate to Tennessee Gov. Bill Haslam, far right, and Lt. Governor Ron Ramsey, second from right, March 2. Haslam joined other state lawmakers on their annual visit to the base. It is the first time a Tennessee governor has come to AEDC since Ned McWherter came to the base in 1990. For more photos of the visit, see page 9. (Photo by Rick Goodfriend)

A&E cafeteria closing March 11

By Patrick Ary
Aerospace Testing Alliance

AEDC employees who frequent the cafeteria in the Administration and Engineering Building will lose that option after March 11.

Compass Group, the subcontractor that operates the A&E cafeteria and the main cafeteria in building 452 on base, is closing the A&E cafeteria down March 11. ATA logistics branch manager Mike Ramsey says the company is closing it down as a result of continued budgetary/financial challenges in FY11.

"People may remember that we made several changes in base cafeteria operations early in October 2010 to address significant FY11 budget limitations," Ramsey said. "Unfortunately, these efforts have not been sufficient to meet these limitations. Therefore, this consolidation of base cafeterias is necessary to preserve this important service within the budgetary restrictions we face."

Ramsey says historically the base cafeterias have operated with the goal of breaking even, but that rarely happens. In the past, the subcontractor's losses have been covered as part of the contract. That changed in FY 2011, and Compass was asked to break even without help.

"By keeping two cafeterias open, they

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AEDC employees help co-workers hit by tornado

By Shawn Jacobs
Aerospace Testing Alliance

The homes of at least three AEDC employees were damaged when what weather officials have confirmed as a tornado roared through northern Franklin County early Monday afternoon.

Phillip Hice, a mason with the ATA carpenter shop; Daryl Justice, ATA emergency management lead; and Jeff Utley, branch manager of design engineering, all reported damage to their homes.

Hice was at work when the storm went through and left to go home, according to Ronald Bandy, working foreman of the carpenter shop, which took the term "Team AEDC" seriously. Bandy and a number of the shop employees left after work and went directly to assist Hice, whom he described as "an excellent worker."

"After work we just went over there," Bandy said. "We just went because he's a friend and we work with him, and he would do us that way if something happened to us."

Bandy says Hice's house sustained quite a bit of damage to his roof.

"Probably a two-and-a-half foot [diameter] tree fell on his house – knocked one of his dormers off of his house," he said. "He had about 25 trees in his yard; he's got about four left now, and they were all big trees."

"His house was in pretty bad shape where the roof collapsed. I'd say it did a lot of structural damage to it."

Other ATA carpenters involved in the effort included Billy Farless, Clayton Crawford and Chris Davison. Floyd Gibbs, a laborer in roads and grounds, lent a hand, as did Jim Popovich, a former ATA employee.

"We broke out the hammers and finished tearing a dormer off that was pretty much broken in so we could tarp it off and the tarp would lie flat," Farless said. "We got the tarp on right before dark and tried to get it where he'd be in the dry if it started raining again."

Hice later said he does not know what

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ATA employees and others are seen helping to clean up and secure fellow employee Phillip Hice's home following a tornado Feb. 28. (Photo provided)

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HIGH MACH

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An Air Force Materiel Command Test Center

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The center's vision: AEDC as the test center of choice, the workplace of choice for our people and a model of environmental excellence.



Vision

"ATA will be a trusted partner in delivering best value warfighter support and assert stewardship to AEDC"

Core Values

- Be accountable for our own actions
- Ensure the safety of individuals and equipment
- Demonstrate the highest integrity and ethical standards
- Communicate clearly and openly
- Deliver professional and technical excellence
- Nurture, enable and treat people fairly
- Align with customer goals and objectives
 - Use disciplined and innovative processes
- Continually improve in all that we do



Core Values

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

Be ready; the new season brings new threats

By Col. Michael Panarisi
AEDC Commander

Now that the ice storm threat is largely behind us (and we did an outstanding job of managing risk this winter!) a new beast looms on the horizon, and in fact, paid us an early visit this week. Tragically, it took the life of one of our neighbors and wreaked havoc across the state. If you haven't re-thought your plans and preparations for the spring tornado season, the time is NOW.

Here in middle Tennessee, we lie on the seam of two major air masses: the warm moist air drifting north from the Gulf, and the cool, dry flows driven south out of the Great Lakes region. When these bodies collide, we're in for some rough weather, and we got an early taste of that this week. Long, fast-moving lines of thunderstorms are the norm for this period and with them, high probabilities of tornados. Though not quite the frequency or intensity of "tornado alley," the conditions here pose a real threat, and one we cannot take lightly. To combat this threat, we all need to re-evaluate our plans, decision processes, and review how we stay informed about the current and forecast conditions.

The first step is in your "job jar." Your preparedness will be a big factor in your ability to survive and beat these storms. In your home, it's time to review and restock your shelter room. For the best protection, choose a room deep inside the structure, surrounded by walls. These walls will serve as supporting beams in the event of a roof collapse or worse. Interior bathrooms are often excellent candidates.

Make sure everyone in your household knows what room you have chosen, and what items you should bring along when you head that way. It's best to pre-position some supplies: small food items, a couple of bottles of water, flashlight, first aid kit — things that will help get you through a day or so should it take some time for crews to dig through the rubble.

As you head to the room, grab your cell phone, your house cordless phone and a weather radio.

Do you have a wireless network set up in your house? Great, then grab the laptop too! Don't forget, power outages are part of the threat, so make sure you have backups for anything that plugs in. Anything you can think of to signal a rescue team that you need



Panarisi

help and keep informed on the storm's progress.

Then there's the decision ... when to batten down the hatches and head to the shelter. Awareness is key. Today the forecasting capabilities are very good, so stay tuned to the local sources for updates. Most of the information comes from the National Weather Service and is fed to media outlets and government facilities (like our Operations Center).

The terminology has changed recently. The NWS issues a "tornado watch" for large areas, typically county by county, when "conditions are very favorable" for tornadic activity. These messages are typically issued an hour or so before the storm's arrival, and should serve as your "heads up" that whatever plans you had for the day need adjustment.

Then there's the "tornado warning." These are now more specific, and include threatened municipalities in the path of a sighted or assessed (on radar) tornado forming. These warnings typically call out the areas by name, and are much shorter in duration, usually less than 30 minutes. These warnings are usually the basis for the decision to sound the alert sirens.

Did you hear the siren Monday? Arnold AFB was specifically identified as in the path of the identified tornado, and our Ops Center sounded the sirens (and sent out the AtHoc messages) about 15 minutes in advance of the event just south of the base.

So the real question: what did you do when you heard the siren? I hope the answer is "I took cover!"

Knowing where to go in your building is just as important as where to go in your home. When you get the alert, don't wait for the building manager or your supervisor to tell you it's time to go. If you are not indoors when the siren goes off, a nearby building should be your first target. If you are on the road, it's time to head to a low lying area; the debris in the air is your greatest threat, and

getting flat on the ground offers the smallest possible target.

Speaking of targets, by all means DO NOT offer Mother Nature a new one by electing to head home just ahead of the storm. These tend to pass quickly, so you are much better off delaying your departure and staying here. Get in the habit of checking the weather an hour or so before you plan to leave and make any arrangements you need to ahead of time, should you make the wise choice to let the storm pass before heading home.

No action will prevent all injuries and eliminate all the risks in these events, but prudent planning and quick actions will make a big difference. Having the decisions made ahead of time is money in the bank. But when the worst does happen, take comfort in the team dedicated to your protection.

The Ops Center, the EOC, AEDC Security Forces, Emergency Management and the Fire Department all played vital roles in the rescue effort on North UTSI road this week, and will be there for us any time we need them. Let's make their jobs as easy as we can by staying aware of, and ahead of this threat.

Since You Asked...

What one question would you most like the answer to?



Bobbie Arnold

"Why is it that when my husband decides to do spring cleaning in October, I need something he has decided to throw away?"



Larry Phipps

"Does the job we do in general at AEDC make a difference in making the world a better place to exist?"



Will Kissel

"Who is 'they?'"



Kimberly Smith

"Why is it that kids think they know more than the parents?"

454-3600

The AEDC Information Line is available for ATA employees to get the latest information on a wide variety of emergency circumstances that could impact base operations or driving conditions.

Since You Know

A lot can happen in 60 years.

As we approach the 60th anniversary of AEDC on June 25, you may want to show off what you know about the past six decades of the base's history ... and "Since You Know," we're giving you a chance to do that.

Beginning March 18, High Mach's "Since You Know" feature will bring you a trivia question every issue. Send your answer (or best guess) to **Arnold.HighMachAnswers@arnold.af.mil**. Three winners will be drawn at random from the correct entries and will receive a limited edition 60th Anniversary High Mach hat! The winners' photos will be featured in the following issue along with the next question.

"Since You Know" will continue after the June 3 issue of High Mach, but the limited edition anniversary hat is the prize only during the months of April, May and June. Only AEDC employees are eligible.

Action Line

Team AEDC

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

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

Col. Michael Panarisi
AEDC Commander

Smoking Policy

1. The following revised AEDC smoking policy is effective immediately. Smoking is permitted solely in designated areas identified by a plastic "smoke genie." This receptacle is for the sole purpose of cigarette butt disposal. If there is no receptacle, you cannot smoke in that area. It is the responsibility of all smokers to clean up the area surrounding the receptacles for any cigarette butts on the ground. Smoking in government-owned vehicles is strictly prohibited. Personnel are allowed to smoke in their personal vehicles at any time. In case of inclement or cold weather, employees are encouraged to use their personal vehicles if a sheltered designated smoking area is not available nearby. Smoking areas will be held to the absolute minimum and will be located in low traffic, low visibility areas away from points of building ingress/egress and air intakes. A map of all authorized smoking areas is available on the AEDC web portal at [https://lpapro.arnold.af.mil/PORTALimages/Smoking area map. pdf](https://lpapro.arnold.af.mil/PORTALimages/Smoking%20area%20map.pdf). Smoking near a facility in an area not designated on the map is prohibited and any smoking receptacles located in areas not shown on the map will be removed. All "smoking permitted" and "no smoking" signs will be removed unless specifically required by OSHA.

The fact a person smokes has no bearing on the number of breaks they may take. Breaks should be taken in accordance with the company/agency personnel policies that apply to all employees.

Regarding use of smokeless tobacco, 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. Smokeless is strictly prohibited in conference room meetings and other areas, e.g. PMEL, where Air Force regulations specifically prohibit.

2. Supervisors at every level will ensure this policy is followed. Disciplinary action is appropriate for repeated violations.

3. Updates to this policy will be made in the future to further align with Air Force guidelines.

4. This letter supersedes previous letter dated 28 October 2006, subject as above.

Engineer for a day at AEDC

Students gain insight during activities on base

By Shawn Jacobs
Aerospace Testing Alliance

Garrett Payne, a junior at Riverdale High School in Murfreesboro with aspirations of being an aerospace engineer, said his participation in engineer-for-a-day Feb. 23 at AEDC affirmed his career goals.

He especially enjoyed being paired up with a mentor for part of the afternoon to get a close-up look at what goes on at AEDC.

"I enjoyed seeing really what their day is like and what they do," Payne said. "They just don't look like [an airplane] looks like; they see how the engine functions and see if it has any problems before they actually put it up in the air."

Kirk Butler, ATA test operations and system engineer in the Aerodynamic and Propulsion Test Unit (APTU), was Payne's mentor for the afternoon.

"We showed him how the facility operates and how we

simulate actual true flight conditions to test engines and aircraft flight equipment."

Butler, who has worked at AEDC for just more than three years, said this was his first experience as mentor, but he thinks the program is a good way to help interest students in engineering and other high technology fields.

"I think it definitely helps them understand the possibilities out there because a lot of kids think, 'I might be interested in engineering,' but have no idea what they can really do with an engineering degree," he said. "Luckily, here at AEDC we have a vast range of professions that one can perform with an engineering degree, whether the student's interest is in mechanical, computer, electrical, industrial or civil engineering."

Thirty-two juniors and seniors from 13 high schools in nine counties and six students from home school programs participated in the engineer-for-a-day



During engineer-for-a-day activities Feb.23, Capt. Scott Rinella, above, shows students the Aeropropulsion Systems Test Facility (ASTF) C-2, where aircraft engines are tested. At right, AEDC Commander, Col. Michael Panarisi, demonstrates how varying the shapes of paper airplanes can change their flight patterns. (Photos by Rick Goodfriend)



activities, which included an introduction to the base by Col. Robert Bender, chief of AEDC's Mission Support Division; a

welcome by AEDC Commander, Col. Michael Panarisi; tours of various base facilities; and a lunch and lecture at the Univer-

sity of Tennessee Space Institute (UTSI), sponsored by the Tennes-

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Design competition puts students' knowledge to the test

By Patrick Ary
Aerospace Testing Alliance

It was a day of anticipation for students from eight different high schools around AEDC.

They were going to pair up in teams of two and build something in an effort to outperform other students, but they didn't know what the challenge would be.

When they first heard the details, it may have sounded like a simple task: put a penny in a bottle. But it proved to be much more than that when students got their materials and found out they were building: a Rube Goldberg device to put the penny in the bank.

Rube Goldberg machines are devices that perform a simple task through a series of complex steps. In the student competition, they were given everyday items like paper towel tubes, plastic bottles, cups and straws to build a machine accomplishing the task.

Students from Webb School, St. Andrews-Sewanee, Franklin County, Huntland, Tullahoma,



Cascade High School students Sarah Soto and Jordan Claxton give a presentation of their Rube Goldberg device at the Hands-On Science Center Feb. 23. Soto and Clayton were one of several area high school teams taking part in the Student Design Competition that was part of Engineers Week activities. (Photo by Rick Goodfriend)

Moore County, Shelbyville Central and Cascade high schools showed up to try their hand at building a penny-delivering device.

They were scored based on a formula that took into account the number of energy transfers (the different mechanisms constructed), the length of time

the device ran, the device's success at completing its task and a group presentation. It's a small-scale representation of real-world engineering that's

not focused simply on finding a solution to the given task.

"Really their effort is to maximize their score based on the formula," said Lance Baxter, AEDC's Technology Development Branch chief and one of the competition's judges. "If you looked at the formula, the penalty for not putting it in the bottle was not that severe. It's less about successfully getting it in the bottle than it was about analyzing the formula and producing a solution that would give them the best score."

The students only have two hours from finding out their task to presenting their solution. Baxter said it's interesting to see the students gain an understanding of working within their time constraints to find a solution, and one of his favorite parts is watching them come up with ideas.

"I like seeing the different approaches," Baxter said. "The fact that all these different kids from all these different backgrounds ... each one of them sees the

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Education in defense communities



Several members of the Air Force Materiel Command's Community Liaison Program served on a panel discussion about education and workforce development at the Association of Defense Communities Winter Forum Feb. 14-16 in San Antonio, Texas. Pictured from left are at-large member Jim Leftwich, AEDC representative Janice Bowling, Robins AFB region community representative Mary Therese Tebbe and Edwards AFB representative Les Uhazy. (Photo provided)

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he would have done if his coworkers had not shown up.

"They're lifesavers," he said. "They're professionals; they are my 'brothers.' I told them I owed them a steak supper."

Hice said his house sustained "quite a bit" of structural damage from the storm. He has received one estimate of \$30,000 to restore the house, which did not include rebuilding an outbuilding that was destroyed.

He said he is just glad nobody was home when the tornado hit.

Justice, who lives next door to Hice, didn't suffer as much damage but was surprised to see the destruction when he got home.

"We knew that there was damage in north Franklin [county], but I was thinking that it was on over toward

Estill Springs," he said. "I live about halfway between Estill and Tullahoma, so it sort of surprised me when I found out about it."

Justice described his damage as mostly, "superficial."

"A lot of shingles [are] gone," he said. "It picked up my heat pump and threw it out in the yard, but there doesn't seem to be any structural damage to my house."

"Nobody was home at either house on Phillip's side or my house, but the neighbor on the other side was home and he took shelter in a closet. He was on the side farthest away from the storm, so he lost some shingles but that was all."

Neither Utley nor his wife was home at his house as well.

Despite the damage, Justice said he felt fortunate.

"We fared much better than a lot of people in our neighborhood did," he said. "They had some significant damage."

Justice received a helping hand from a fellow AEDC employee, as well, as Neil Felver, DoD Fire Department and Emergency Management program manager, helped put tarps on his roof. In addition, Brad Walker, ATA emergency management coordinator, was en route to help when Justice told him the situation was under control.

Justice was back at work Tuesday, but both Hice and Utley were busy with clean-up and repair.

Reflecting on the damage, Justice's emergency management background came through loud and clear.

"People just need to heed the warnings when they're issued," he said.

AEDC provides mutual aid emergency assistance during deadly tornado

By Philip Lorenz III
Aerospace Testing Alliance

When the warning sirens went off on Arnold AFB on Monday, fire and police department first responders from the base were already en route to provide mutual aid assistance in Estill Springs, a nearby community, due to adverse weather affecting much of middle Tennessee.

Approximately 14 first responders from AEDC made it to the scene.

"We were advised there were at least one, possibly two people trapped as a result of the tornado activity," recalled AEDC Fire Department Chief Daryle Lopes. "[The] original mutual aid request was for Arnold Fire's heavy rescue truck.

"Initially Rescue-15 and Chief-2 responded and joined with law enforcement and fire department forces [from] Tullahoma's fire department and Estill Springs' fire department already on the scene."

Lopes said that another engine crew from AEDC joined the effort later.

Tullahoma Fire Department Chief Richard Shas-

teen and his team were already on the scene when Assistant Fire Chief Tom Lombard and Rescue-15 arrived to provide assistance.

"My role at this incident first was to supply firefighters to assist Estill Springs' firefighters in removing victims which were trapped under a single wide trailer," Shasteen said. "After successfully removing the viable victim, they removed the fatality. The Tullahoma Fire Department and AEDC Fire Department were then asked to clear at least one lane on all roads leading into the emergency scene which was accomplished with great team work between the two departments.

"Chain saws and physical strength was what it took and the firefighters certainly delivered. All roads in the area were open within a short period of time and the departments were released to return to their respective areas."

Lopes described the role his team played in the emergency response effort.

"The Incident Commander assigned Arnold Fire to clear blocked roads

to provide access for additional responders and we did so using chain saws from E-2 and R-15 while Chief-2 performed area reconnaissance," he explained.

Lopes said all of the first responders involved have a long-standing professional relationship that has only been strengthened over the years.

"It was very satisfying to see multiple fire, police and EMS units come together at a time when the community needed it most," Lopes said. "We all work extremely well together because we make it a point to build relationships through training and regular contact.

"Chief Shasteen with the Tullahoma Fire Department and Chief Lowhorn with Estill Springs' Volunteer Fire Department and I have tried to forge a strong bond between our departments and our relationship with Chief Trull and Arnold Police simply can't be beat."

Lopes emphasized the importance of the interde-

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This huge oak tree was one of many downed in AEDC employee Phillip Hice's yard by the Feb. 28 tornado. (Photo provided)

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weren't really able to meet that financial objective," Ramsey said. "So we decided – at their request – that we would reduce down to one cafeteria with the goal of breaking even."

There are currently six Compass employees working at AEDC. According to Gary Williams, the company's general manager on base, the staff will be reduced to five because of the A&E closure.

Ramsey says food service contractors on base have several limitations that have kept them from breaking even independently on base.

"A lot of people try to use the same logic for a commercial restaurant that has access to the entire public," he said. "They have advertising. They operate at different hours.

The requirement here is you're serving mainly lunch ... you have a limited customer base, and through the years that customer base has declined from a high of more than 4,000 people in the 80s down to roughly 2,500 now. These factors, combined with other federal labor wage requirements, limit the food service provider's flexibility."

Compass reduced the variety of its menu and eliminated some of the higher-loss items – such as salad bars – in an attempt to break even, Ramsey said. The company also geared more of its food toward pre-made items that cost less to prepare and serve.

While there was anticipation that there would be some "sales resistance," Ramsey said the numbers

dropped more sharply than Compass anticipated.

"They had a good plan and they discussed the plan with us, and they made some projections on sales and costs with the objective of keeping both cafeterias open because that was a key service we wanted to maintain," he said. "But with two locations you have more cost that's required to operate at those two locations, and with the drop in sales it was just more than they projected they needed to keep the two locations open."

Col. Robert Bender, the chief of AEDC's Mission Support Division, says the government supports the decision to condense operations, and Compass put forth a great effort in trying to make ends meet.

"They can't operate at

a loss," Colonel Bender said. "So we owe them the best opportunity to make it, and this is the only prudent move we can make."

Colonel Bender works in the A&E building and is a regular user of the cafeteria there. He said he has spent the last couple of weeks making trips to the main cafeteria from his office and has been able to get there and back with little to no loss of time. He says he hopes others in the A&E building will do the same.

Ramsey said he also hopes the closure will bring more A&E employees over to the main cafeteria.

"We realize that this

reduction's going to be an inconvenience for a number of people, but we're trying to do it in the best way that we can to preserve this service and this benefit in the least disruptive way to the base work force," Ramsey said. "We would really appreciate people's patience and understanding with this, and we want them to continue to use the cafeteria as much as they can. It is something the base wants to maintain and if we want to keep it, we all need to recognize that's using it is critical to its success. We want people to attend and participate and to see it as their cafeteria."

With the closure of the A&E cafeteria, Ramsey said the company will be making changes at the main cafeteria to bring more business in. Compass manager Williams said that includes bringing back the salad bar, which should be back on March 14.

The Main Cafeteria will serve only lunch with service hours from 10:30 a.m. to 1 p.m. each work day. The lunch menu will include a hot entrée line and a full grill line. The hot entrée line will offer a variety of entrées, sides and a salad bar. The grill line will offer burgers, grilled chicken, hot dogs, fries and daily specials.

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problem a little bit differently, and they come at it a little bit differently. It is exciting to see the variety of different ways that solving a single problem can be attempted.”

Kyle Redrow, a physics teacher at Webb School in Bell Buckle, took eight of his students to the event. Redrow found out about it through his boss, who was given an application at a conference.

It was his first time bringing students to the competition, but he said it won't be the last.

“It was good to apply what they've been doing in the classroom,” Redrow said. “They definitely had to apply what they learned in my class. They were using all the terms of momentum and energy in explaining their design and then in building as well.”

Redrow said while the competition gave the kids experience in engineering practices, AEDC Commander Col. Michael Panarisi also did a good job of giving them a real-world perspective of what engineers do.

“He did very well at tying all that into what real engineering is, which is

good because it's something the kids really do need,” Redrow said.

Two of Redrow's students, Tripp Moss and Cameron Togrye, won first place in this year's competition.

Heath Skelton and Jared Davis from Tullahoma High School took second place, and Joseph Davis and Briley Butler from Cascade High School in Bedford County came in third.

The top three teams won video cameras, digital cameras and external hard drives.

The event was sponsored by Jacobs Technology Inc., Aerospace Testing Alliance, The University of Tennessee Space Institute, the Tennessee Society of Professional Engineers, the American Society of Mechanical Engineers, the American Institute of Aeronautics and Astronautics, Integrated Testing and Evaluation Association, the Hands-On Science Center, Ascend Federal Credit Union, Peoples Bank & Trust, Subway, Coca-Cola Tullahoma, Duck River Utility Commission and the Tullahoma Utility Board.

TUNNEL from page 1

and Wind Tunnel B. The Tunnel B testing wrapped up on Feb. 17, according to project manager 2nd Lt. CharMeeka Scroggins.

“They have been satisfied with the data that they have been accumulating thus far from our tunnels,” Lieutenant Scroggins said. “We are working toward getting ready for the Tunnel A portion of the test.”

Getting the plates repaired and ready to go back into the tunnel in preparation for the Tunnel A testing was not a simple process, according to ATA test and support facility manager Walt Bishop.

Model Shop workers and Design Engineering were dealing with original drawings that were not up-to-date. It was a challenge that everyone met head-on, Bishop said.

“In this case we utilized our inspection lab personnel to gather accurate measurements, our metallurgical lab technicians to help verify materials, Steve Ary's expertise to determine appropriate weld processes and design engineering to ensure our repair processes were structurally sound and aerodynamically acceptable,” Bishop said.



Bill Horton and Dean Shoemake lift lower diffuser plate D-E as they prepare to reinstall it in the von Kármán Gas Dynamics Facility's Wind Tunnel A Feb. 9. The plate, which was damaged in an equipment failure last fall, was repaired at AEDC's Model Shop. The tunnel is expected to return to service in mid-April. (Photo provided)

In addition to the skills of AEDC workers, Bishop said the wide array of heavy machinery on base gave workers an advantage over those who built the tunnel decades ago.

“For example, we recently commissioned a large CNC horizontal mill that we used extensively,” Bishop said. “With this type of power and precision we were able to repair the plates in a relatively short period of time with much better accuracy than what was possible in the past.”

The on-time installation

of the plates means once systems are back in place and online, the checkout process can begin.

That's expected to happen around March 30, Miller said.

“We're simply going to pull the tunnel under a vacuum and move the diffuser plates around as if we were running and then check for leaks,” Miller said. “The actual running of the tunnel and getting ready for a test is a completely separate effort.”

The tunnel is the subject of an investment project coming up later this year. Because more work is on the horizon, Model Shop workers made some changes to the plates.

Those changes included minor modifications to how the jacks attach to the dif-

fuser plates.

Now there is no need to remove the plates when new jacks are installed. Workers also tapped holes for lifting lugs that will make it easier to move the plates.

“Putting the lifting lugs there makes it a lot easier and safer to install than it was when we removed them,” Miller said. “We can do it a lot more securely and getting them in and out is a lot more controlled. It's just safer and easier.”

Another change was modifying the plates for the installation of safety straps, which will keep the plates from separating in the event of a similar failure in the future.

“In a similar failure, the plates should not separate,” Miller said.

Nominations for AEDC Fellows are due March 23

AEDC is currently accepting nominations for the 2011 Fellows Program with submissions due no later than March 23.

Established in 1989, the Fellows Program recognizes AEDC individuals who have made substantial and exceptionally distinguished technical contributions to the nation's aerospace ground testing capability at AEDC.

Since the inception of the program, AEDC has bestowed the center's highest honor to a grand total of 67 individuals (Fellows, Lifetime Achievement Fellows and Honorary Fellows).

AEDC Fellows nominations may be submitted by any present or former AEDC government or operating contractor/subcontractor employee.

All current or retired military, civilian and operating contractor and subcontractor personnel assigned or previously assigned to AEDC can be considered candidates for selection as an AEDC Fellow.

Candidates qualified for consideration as an AEDC Fellow must personally have made sustained, no-



lifetime contributions to AEDC in any area relevant to the AEDC mission.

Only AEDC Fellows may submit a nomination for an AEDC Honorary Fellow. AEDC Honorary Fellows are reserved for exceptional candidates and are not necessarily selected each year.

table and valuable contributions in aerospace ground testing at AEDC.

AEDC Lifetime Achievement Fellow nominations may be submitted by any present or former AEDC government or operating contractor/subcontractor employee. AEDC Lifetime Achievement Fellows are reserved for exceptional candidates and are not necessarily selected each year.

All current or retired military, civilian and operating contractor/subcontractor personnel assigned or previously assigned to AEDC can be considered candidates for selection as an AEDC Lifetime Achievement Fellow.

Candidates qualified for consideration as an AEDC Lifetime Achievement Fellow must personally have made notable and valuable

AID from page 4

pendence between all of the first responders.

"We all depend heavily on one another to build the capability to tackle big jobs, and knowing each other and working together really paid off for everyone that day," Lopes said. "We're deeply saddened by the tragic loss of one of our neighbors, but I know that every AEDC responder is proud to have been there for our community. I'm extremely proud of Arnold Fire and every other responder at the scene for the way they performed."

Shasteen said the weather can take unexpected turns with little warning but the dedication and training of all area first responders is critical to avoiding further loss of life.

"It is certainly a tragedy when something like this happens, however, I was proud to be serving with such an energetic and competent group of highly trained professionals," Shasteen said. "I received several calls from chiefs and other people involved in the incident with nothing but positive comments about our response."

Chief Trull, chief of AEDC's Police Department, said he was proud of the way all of the emergen-

cy service first responders answered the call for assistance in Estill Springs.

"We actually sent seven personnel in three vehicles to enter the area from the Spring Creek road access to assist as needed," Trull recalled. "Our officers proceeded to the hardest hit location to support search and rescue efforts that were already ongoing. Once the person that was initially reported missing

was found safe, our officers returned to base.

"I believe the emergency response by everyone on our first responder team, including police, fire, medical and emergency management folks, was quick, efficient and sufficient to manage the devastated area and maintain a calm and deliberate effort to protect persons and properties affected by this tragedy of nature."

ENGINEER from page 3

see section of the American Institute of Aeronautics and Astronautics (AIAA). A total of 31 mentors from AEDC and one from the Duck River Utility Commission participated.

James Link, an ATA electrical and design engineer in the Facilities Design Branch, is a member of the Tullahoma chapter of the Tennessee Society of Professional Engineers (TSPE), which helped sponsor engineer-for-a-day as part of National Engineers' Week Feb. 20-26. It was his job to coordinate mentors with students according to the students' areas of interest.

Link said the overall purpose of the program is to try to get students interested in becoming engineers.

"[We] bring them in and introduce them to what engineering is in a very practical setting and ex-

plain some practical aspects of what an engineer does and then also talk to them about what they might expect in school, what kinds of classes they might take and also show them in real life what an engineer does," he said. "This mentor program gets them out into the plant, lets the engineers show them what they do and lets them get one-on-one so they can talk about their jobs and what they do.

"These are all students who were handpicked by their teachers or counselors as being juniors and seniors who are good in math or science. These are kids who had an interest and had the grades, and the teachers were asked to send us two or three really good students who were sharp and you think would be interested in engineering."

Mike Hamby, a senior

The following corporations, organizations and institutions provided funding or other support for Engineer-For-A-Day:

- AIAA
- Ascend Federal Credit Union
- ASME
- ATA
- Duck River Utility Commission
- ITEA
- Jack Daniels
- Jacobs Engineering
- Peoples Bank and Trust
- Tullahoma Chapter of the TSPE
- Tullahoma Utility Board
- University of Tennessee Space Institute

electrical systems engineer with Jacobs Technology who is on TSPE's board, said he likes engineer-for-a-day because he does not think many students today understand the process it takes to build something.

"When I've mentored out here they've said they didn't know all this was going on," he said. "They didn't understand that there were documents that had the requirements. There were design docu-

ments; then you went and built it and you tested it. They weren't aware of all this behind the scenes stuff that went on to make the airplanes and the cars and the things that we use every day."

George Cohron, a physics teacher at Grundy County High School recruited six students to bring to the event, for which he had nothing but praise.

"I think it's awesome,"

Cohron said. "I did something similar to this when I was in high school, and I was really for it so I think it's fantastic."

Hamby, meanwhile, said the success of engineer-for-a-day makes him want to get more involved in the educational system.

"There's a [TSPE] program called engineer-in-the-classroom and we've not been able to implement that, but I think there's some interest from the

schools that we'd actually have some sort of presentation similar to what we gave the students [at AEDC]," he said. "An engineer would go to the school and just encourage the kids in science and technology.

"That's a program we've discussed in our meetings but haven't gotten it off the ground yet. Talking to teachers and to the [UTSI] folks, I think there's a real need for that."

Other Engineers' Week activities in the community included a "Math-Counts" competition at the Manchester/Coffee County Conference Center, Student Design Competition at the Hands-On Science Center in Tullahoma and Engineers' Week Banquet at the conference center.

The Highland Rim chapter of the American Society of Mechanical Engineers (ASME) also helped sponsor the week's activities.

Governor Haslam and legislators visit AEDC



Gov. Bill Haslam and Lt. Gov. Ron Ramsey joined state lawmakers in touring AEDC March 2. The trip, organized by House Speaker Pro Tem Judd Matheny, included a tour of several base facilities. After the tour, some lawmakers visited the Tullahoma Training Site and attended a dinner at UTSI. (Photos by Rick Goodfriend and Philip Lorenz III)



IN FOCUS:

Health and Wellness

Mistakes made, lessons learned from heart attack

Steve Medley wants his ordeal to serve as a warning to other smokers

By Patrick Ary
Aerospace Testing Alliance

On the afternoon of Jan. 21 Aerospace Testing Alliance (ATA) employee Steve Medley was ready to leave AEDC and meet some friends in Winchester to start his weekend.

But a funny feeling came over him near quitting time that made him think twice about heading for home; a pain in the right side of his face and neck and difficulty swallowing. It was the second time he'd experienced it that day and the third time that week.

"I was standing out there by that company truck, and something just came across me and said 'Get in that truck and go,'" Medley said. "So I got in the truck and headed up to the dispensary."

His decision to get checked out may have saved his life.

A battery of tests at the ATA/CORE Dispensary on base revealed nothing out of the ordinary. After half an hour of poking and prodding, Medley was ready to go. But nurse practitioner Jessica McNeese asked him to be patient enough for one more test: an electrocardiogram that would take about 45 seconds.

Medley relented and McNeese ran the test. Before he could even ask about the results, he heard the backup alarm of an



ATA employee Steve Medley is back at work in AEDC's X-ray lab after a heart attack in January sidelined him for about three weeks. Medley's doctors told him smoking cigarettes for the last 30 years contributed to a blocked artery in his heart. He has since quit. (Photos by Rick Goodfriend)

ambulance pulling up outside.

"When I heard that, I knew something was going on, and she came in and said the EKG was off," Medley said.

That last test indicated that Medley had suffered a heart attack. McNeese had already called for AEDC emergency responders to take him to the hospital.

"I just thought I did what was in his best interest, because people have the right to refuse treatment," she said. "But I thought if they were right here at the door, he wouldn't refuse as much."

Medley ended up at Harton Regional Medical Center, still not quite convinced that what he was feeling was serious. He

thought it was possible he was suffering from a case of "white coat" syndrome – anxiety over seeing a doctor instead of an actual health problem.

"Your heart gets to beating when you go in and see doctors and stuff, but I thought 'Well, we'll get over to the hospital and they'll turn around and I'll be out of there quick,'" he said. "But when I went in, they checked me and said 'You're here to stay.' So they got me transported up to the ICU unit and notified my family."

A cardiologist had confirmed that the feeling Medley had was a heart attack; in fact, he had gone through three heart attacks in three days and hadn't realized it.

He spent the night in the in-

tensive care unit at Harton before his wife had him transferred to Middle Tennessee Medical Center in Murfreesboro.

On Jan. 22, Medley – who says he never spent any time in a hospital before then – had two stents inserted in the circumflex artery of his heart, which was 99 percent blocked.

Doctors inserted the stents through a catheter they ran to his heart through his groin. The procedure was so quick, Medley said he felt better before his wife could even get the car parked and up to the waiting room.

"I wasn't getting the full circulation in my heart," he said. "But as soon as they put those stents in, it was like 'boom,' I felt it right

then. As soon as they got the circumflex artery open, I could feel so much difference."

Before the heart attacks, Medley didn't classify himself as an unhealthy person. His second home is the golf course, and he enjoys riding his Harley on the weekends. He also stays active with his wife and two daughters, ages 5 and 11.

There was only one thing about his life that he didn't consider healthy: smoking.

Medley smoked a lot; a pack a day for about 30 years, he estimates. He said he started because it was the "cool thing to do" when he was younger. But at age 45 and with no other egregious habits, doctors said what he once considered "cool" was the sole reason for the blocked artery in his heart.

Medley had tried quitting twice before but said he never really took it seriously. There in the hospital, a doctor told Medley he had to give it up for good if he wanted to be around to see his daughters grow up. It turned out to be the motivation he had been lacking.

"That was the moment I said I'll never smoke another cigarette," he said.

After about three weeks of recuperating at home, Medley returned to work Feb. 15. He works in AEDC's X-ray lab, doing the radiography side of non-destructive examination (NDE). Some of his duties include ensuring the integrity of welds, pressure testing and verifying that the base's

See MEDLEY, page 11

Commander's Fit Tip: It's time to test yourself on the track

By Col. Michael Panarisi
AEDC Commander

Now that our super smooth track is open for business (except when we close it to apply the cushy rubber top coat in a few weeks!) it's time to crank out a few laps, right?

Well, maybe.

NASCAR fans will surely appreciate the surface consistency and repeatable conditions an oval track has to offer, but unless you truly enjoy endless "left handers" a track can be a formidable foe in the motivation department.

"What? It takes FOUR laps for a mile?" Yes, that can be a mental challenge to overcome; plus, if you are going for your long run, keeping track of all those laps can be a bear. So I have a few ideas on better uses of our new asphalt training ground, provided you are ready to "take it up a notch."

I'm not sure about the genesis of the oval track shape; maybe it's just good for the fans. Those turns just don't work for me if I have to do more than a couple. But what about interval training? Is the track a good place for that? The answer is YOU BET!

If you recall our exploration of interval training a few months back, you'll remember that this workout event is intended to challenge your aerobic engine, not your muscles. During interval training, you run (or bike) at near full, sprint speeds, but stop before you "run out of legs." Then you rest to let everything recover for the next blast.

Done correctly, you'll operate at max lung rate, near max heart rate, but never really challenge your legs. The legs will operate at a deficit during the fast portion, but they get more than enough recharge time in between.

Meanwhile, you are huffing and puffing at the limit, so your diaphragm gets a great workout, and your heart is working overtime as well. All this adds up to a unique and beneficial challenge to the aerobic side, provided you follow the rules. And the first one is totally counter-intuitive: DON'T OVERDO IT!

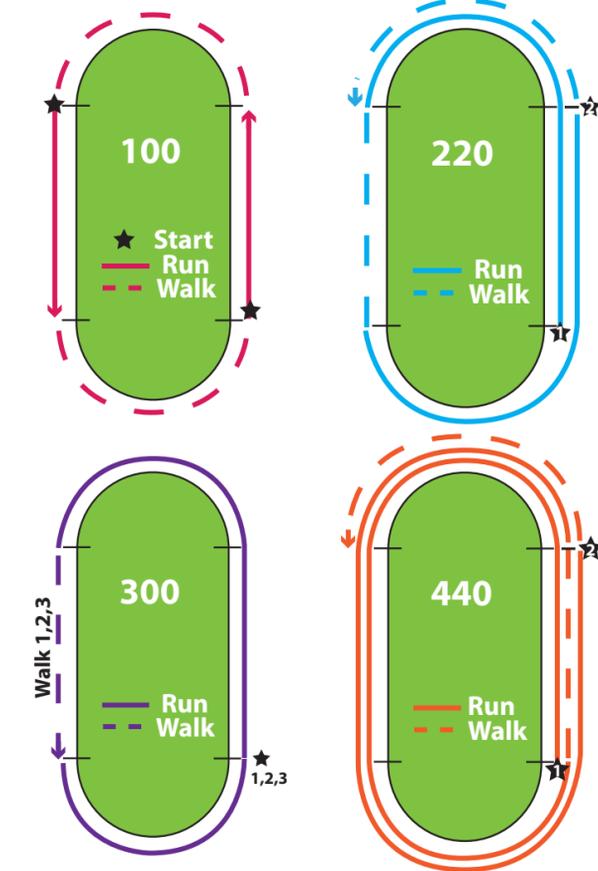
OK, now everyone's confused! Yes, intervals have to be intense to work. But that isn't a license to go bonkers. Let's call it "controlled fury." And that's where the track is our friend. We can get very reliable feedback and signals about when it's time to move on. Hang with me on this.

But since we're talking intensity here, your doctor has to be fully on board, and you CANNOT carry an injury through this.

The first step in any intense workout is a thorough warmup followed by a stretch routine. Use these to assess your condition. If anything feels out of whack, scratch this for the day and hit the elliptical or bike for a "light day" routine, or maybe even do the "listen to your body" act and take a down day.

This is the time to push your lungs, not your limits! Here's my pre-interval plan: I chug a bottle of water, then 10 minutes on the elliptical (five forward, five backward), calf raises, on the ground quad stretch, on your back ham stretch, foot rotations, and back "pretzel stretch" (see Ron for that one!) Then on the track, I do four laps at increasing speeds until I hit "race pace." A quick cool down, then it's GAME ON!

Second rule is about "recovery time." That's the amount of time you spend on the slow side. "Olympic-level" training carries about a "one-to-one" ratio, meaning if you push hard for a



minute, you would recover for about a minute (or less).

Since I haven't seen any medals hanging up in anyone's office around here, we'll need more than that. "2 to 1" is a better place to start. So if you push for a minute, you might recover for as long as two minutes. It will seem agonizingly long at first, but after a few repetitions, you'll see what I'm talking about!

Third rule: repeat, repeat, repeat. This is where the track comes in. It offers a very repeatable "interval" family. Nice, consistent, geographically defined start and stop points that are infinitely repeatable.

Endless possibilities here, so I'll just offer my favorite "sprint day" prescription. If you've ever been on a track team, this set is

similar to "wind sprints" training, and for weightlifters, it uses the "decreasing load" approach. The best thing about this workout is you can adjust the distances as you progress. So this is just a starting point.

The workout is based on a "standard" quarter mile oval, or for track fans, the infamous "440." The routine uses four distances. The 440 is pretty standard, and the rest are just estimates. I call them 300s, 220s and 100s. I haven't actually measured these; I just use fixed points on the track.

Here's how it works: assuming you've followed ALL the rules first and are all warmed up, pick a point on the track you can find easily (like the start of a straight, where most tracks have

a "start line") and begin a "440" there, clock running.

As you get moving, slowly accelerate to about 80 percent of sprint speed, and try to get there in the first 100 yards. This is not a sprint off the line, but rather a controlled acceleration. The intent is to find a speed you can maintain for the rest of the lap; much faster than you would run a mile but slower than you would use to "beat out a grounder" on your way to first base.

When you hit the landmark, hack the clock and note the time. This is your target time for the rest of the 440's. As long as you can sustain this time, you remain at the 440 distance. When the time increases significantly, or goes up two laps in a row, it's time to move on to the 300s.

So what about the recovery? That will vary, but expect to "brisk walk" the length of a full straight, maybe even a straight plus a corner. You'll have to adjust a bit as you go, but try to end at another convenient point on the track.

If you are using a heart rate monitor, you'll be in hog heaven. You are ready for the next one when you recover to less than 70 percent of max. I crank it up again at 130 bpm. Your spot will depend on your age and a bunch of other factors. If you hit your recovery point or time before a good spot on the track, just pick up a slow jog until you hit the point. Your heart rate should stabilize at the recovery rate. If it goes up, you are going a little too fast.

Now it's a just a matter of repeating. A 300 is a lap minus one straight. A 220 is a curve and a straight. A 100 is just the straight. (See the inset!) The pace on the 300 should be a little faster than

See FIT TIP, page 11

MEDLEY from page 10

welders are up to code on their work.

"I like getting up and coming to work," he said. "Everything I do in NDE is different. It's not the same routine. It's a challenge, something different every day."

Outside of the smoke breaks disappearing, things at the job haven't changed much.

Outside work is a different story. He has started jogging every day with his wife.

He says his sense of taste has improved, and he's enjoying meals more as a result. As far as those meals go, he is eating more salads and fish.

But one of the most apparent signs of his lifestyle change is he has about \$70 more a week in his pocket — money that he had been spending on cigarettes.

"Now we're putting that money in a jar at home," Medley said. "Come winter time, we're going to go snow skiing."

When it comes to thanking people for helping him through the ordeal, Medley has a list a mile long. It includes all of the medical staff involved and the emergency responders at AEDC who got him to the hospital.

He's also thankful for

the co-workers and managers from AEDC that traveled to visit him while he was in the hospital.

"It was pretty neat to see that you work in an environment where they care about you enough to be there and respect you enough to be there," he said.

But the person he's the most thankful for is Jessica McNeese.

He said without her recognizing what was wrong and convincing him to stick around for one more test, he might not have made it home to Winchester that day.

"Jessica saved my life," he said. "I was rushing her, trying to get out of there because I already felt better. With her knowing what she knows and doing what she did, she saved my life."

McNeese, who has been a nurse practitioner at the dispensary for almost three years, says she knew Medley wasn't feeling his usual "happy-go-lucky" self the day he came to visit her, and she just had a bad feeling about his appearance. But she says the credit lies with Medley and the decisions he's made about his lifestyle since then.

"That's our job here," she said. "He's the one



Nurse practitioner Jessica McNeese gives ATA employee Steve Medley a checkup at the ATA/CORE Dispensary Feb. 25. Medley credits McNeese with saving his life, after she detected symptoms that Medley had a heart attack. (Photo by Rick Goodfriend)

who has quit smoking, so he's the one that's going to continue on."

McNeese said the dispensary staff has more visits from people in similar situations than they would like, and the situations are easily preventable.

Advances in cardiology have been great in the last few years, but she says not needing them is even better.

"People just need to pay attention to the symptoms," she said. "Be aware. Try to take better care of themselves. Stop smoking. Eat better. If your cholesterol's high, try to do the appropriate things to get it into better control."

Medley is one of the lucky ones. Despite having three heart attacks in as many days, he says doc-

tors told him there was no actual damage to his heart.

Now he wants his story to serve as a lesson to other smokers.

He said he's not looking to push the message on everyone, because they have to make their own decision on quitting.

Still, it's hard when he sees someone on base light up a cigarette.

"There's part of me that wants me to tell them to stop," he said. "But I smoked like that many years and I won't get on to anybody for doing it, because I know how hard the habit was for me."

"It took a life-changing event for me to turn around and say 'Hey, I'm done smoking cigarettes.' It's just a no-win situation."

Resources available for smokers who want to quit

By Philip Lorenz III
Aerospace Testing Alliance

According to a recently published annual report by the Centers for Disease Control and Prevention, an estimated 46 million people in the United States smoke cigarettes.

The consequences of smoking are well documented; the CDC states that cigarette smoking is the leading cause of preventable death in the U.S.

To put those numbers into perspective, as many as one third to one half of those 46 million smokers will die from this habit.

According to Dr. Rob Tessier, Comprehensive Occupational Resources (CORE) physician at the base dispensary, 'preventable' is the key word.

"We recommend options to quit primarily based on the person's motivation to quit and tolerability," he said. "Options include anything from chewing gum to prescription medication and counseling — smoking cessation classes."

Jessica McNeese, CORE nurse practitioner at the base dispensary, said, "I encourage patients to quit smoking every year at their physicals. Some who may come over here more often usually get a quick 'stop smoking' comment from me, especially when they present with respiratory complaints. It takes the average person multiple attempts and it takes the support of family, friends and co-workers in order to be successful. Some are more receptive and do ask further questions and express an interest in smoking cessation."

McNeese said for those patients who ask about available options to quit smoking, she almost has the answer memorized.

"I review the various methods of quitting, including cold turkey, pharmacological, over-the-counter nicotine re-

placement therapy, behavioral modification. There is a smoking cessation class that is conducted at least twice a year out here and people can be referred to that class."

She said it is important to tell patients the consequences of smoking, even though these are well documented.

"Smoking increases the risk of cardiovascular disease, such as hypertension, heart attack and coronary artery disease," she said, "and also includes peptic ulcer disease, pulmonary diseases [including] chronic obstructive pulmonary disease (COPD), emphysema, osteoporosis and cancers of the lung, head and neck, esophagus, pancreas, and bladder. Smoking [also] causes premature wrinkling; low birth weight babies and increases the risk of sudden infant death syndrome."

Dr. Tessier also spoke about the impact those who smoke have on family members and others in their home and work environments.

"Not only is the smoker affected, but those around him or her," he said. "In recent years, studies have increasingly shown that second-hand smoke can be just as dangerous with regards to cancer risk. Second-hand smoke also increases the risk of sudden infant death syndrome (SIDS) in infants and respiratory and ear infections in children."

ATA has contracted Pam Krusac, a certified respiratory therapist for more than 30 years, to provide s m o k i n g cessation counsel-

ing to contract employees.

"I counsel once a quarter or on an as need basis," she said, acknowledging the challenges faced by long-time smokers. "A lot depends on the attitude of the patient. I start out having them fill out a questionnaire, which gives me an idea of how long, why, medical problems and outside influences, etc."

"I tell them that if they want to smoke that is their right and I will support them 100 percent. But if they truly want to quit I'm behind them 125 percent and that they have the right to die however they want."

Krusac said most people understand why quitting smoking is important to them as individuals, but sometimes fail to grasp the consequences it has for those around them.

"They do not realize how it affects others and what their quality of life will be in their later years — how much better their life can be when cigarettes do not dominate their life," she said. "Quitting is a mental challenge for most. Women are more emotionally attached to their cigarettes than men. If they really want to quit, it will work. If they are willing to make changes, it works every time."

To learn more or to schedule smoking cessation counseling, contact the base medical aid station at 931-454-5385. Active duty personnel and DoD civilians at AEDC who are interested in seeking help to quit smoking may contact Ron Stephenson at 931-454-6440.

FIT TIP from page 10

the 440, and 220 faster still. The 100 is a 90 percent sprint. No need to go 100 percent unless some bears find their way onto the track during your workout.

And remember, when the time starts to increase, or you just "feel" you can't sustain the pace to the end, MOVE ON. It may only be two at each distance, but if that's the case, think about extending the recovery

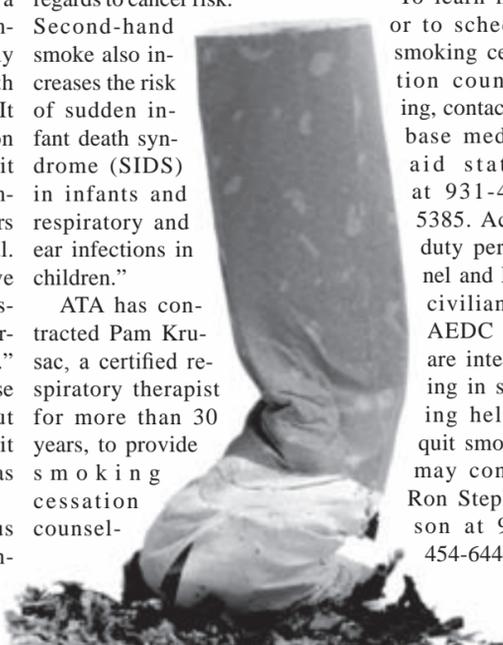
time some. Then about five minutes jogging for a cool down, followed up with the same stretch routine.

Another dose of H₂O, and you're DONE! Well under 30 minutes for the track time. That's it.

Once a week is plenty for this routine, and it certainly counts as a "hard day" if you are on an alternating schedule. I plan these for Wednesday, but

many runners like to start the week off with intervals and "work down" the rest of the week, ending with the "long slow jog" on Friday.

It will take a few attempts to find a groove, but unless you're from another planet, there's gold in these if you give them a chance. Just DON'T OVER DO IT! If you need a demo, I'll see you out there on Wednesdays!



Air Force announces next tanker aircraft

By Capt. Chris Sukach
Air Force Public Affairs

WASHINGTON (AFNS) – Air Force and Defense Department officials announced the award of an engineering and manufacturing development contract valued at more than \$3.5 billion for the KC-46A aerial refueler to The Boeing Company today.

Secretary of the Air Force Michael Donley said in the briefing that many factors were evaluated during the tanker selection process.

“This selection process determined whether or not the proposals demonstrated the ability of an offerer to deliver all 372 mandatory requirements and whether non-mandatory capabilities would be addressed,” said Secretary Donley, emphasizing that both offerers met the mandatory requirements. “It also took into

account fleet mission effectiveness in wartime, and life cycle costs as embodied in fuel efficiency and military construction costs.”

Deputy Secretary of Defense William Lynn noted the “competition favored no one except the taxpayer and the warfighter.”

The Air Force-led selection effort included experts from the larger DoD community, including staff from the Office of the Secretary of Defense and independent review teams during each step of the process.

The thorough and transparent selection process was marked by continual dialogue with offerers to ensure the Air Force had a clear understanding of their proposals and the companies clearly understood the service’s analysis of their offers, said Secretary Donley.

Secretary Donley also highlighted that the warfighter was in charge of

stating the requirements for the tanker, and that meeting those requirements enables the aircraft to go to war on day one.

“General Schwartz and I are confident in the fact that when our young pilots, boom operators and maintainers receive this aircraft, they will have the tools they need to be successful at what we ask them to do,” the secretary added.

Air Force Chief of Staff Gen. Norton Schwartz shared the secretary’s sentiment.

“I’m pleased with how this has produced an outcome after an exhaustive effort by hundreds of the department’s very best people, that we will get about delivering the capability that’s long overdue,” General Schwartz said.

While the focus of the briefing was on the award of the contract, Secretary Donley addressed basing considerations for the aircraft,



Secretary of the Air Force Michael Donley (at podium) answers a question from a reporter after he announced during a press conference in the Pentagon Feb. 24, 2011, that the KC-46A tanker contract was awarded to The Boeing Company. Behind Secretary Donley (from the left) are Air Force Chief of Staff Gen. Norton Schwartz, Deputy Secretary of Defense William Lynn and Undersecretary of Defense for Acquisition, Technology and Logistics Ashton Carter. (U.S. Air Force photo/Jim Varhegyi)

stating that those decisions involve other organizations and will take place over the next couple of years.

Secretary Donley also reiterated the service’s commitment to provide quality equipment to the warfighter.

“To the men and women of our Air Force, today’s announcement represents a long-overdue start to a much-needed program,” Secretary Donley said. “Your Air Force leadership, supported by Dr. (Ashton)

Carter and others throughout the Department of Defense, is determined to see this through, and we will stand behind this work.”

The program expects to deliver the first 18 aircraft by 2017.

Arnold Golf Course 454-7076

New Base Numbers for Arnold Golf Course

Pro Shop: 454-GOLF (4653) or 454-7076

Mulligan's Coffee Bar and Grill: 454-FOOD (3663)

Golf Fax: 454-7222
Golf Maintenance: 454-7228

Net an AF Hoops 3-Pointer Combo Meal

Food, fun and basketball is the theme all through March as Arnold Lakeside Center and Mulligan's Coffee Bar & Grill hold the AF Hoops 3-Pointer Combo Meal Promotion. The promotion features specially priced combo meal choices featuring a 44 ounce Coke Final Four Promotional Cup. Along with the cup, patrons can purchase wings, a burger or a hot dog – all with fries and each for a special price! The cups with a favorite Fountain beverage will also be available for purchase. Look for signage and specific offerings in these facilities.

Golf Rec League will begin in April with play on Mondays or Tuesdays at 4:30 p.m. Watch for more details coming soon.

New 2011 Club Car Golf Carts just received! Nine new golf carts have replaced older carts in the fleet. Rental prices will remain the same.

Customer Loyalty Program for golf advanced green fee players to start for 2011 season. Purchase an annual green fee at Arnold Golf Course for 2011 and receive:

- 10 percent discount on Pro Shop merchandise
- 10 percent discount on cart rental
- 10 percent discount on Driving Range tokens
- 10 percent discount on food and beverage purchases at Mulligan's Coffee Bar & Grill

These discounts will be good during the 2011 season which runs April 2011 through March 2012. This discount program is not to be used in conjunction with the Members First Plus discounts. Maximum discount allowed is 10 percent. Sale items and alcohol are not authorized for these discounts. Come by to purchase your annual green fee and get your card for a year of savings.

Arnold Lakeside Center 454-3350

Membership just got better. Air Force Material Command **Family Fun Daze** program is here. Arnold Lakeside Center will offer a **Family Game Night for members only** beginning at 5 p.m. Members and their families will enjoy a fun family night featuring board games such as Scrabble, Monopoly, Apples to Apples, Life, Yahtzee, Clue and others. Games will be played in the ballroom, and prizes will be awarded to each table winner. There will also be door prizes. Kids age 12 and under may enjoy a buffet of items such as pizza, hot dogs and mac n' cheese for only \$2. Others may enjoy half-price selections from the Express menu or 12-inch pizzas.

Second Friday Karaoke will be March 11 from 6–10 p.m. All ages are welcome from 6–8 p.m., but 8–10 p.m. is reserved for adults only. Special for members only 7–9 p.m. – 25-cent wings and half-priced pizzas. Dining room special will be grilled red snapper or tilapia, \$11.95 member, \$12.95 nonmember served 4–9 p.m. Call ahead for dinner reservations at 454-3350.

Wednesday Lunch is available for dine in or carry out from 11 a.m.–1 p.m. Call ahead to 454-5555 to place orders. No delivery available. For better service, you may call on any day and preorder. In addition to the Hap's Pizza menu, chef salad is available for \$5.95 which comes with ham, turkey, cheese and boiled eggs. Add grilled or fried chicken for \$2 more. Call to see what other specials are available each week.

Movie nights are every Thursday with movie start time of 6 p.m. and dinner available from the Express or Pizza menus from 5–8 p.m. The schedule for March is: **March 10** – "Yogi Bear," rated PG starring voices of Dan Aykroyd and Justin Timberlake. A documentary filmmaker travels to Jellystone Park to shoot a project and soon crosses paths with Yogi Bear, his sidekick Boo-Boo, and Ranger Smith. **March 17** – "Harry Potter and the Deathly Hallows: Part 1," rated PG-13 starring Daniel Radcliffe, Emma Watson and Rupert Grint. As Harry races against time and evil to destroy the Horcruxes, he uncovers the existence of three most powerful objects in the wizarding world: the Deathly Hallows. **March 24** – "The Tourist," rated PG-13 starring Angelina Jolie and Johnny Depp. During an impromptu trip to Europe to mend a broken heart, Frank unexpectedly finds himself in a flirtatious encounter with Elise, an extraordinary woman who deliberately crosses his path. **March 31** – "TRON: Legacy," rated PG starring Jeff Bridges and Garrett Hedlund. The son of a virtual world designer goes looking for his father and ends up inside the digital world that his father designed. He meets his father's creation turned bad and a unique ally who was born inside the digital domain of The Grid.

Friday night dining room specials available from 4–9 p.m. March 4: Surf & turf, \$15.95 member, \$16.95 nonmember. First Friday Jam is 6–10 p.m. **March 11:** Grilled red snapper or tilapia, \$11.95 member, \$12.95 nonmember. Second Friday Karaoke 6–10 p.m. Member's Special: 25-cent wings and half-priced pizzas 7–9 p.m. **March 18:** Monterrey chicken, \$10.95 members, \$11.95 nonmembers. **March 25:** Italian cheese stuffed pork chops, \$13.95 members, \$14.95 nonmembers. Last Friday Trivia 6 p.m. ALC Friday Lent special March 11–April 22: Grilled Red Snapper or Tilapia \$11.95 member, \$12.95 nonmember.

All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Saturday availability

and specials: March 5: Homemade lasagna, \$9.95 member, \$10.95 nonmember. **March 12:** Steaks with crab sauce, \$13.95 member, \$14.95 nonmember. **March 19:** Prime rib for two, \$31.95 member, \$32.95 nonmember. **March 26:** Smoked cheese ravioli, \$9.95 member, \$10.95 nonmember. The dining room is open on Saturdays from 5–9 p.m. unless otherwise specified. All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Trivia Contest returns 6 p.m. March 25. Teams can have up to four people. No cell phones are permitted during the event. Anyone using a phone while a question is underway will be disqualified. A tutorial will be given promptly at 6 p.m. to all participants prior to the start of the game. Six rounds of questions will be administered consisting of three questions in each round. Each round is worth 10 points. The team with the most points at the end will have their choice of available prizes. Remaining teams will select prizes in order of finish in point standings. Ties will be broken by a trivia play-off.

March 29 is a **Day Trip to the Country Music Hall of Fame** with lunch at the Hard Rock Café. Meet at the ALC at 10 a.m. Cost is \$25 plus lunch. Must be a minimum of five to participate and a maximum of 15 allowed. Call 454-3303 to sign up or for more details.

Family Member/Youth Programs (FamY) 454-3227

Parent & Tot workout area has been relocated from the Fitness Center to the Youth Center, located in building 3055, room 102. Hours of operation are Tuesday through Friday 10 a.m.–5 p.m. and Saturday 12–5 p.m.

Youth Movie Night will be moved from first Friday to Tuesday, March 8, this month to accommodate service needed for the annual awards banquet. Ages 9 and up are invited to the Open Rec Center to watch a movie from 5–7:30 p.m. There will be free popcorn, juice and water. Please call ahead if your child will be attending.

Air Force Air Society is currently accepting applications for our **General Henry H. Arnold Education Grant Program** which provides \$2,000 grants to selected sons and daughters of active duty, Title 10 AGR/Reserve, Title 32 AGR performing full-time active duty, retired, retired reserve and deceased Air Force members; spouses (stateside) of active duty members and Title 10 AGR/Reservists; and surviving spouses of deceased personnel for their undergraduate studies. The value and success of this program is demonstrated in the 91,095 grants disbursed since the first awards were made for the 1988-1989 academic year. Available to students who are in college or will be entering college next academic year. More information and eligibility requirements can be found at <http://www.afas.org/Education/ArnoldEdGrant.cfm>.

Mission Support Division hours of operation:

Arnold Lakeside Center – Special function luncheons available. Call 454-3350 for arrangements. Catering/Management offices Tuesday–Friday 10 a.m.–3 p.m.; Lunch: limited menu Wednesdays, 11 a.m.–1 p.m., call 454-5555 to place orders; Dinner: Arnold Express Menu or Hap's Pizza only Thursday 5–8 p.m., dinner or Arnold Express Menus and Hap's Pizza Friday 4–9 p.m. and Saturday 5–9 p.m.; Main Bar Thursday 5–8 p.m., Friday 3:30–10 p.m. and Saturday 5–10 p.m.; Social Hour Friday 4–6 p.m., Movie Night Thursday 6 p.m.

Family Member/Youth Programs – Tuesday through Friday 10 a.m.–5 p.m., Saturday 12–5 p.m., First Friday Movie Night 5–7 p.m.

Outdoor Rec – Main Office, Check In and Auto Shop Tuesday through Saturday 10 a.m.–5 p.m., Marina by appointment only.

Fitness Center – Monday–Friday 5 a.m.–9 p.m.; Saturday 8 a.m.–4 p.m.; Sunday 12–5 p.m.

Arnold Golf Course – Pro Shop 8 a.m.–5:30 p.m., Driving Range open 24 hours with pre-purchased key card. Mulligan's Grill: 6:30 a.m.–2 p.m. Monday through Friday, 7 a.m.–2 p.m. Saturday and Sunday.

Recycling – Monday through Friday 7 a.m.–4 p.m.

Wingo Inn – Monday through Friday 7 a.m.–6 p.m., Saturday and Sunday 8 a.m.–4 p.m.

Barber Shop: by appointment – Monday, Wednesday & Friday 8 a.m.–2p.m.; Thursday 8 a.m.–noon.

Deadline for this grant is March 11. Air Force Air Society is now on Facebook!

Drum Lessons will begin a new session March 19. Cost is \$50 for four 30-minute sessions and is open to ages 7 and up. Classes are held on Saturdays from 12–4 p.m. in 30-minute blocks for four week sessions. The next session will begin April 16. Call to set up your time preference.

4-H meeting is set for March 24 from 4 to 5 p.m. The 4-H program is for youth in fourth grade through 18 years of age. The next meeting is scheduled for April 28.

Fitness Center 454-6440

Intramural Basketball League is underway with games played on Tuesdays and Thursdays at 6, 7 and 8 p.m.

Pot O' Gold Run/Walk will be March 30 anytime during regular business hours (5 a.m.–9 p.m.). This is "on your honor" for two laps around the Fitness Center trail. The first 25 to sign up receive an event T-shirt.

Body Pump Boot Camp will now be held on Mondays, Wednesdays and Fridays from 6–7 a.m. This class incorporates plyometrics, jump squats, burpees, mountain climbers, calisthenics, jumping jacks, sit ups, push-ups and strength training utilizing dumbbells, medicine balls and your own body weight. It also addresses cardiovascular endurance and core conditioning in interval fashion. Forums will also use concepts such as team exercises – grab a partner for additional fun and exercise. This class is progressive as the weeks go on and a progress sheet will be developed for all participants to track their improvement. This class is geared toward all levels of fitness so come out and have some fun. Classes are for eligible users only (Members First Plus members, active duty military, retired military and DoD civilians).

Complete Group Class Schedule is as follows: Cycle Pump classes are Monday, Tuesday and Thursday from 11 a.m. to noon. Each day has a different focus: Monday – Zesty cycling – an easy paced tempo ideal for beginners; Tuesday – Endurance cycling – a bit harder class with mountain climbs, in- and out-of-

saddle work and at times completed to a simulated tour ride; Thursday – Yellow shirt cycling – challenging and intense preparing for outdoor circuits with a combination of hill climbs, speed drills, in and out of saddle work and tempo rides. These are a super way to get a good cardio workout without excessive impact on your joints. Yoga is on Monday from 11 a.m. to noon and provides strength and flexibility enhancement.

Body Pump Boot Camp is Monday, Wednesday and Friday from 6–7 a.m. Zumba class is Tuesday and Thursday from 4:15–5:15 p.m. Zumba is a fusion of music-dance themes featuring aerobic/fitness interval training with a combination of fast and slow rhythms that tone and sculpt the body. Pilates is a strength building and core class on Wednesdays from 11 a.m. to noon. Piloga is on Fridays from 11 a.m. to noon and also a strength building and core class. Cycling and Zumba classes are held in the Eagles Nest room upstairs. All other classes are held on the gym floor.

Outdoor Rec (ODR) 454-6084

Paintball is set for March 12. Ages 10 and older are invited to play. Meet at Outdoor Rec. at 9:30 a.m. Cost is \$20 and includes lunch. Remember to wear long-sleeved shirts and long pants.

Outdoor Rec (ODR) has planned trips to learn more about the significant things that happened in this country's history in places that aren't that far away. The **Battle of Stones River** began on the last day of 1862 and was one of the bloodiest conflicts of the Civil War. The battle produced important military and political gains for the Union and it changed forever the people who lived and fought here. Join ODR for a trip to Murfreesboro March 19 to tour the park guided by a park ranger. The tour will take place rain or shine and will cover the entire park with stops at certain points along the way to get a more in-depth look at the importance of these areas within the battlefield. Then tour inside the visitor's center featuring artifacts from the war as well as accounts from those who were involved. The tour itself will be from 1–4 p.m. Meet at ODR at 11:30 a.m. and plan to return approximately 5:30 p.m. There is an option to stop for food along the way if the group so chooses. Bring

cameras if you want and extra money for souvenirs. This trip is for all ages and cost is \$10 (free for age 7 and under). Deadline to sign up is March 16. There must be a minimum of 8 to take the trip with maximum of 26. In north Georgia and south Tennessee, Union and Confederate armies clashed during the fall of 1863 in some of the hardest fighting of the Civil War. The prize was Chattanooga, a key rail center and the gateway to the heart of the Confederacy. Learn more about the **Chickamauga Battlefield** on a park ranger guided tour March 26. Meet at ODR at 8:15 a.m. and return approximately 4 p.m. The tour will be from 11 a.m.–2 p.m. EST. Plan to stop for lunch after the tour. This trip is for all ages and cost is \$12 (free for age 8 and under). Deadline to sign up is March 23. There must be a minimum of eight to take the trip with a maximum of 14. Remember to bring your camera and extra money for souvenirs. Call 454-6084 to sign up or for more details.

Wingo Inn 454-3051

The Wingo Inn Lodging Operation has transitioned to a **new Web-based reservation system** making it easier than ever for guests to book their stay. The system, called Defense Lodging System (DLS) has many advantages including the capability to make online reservations at <http://www.dodlodging.net> as well as a direct link with the Defense Travel System (DTS) utilized for official temporary duty. The site provides contact information, photos of accommodations and other general information for each location. Reservations for the Wingo Inn can be made up to 120 days in advance. Active Duty, Retiree's, DOD civilians, Guard and Reserve, ATA Employees and Government Contractors doing work on Arnold AFB are eligible to use the facility. The location is ideal for a weekend get-away, out-of-town guests and events such as conferences, family or class reunions. Bundled with one of many of the Services facilities including the Arnold Lakeside Center, Gossick Leadership Center, golf course, information, tickets and tours and Outdoor Recreation, Lodging is ready to make your time at Arnold relaxing, fun and enjoyable.



Relay team having sale

The Coins 4 a Cure Relay for Life team will be having a sale at the A&E, Main Cafeteria, and BX/Commissary March 14-18.

The items that will be sold are Remembrance/Celebration luminaries and torches; Relay For Life lanyards and various fight against cancer buttons.

If you have any questions please contact Bill Gonce, 454-6602.

Workers put a lid on it

Pipefitter Bo Limbo gives directions to power equipment operator Shannon Davis as he lowers a lid back over a steam trench outside the A&E building Feb. 21. The work was part of the repairs the Base Civil Engineering pipe shop made over the weekend to a blown gasket that connects a flow meter and valve on the 200-psi steam line to the building. (Photo by Andrea Stephens)



Milestones

35 YEARS

Carl Brasier, ATA
Earnest Nard, ATA

30 YEARS

James Osborne, ATA
Edward Simmons, ATA
M Bingham Bragg, ATA
Dennis Elston, ATA

25 YEARS

Melissa Wilhoite, ATA
Debra Richards, ATA
George Stovall, ATA
John Hopf, ATA
John Bowles, ATA
Charles Bradford, ATA

20 YEARS

Leslie Tuttle, AF
Tony Pennington, AF
Dennis Crosslin, ATA
Mark Sain, ATA
Cletus Pew, ATA

15 YEARS

Mark Sisk, ATA
Gary Meuer, ATA

10 YEARS

Steven Layne, AF
Shannon Tibbals, ATA
Beau Campbell, ATA
James Harris, ATA

5 YEARS

Kevin Willis, ATA

Brandon Wiley, ATA
Benjamin Holton, ATA
Paul Sanson, ATA
Andrew Alexander, ATA
Kerrie Adams, ATA

INBOUND MILITARY

Michael Underwood, AF

RETIREMENTS

George Peterson, 45 years
Dale Jones, 30 years
Jimmie Sanders, 31 years

NEW HIRES

Adam Brandon, AF
Tommy McAnally, AF
Alicia Whitaker, AF
Brian Binkley, AF
Michael Elkins, AF
Angela Kelley, AF
John Spurlin, AF
Michael Underwood, AF