Navy returns to AEDC to test the next-generation heat shield materials for missiles, reentry vehicles

By Philip Lorenz III

Once it leaves a U.S. Navy Trident II submarine and is clear of the water, a submarine-launched ballistic missile (SLBM) rapidly accelerates to more than Mach 20, on its trajectory to impact and destroy a target. An SLBM is the Navy’s sea-based equivalent to the Air Force’s land-based Inter-Continental Ballistic Missile.

How do the Navy fleet commanders know for sure the sixth generation D-5 will survive those extreme environments, some very hot heat fluxes and pressures. Although there are many other tests here [ground test facilities] in the U.S., none of them can actually provide the proper conditions that we’re talking about – orders of magnitude different. Therefore, we need to simulate what a missile’s heat shield will experience in that extreme environment, some very high heat fluxes and pressures.

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How do the Navy fleet commanders know for sure the sixth generation D-5 will survive those extremely hot and severe aero-thermal flight conditions and accomplish the mission? This is where the Navy’s Drew Pathwick and the test team at the AEDC’s High-Enthalpy Arc-Heated facilities come into the picture. Pathwick is the Navy Rentry Ground Test Coordinator for the Naval Surface Warfare Center’s Dahlgren Division Detachment in Washington D.C.

Since 2000, he has been coming to AEDC to conduct aero-thermal testing to simulate what a missile’s heat shield material candidates will experience in that flight regime – to ensure they will survive long enough and intact enough to complete the mission.

“A flight test is extremely costly, I mean you’re taking your time, you’re performing a ‘simple’ ground test at AEDC,” Pathwick said. “The Navy had decided many years ago that the data we get out of AEDC for the price is actually a steal [when] compared to a flight test. And you get a very quick turnaround with your data, whereas with a flight test, from conception to flight, you’re talking about three years or something like that.”

Pathwick added, “Our systems see an extreme environment, some very high heat fluxes and pressures. Although there are many other test facilities in the U.S., none of them can actually provide the proper conditions that we’re looking for. AEDC is very unique in that respect.”

Pathwick said he and his colleagues

AEDC’s economic impact exceeds $642 million in 2012

By Kathy Gattis

AEDC’s economic impact – which includes AEDC and its remote operating locations – the Hypervelocity Tunnel 9 at White Oak in Silver Spring, Md., and the National Full-Scale Aerodynamics Complex at Moffett Field, Calif. – was $642.4 million for fiscal 2012.

Each location impacted the local areas through payroll, secondary jobs created through local spending, and other expenditures for supplies, utilities, fuel and services and the spin-off impact of those purchases.

AEDC employed a mixture of active-duty military personnel from the Air Force and Navy; Department of Defense civilians; and contractor personnel, which totaled 2,402 personnel in fiscal 2012. Of the 2,402 personnel, 52 were active-duty military, six Air Force Reserve and National Guard, 283 appropriated fund civilian employees (includes general schedule, federal wage board and other military branches); 66 government non-appropriated fund employees; 38 other civilians (credit union, Base Exchange and commissary service); and 1,013 contractor and subcontractor employees.

Additionally, using the Tennessee Valley Authority economic impact model methodology, AEDC estimated that more than 1,697 secondary jobs were created in the local area, for a total of 4,059 jobs directly related to AEDC. Examples of secondary jobs include those created by home construction and local suppliers, car dealerships and department stores.

During fiscal 2012, the payroll cost for AEDC, government and contractor personnel was $279 million. AEDC’s direct expenditures – which include utility costs, service contracts with outside vendors and real property lease payments to local landlords and hospitals – was more than $159 million. Furthermore, the indirect spin-off impact of these direct expenditures is approximately $206 million. The overall economic impact figure does not include more than $95 million paid to the approximately 4,434 retired military personnel living in the local area. In total, this extended pay group generates more than $140 million, including the spin-off effect.

Additionally, these figures do not include the impact from test customers or other companies who maintain staff at AEDC to manage tests of their products or participate in the test process.

The economic impact data and secondary employment estimates represent AEDC’s economic impact during fiscal 2012, which runs from Oct. 1, 2011 to Sept. 30, 2012. AEDC operates the world’s largest complex of ground test facilities with a replacement value of more than $11.4 billion.

ACC presents Gen. Franklin O. Carroll photo to AEDC

Arnold Community Council (ACC) President Steve Cope (center) recently presented a framed picture of Gen. Franklin O. Carroll to the AEDC Commander; Col. Raymond Toth (right) with ATA General Manager Steve Peaseon (left) looking on. Previously the building didn’t have any pictures of Gen. Carroll, only a plaque. The picture includes several photos remi-

In this issue...

AEDC participates in Relay for Life...
AEDC has new Facebook Fan Page...
High Mach

Tennessee winter weather:
Know threats and terms

By Nicki Peters

If you’ve lived in this region long enough, you’ve probably heard the saying, “If it ain’t one thing, it’s your turn.” When it comes to winter weather, that saying is as true today as it was a few years ago.

Freezing rain can immobilize a city. Snow accumulations can collapse buildings, knock down trees and power lines, and isolate rural areas for days. That’s why many households should have provisions and the ability to remain self-sufficient for at least three days without power, as help, it may take some time to regain main city transportation and essential utilities.

Wind chill is based on the combined effects of wind and cold. As wind increases, heat is carried away from the body at a much faster rate, making the body temperature go down. Animals are also affected by wind chill. A big question comes up is that does wind chill work on water and pipes or air temperature? The answer is “No. The accelerated loss of heat occurs on exposed skin only.”

Freeze damage is to body caused by tissue freezing from frost. ‘Bone’ causes loss of feeling in a white or pale appearance, as with frostbite, fingers, toes, ear, or tip of the nose. If symptoms are detected, get medical help immediately. If you must wait, help slowly re-warm affected tissues. If the victim shows signs of hypothermia, get them to a warm area to prevent heat loss from the extremities.

Chilling winds can mean 35 mph or more, which can make the environment very cold 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.

Winter Storm Warning

To know the term:

Winter Weather Advisory – ice or snow expected within the next 24 hours.

Winter Storm Watch – severe winter weather possible within the next two days.

Winter Storm Warning – severe winter weather conditions expected in the next 24 hours.

Blizzard Warning – wind: 35 mph or more expected.

Action Line

1. The following revised AEDC smoking policy is effective immediately. Smoking is potentially deadly in its effects identified for a public “smoke-free” workplace. This policy is for the purpose of providing a smoke-free workplace for all employees. This policy applies to all employees and applies at their discretion. Smoking will be allowed to those who smoke relief from the air. Smoking will be allowed in designated smoking rooms. Smoking will be prohibited in public or in any other area as determined by the management. Smoking will be prohibited in the AEDC-SST on the property of AEDC-SST employees. Smoking will be prohibited in any area of the building.

2. You may request an extension to your personal viewpoint, to write carefully because you have tools, but you can throw your book. You decide how you view the book. You do not have to follow preset writing rules or conventions. You choose what type of characters are the heroes. They will get yourself as the main character. You, the author, is the final word on what happens in your book. You, the author, is the final word on what happens in your book. You, the author, is the final word on what happens in your book. You, the author, is the final word on what happens in your book. The authors that you should have provisions and the ability to remain self-sufficient for at least three days without power, as help, it may take some time to regain main city transportation and essential utilities.

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WRIGHT-PATTERSON AIR FORCE BASE, Ohio – In a 17-minute ceremony held on the 100th anniversary of Wilbur and Orville Wright’s first powered flight, the Air Force honored 15 Air Force employees who helped to fulfill the Air Force mission.

Acting Under Secretary of the Air Force Janice L. Johnson delivered the keynote speech for the event. In her remarks, she said she has the opportunity to recognize extraordinary performers, such as the Wright brothers.

“The Wright brothers were more than an innovative advance; they were the result of decades of doing exemplary work in support of the Small Business Program,” Johnson said.

In 2012, Morin said the Air Force remains committed to the importance of strengthening small businesses.

“Small businesses are important in our national economic strength and represent a critical part of our defense industrial base,” she said. “Helping small businesses thrive translates into our ability to help fulfill the Air Force mission.”

Morin’s visit to Wright-Paterson Air Force Base was part of a full day of activities aimed at recognizing superior support of the Air Force Small Business Program. Following the award ceremony, she traveled to the Pentagon for the presentation of the Air Force Materiel Command, Wright-Patterson Air Base, Ohio Small Business Director’s Award – Individual.

The award was presented to Lt. Col. Lisa Thibeault, Denise Trapp, Annette Dunbar, Lynne Imhoff, Mary Urey, Enterprise Sourcing Group, Wright-Patterson Air Base, Ohio Small Business Director’s Award – Individual.

Since it’s a new arc heater, asked why the Navy has continued to rely on flight testing before subjecting the materials to a flight test, said that although she has the “entire fleet of test articles,” the Navy very likely delivers a wealth of data that can be used by the Navy to continue their efforts in main- taining the Navy’s critical assets in the programs which it supports.

Mark Smith, the ADA project engineer on the NSWC’s re-entry candidate materials at AEDC, has worked closely with the Navy since 2009.

The Navy has a tremendous materials test program underway in the AEDC, and it is always looking for better ways to do things. The Navy has already gotten the impression that the Navy has established a robust and successful process.

As a vital segment of our nation’s defense industrial base, the Small Business Program is tasked with promoting innovation and essential capabilities to our troops, what constitutes a vital part of the Air Force Small Business Program.

“When it utilizes the talent and skill of our many professionals, we are proud of the hard work and dedication that they provide, including keeping things running smoothly and providing, including keeping things running smoothly and providing something forward-thinking on both sides.

“Typically we have a standard type of configuration test that we’re going to do over here, and then we’ll see some data and the crew and the crew are very good at looking at the data,” he said. “When we get data we’re looking for.”

“The Navy’s current test setup consists of two heat shield material candidates and is based on the Space Shuttle’s heat shield – the Complex’s most-cutting-edge high-temperature segmented heater, HI, as well as in the legacy HI segmented heater. The data that we’re getting out of this test is going to be used to provide relative performance data for new build-thermos protective system materials,” Pathwick continued.

“Since Navy has worked with AEDC on this test effort for many years, we get that impression that each time NSWC comes to test here, all the logistics that lead up to their visit go very smoothly and is nearly routine now. Mark, his team, and Drew Pathwick play very knowledgeable in their jobs, and most importantly, I get the impression that they are very passionate about it as well.”

The Navy has been very proactive in helping to bring these flight tests to fruition and as a result, all the better partnerships and most importantly, through systematic selection of the legacies and developing and job creating are key assets.

Further, asked why the Navy has continued through their thermal protection system to AEDC for ground testing for background testing the materials to a flight test, said the answer is relatively straightforward.

“The AEDC are facilities are unique in the country in their ability to simulate the high temperature heat flux and pressure conditions typical of long-range high-speed re-entry vehicles in the atmosphere,” he said. “For tests such as these, the Navy as we the Air Force (and as I expect to require high-temperature air flows lasting several hours with temperatures above 10,000 degrees F.) have top tip articles that there is no other place in the world to conduct tests of this nature.”

“Wright-Patterson is a proud partner in the Small Business Program and places an emphasis on aggressively seeking opportunities to provide, where appropriate, the appropriate skills and capabilities to our troops, what constitutes a vital part of the Air Force Small Business Program. The Air Force remains committed to the importance of strengthening small businesses.”

Morin also spoke on the importance of strengthening and the continued growth of the Small Business Program in the future.

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F-35 Integrated Test Force pushes the envelope

EDWARDS AIR FORCE BASE, Calif. — The F-35 Integrated Test Force made significant progress expanding the flight envelope of the F-35A conventional take-off and landing variant over the past few months with numerous successes in High Angle of Attack (AoA) flight tests, with the completion of the first intentional departure from controlled flight Dec. 4 and now having tested the aircraft to 50 degrees AoA.

Prior to these milestones, developmental test with the F-35A was re-structured to a flight envelope between 10 and 20 degrees AoA. Now, test pilots are being executed to 50 degrees AoA with numerous successes in High Angle of Attack (AoA) flight tests, with the completion of the first intentional departure from controlled flight Dec. 4 and now having tested the aircraft to 50 degrees AoA.

Throughout the High AoA testing, the F-35A’s performance has closely matched simulated results and modeled predictions, giving the team the confidence in the jet to continue moving forward in the test plan.

“Some are significantly matching models and it gives us comfort knowing the aircraft and how to polish the flight control system so it’s even better than what we started with. Given we have a whole new area of High AoA, we really look forward to this match. It makes you feel very safe, although we will certainly continue to see what is next. This is so important because in 2014, the F-35 program has made a commitment to deliver a flight envelope to the U.S. Air Force. But even more than that, we are doing this so we can put test pilots in the position where we hope no other pilot ever has to test with. But, if they find themselves in that position, we will have seen it and have verified that they can recover the aircraft,” said Lt. Col. George Schwartz, 461st Flight Test Squadsron commander.

To mitigate the inherent risk associated with the testing, the High AoA test team began taking shape more than eight years ago, made up of the best flight test professionals in their respective fields, with diverse backgrounds including the F-15 Eagle, F-16 Fighting Falcon, F-18 Hornet and F-22 Raptor.

“We have a team where every person is first-string. No one in the world today, who is testing airplanes, is more proficient at doing this than the members of the High Angle of Attack Test Team. We are the world class experts for this particular type of testing,” said Nelson.
A look back at Gen. Franklin O. Carroll at AEDC

Gen. Franklin O. Carroll was the first commander of the Arnold Engineering Development Center from 1950 – 1952. The complex’s Engineering Analysis Facility was dedicated in memory of AEDC’s first commander and named the Carroll Engineering Analysis Facility in 1989. For a summary of Car- roll’s history at AEDC, read the excerpt below from the AEDC publication Beyond the Speed of Sound which is also available at this link: https://www.arl.army.mil/shared/media/document/4FD_18012-549.pdf

The History of AEDC

As one of von Kármán’s associates during the survey of captured German test and research facilities, Wat- tendorf knew first hand the sad state of aeronautical research in the U.S. The Germans had far outclassed all of the Allied nations in ground testing, but the capture of these testing facilities would give the U.S. a big boost. In fact, it was just the solution Wattendorf needed to a problem presented to him by Brig. Gen. Franklin O. Car- roll, commander of Wright Field’s engineering division.

A New Challenge

Carroll was an expert in testing and research facilities. He graduated from the Massachusetts Institute of Technology (MIT) in 1921 – the first Air Service officer to be trained in aeronautical engineering. He had also commanded the engineering division at Wright Field for six years. In that capacity, he tried to persuade von Kármán to leave Washington, D.C., and work at Wright Field instead. Carroll was the kind of “lifer” that Arnold liked to have around.

But he had one big headache at Wright Field – the limited space and available power in the Dayton area. New test facilities for testing jet engines would require more of both – more than could be accommodated without dras- tically reshaping existing facilities. When Wattendorf reported to Carroll as a research adviser, he inherited the General’s headache – how to fit new facilities into the existing space and power limitations. The trip to Europe with von Kármán opened new possibilities.

The Trans-Atlantic Memo

With the survey of German facilities completed, Wat- tendorf went to Paris to write up his findings. While there, he received word that his father had died, and he left on emergency leave aboard a C-84. It would be a long flight, which gave him a perfect opportunity to assay the feasibility of his findings.

Wattendorf’s report of June 19, 1945, became known as the Trans-Atlantic Memo and was to become the basis for establishing a “new Air Force development center.”

The memo, given to Carroll through Col. Paul H. Kemmer, became the basis of Carroll’s presentation to Arnold’s Air Staff.

In his presentation, Carroll advised the Air Staff of the advancements in ground testing that the German had made and outlined the deficiencies in America’s wind tunnels.

He noted that “no facilities exist [in the U.S.] for the testing of turboprop engines.” Carroll also listed what he felt were the necessary facilities for U.S. research and development, suggesting that the Air Technical Ser- vice Command be charged with making a preliminary study “for the establishment of a new Army Air Force’s (AAF) Applied Research and Development Center for Fluid Dynamics.”

 Maj. Gen. E. M. Powers, assistant chief of staff for materiel and services, agreed, and the Kemmer Committee report was to proceed on July 31, 1945.

On Oct. 5, Kemmer, Carroll’s deputy, formed a committee to do the study. The Kemmer Committee’s initial report was completed on Dec. 18 for submission to Arnold, five days before General Harry H. Hap Arnold was published.

Both reports recommended using captured German test facilities in a new installation located near large sources of water and electric power. They anticipated power requirements at more than one million horse- power – too great to be handled at Wright Field. Using the German equipment would save almost eight years in facility design and construction. The Kemmer Committee Report also asked for $300 million for purchase of the site and construction of buildings, roads, utilities and the initial portions of the facility.

The report, “Proposed Air Engineering Development Center,” was presented to the Air Staff Jan. 24, 1946. On March 21, Brig. Gen. H. I. Hodes, assistant chief of the War Department General Staff, authorized further planning on the proposed center, and Sverdrup & Parcel Inc. (S&P), a St. Louis engineering firm, was awarded a $1.3 million Army Air Forces contract to conduct the survey.

General Carroll’s Career

General Carroll was born on Feb. 10, 1893 and served during three wars tours on three continents. He started his career in 1915 in the Cavalry and served with General Pershing’s Expeditionary Force chasing Pancho Villa across Mexico.

He became a flight instructor in World War I, teach- ing students how to fly early biplanes. On the eve of the “Battle of Britain,” General Carroll was an air attaché in London. He helped develop-light beacons and radio signals for navigation, as well as variable pitch props, high octane fuels and pressurized flight suits.

He commanded several major organizations, including the Air University, and the Air Munition Command, which was the forerunner of Systems Command, Logistics Command, and the new Air Force Materiel Command.

General Carroll retired from the United States Air Force in 1953, after 41 years of service to his country. He died on Sept. 13, 1988, at the age of 95.
Airman shows skills as F-22 demo pilot

By Airman 1st Class Austin Harvelt

Steve Deilkens/Lockheed Martin

Capt. Erica Elkins, AF

The F-35, AF-4, can be seen outfitted with a spin recovery chute (SRC) during"The Testing is going extremely well. I'm extremely pleased with the progress. But, it's important to note that we are finding areas for improvement. We are feeding that information back for follow-on software versions that will qualify the aircraft safer and effective in maneuvering at high angles of attack. By the time we get done, the aircraft will fly up to 50 degrees angle of attack with case-free handling qualities," said Schwartz.

**Milestones**

**35 YEARS**
Arthur Snowell, ATA

**30 YEARS**
Debra Groucho, ATA

**25 YEARS**
Joyle Steele, ATA

**20 YEARS**
Laurie Phillips, ATA

**15 YEARS**
Donald Rotach, ATA

**10 YEARS**
Brad Dorman, ATA

Michael Spencer, ATA

Tommy Kirk, AF

**5 YEARS**
Maxine Layne, ATA

William Layne, ATA

Charles Patterson, ATA

Thomas Payne, ATA

Kenneth States, ATA

Jarry Read, ATA

Robert Ball, P/ATA

**Agreement reached on 5th production of F-35s**

Washington D.C.—The U.S. Department of Defense and Lockheed Martin have reached an agreement in principle to manufacture 32 F-35 Lightning II stealth fighters as part of Low-Rate Initial Production (LRIP-5). The contract will also fund manufacturing-support equipment, flight test instrumentation and ancillary mission equipment.

“The long journey, but I’m pleased we’ve achieved an agreement that is beneficial to the government and Lockheed Martin,” said Vice Admiral Dave Viedel, F-35 Program Executive Officer. “Production costs are decreasing and we appreciate everyone’s commitment to this important negotiation process. The LRIP-5 agreement covers the end of the month on a positive note and sets the table for the program to move forward with improving business timelines for the greater good of all the nations partnered with us.”

Under the contract, Lockheed Martin will produce 22 F-35A; 15 F-35B vertically takeoff and landing (VTOL) variants for the U.S. Air Force; and 8 F-35B short takeoff/vertical landing (STOVL) variants for the U.S. Marine Corps and seven F-35C variants (CV) for the U.S. Navy. Aircraft production has been ongoing since 2011 under a previously authorized undefinitized contract action.

“We remain committed to working with our government, international partners and businesses to see more production upgrades and improvements to the aircraft,” said Thomas Payne, ATA.

“ITF overcame challenges to deliver the F-35s 5th production flight test article. This was a significant milestone for us, as we continue to move the program forward.”

**F-35 from page 4**

From page 4 of the team’s incep-
tion - the F-35 ITF was ready to
fly the first mission, the test team was already functioning as a well-led team.

“[This isn’t a cliché] but it’s a serious statement to make. We were provided very tough, from the very start, training in air start difficulties due to high winds and rough air, we turned in a lot of 900-hour maintenance work, put them back together and found that we were able to get it started again,” said Nelson.

“That was a build-up of all crew because they’d been out of control, there’s always a chance we don’t know what’s going to happen or the engine flames out because of a jug nut, we’re going to have a spin situation and we need a spin recovery.”

“ITF is a safety of test hardware, it’s a safety of the aircraft in flight. It’s necessary for safety of hardware, but more importantly safety for the pilot,” he continued. Maintainers from the F-35 ITF encountered several unique challenges while performing the modifications to the aircraft.

While the F-35 ITF was being reassembled and prepared for flight, the team had one more challenge to overcome before beginning the test.

They had to successfully attach the spin recovery chute (SRC) to the aircraft, which was a challenge due to the limited space to deploy the parachute and safely recover the aircraft before being able to regain control during High AoA testing.

“The function of equipment is a safety of test hardware; a vertical climb as the aircraft rotates to defuel gravity. His plane leveled out in the earth’s atmosphere. Such complex maneuvers became routine for one pilot at Langley Air Force Base, Va. Capt. Patrick Williams, the new Air Force F-22 Raptor demonstration pilot, practiced these maneuvers to give crews worldwide a taste of both the Raptor’s, and the Air Force’s capabilities. “People typically see the Air Force on the news, and that’s it,” said Williams. “The air show is how we can let America, look at this awesome airplane we’ve given you. This is why we are so successful at what we do.”

Before taking the controls of the world’s premiere multirole fighter, pilots practiced the aircraft’s ability to perform a spin during a demonstration flight over Sky Harbor International.

“It’s been a long journey for everyone’s commitment to the program to acquire more aircraft at Edwards Air Force Base, Calif. (Photo by Darin Russell/Lockheed Martin)

The F-35A, AF-4, can be seen outfitted with a spin recovery chute (SRC) during the F-35 ITF was ready to fly the first mission, the test team was already functioning as a well-led team.

The F-35A, AF-4, can be seen outfitted with a spin recovery chute (SRC) during the F-35 ITF was ready to fly the first mission, the test team was already functioning as a well-led team.
U.S. better ballistic missile defenses

By Donna Miles
American Forces Press Service

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

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

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

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

NORAD commander Army Gen. Charles H. Jacoby Jr. and his staff monitor the half-dozen space launches that take place around the globe every day and assess if any pose a threat to the U.S. or Canada. But because NORAD’s mission is missile warning – not missile defense – Jacoby would act in his capacity as Northcom commander to authorize

AEDC displays menacing power in the night

AEDC Fire Department hosts a visit by honorary fire chief Mark Kelly Olson

This photo of the F-15 static display aircraft at AEDC’s main gate, was taken by Antonio Moré, a UTSI Flight Test Engineering graduate student. Moré admits he has a passion for aviation photography. His goal was to capture this F-15 looking “as menacing and powerful as the day it first took to the skies,” he said. The F-15 static display aircraft was dedicated Aug. 9 in honor of Maj. Jim Duricy who was killed when he was forced to eject at a high speed as the F-15 he piloted crashed into the Gulf of Mexico April 30, 2002. He was assigned to the 48th Flight Test Squadron, Eglin Air Force Base, Fla. (Photo by Antonio Moré)

The AEDC Fire Department, represented by, from left to right, Kip Luttrell, crew chief; John Templeton, firefighter; Joey Edwards, driver operator; Sam Teat, firefighter; Tom Lombard, assistant chief; Dwane Kimmel, crew chief; Billy Miles, paramedic/firefighter; Jay Baldwin, driver/operator; Odell Crutchfield, crew chief; and Carey Powers, driver/operator, stand behind Mark Kelly Olson during the young man’s recent visit to the base. Olson is a 10-year-old boy who was diagnosed with very high-risk, acute lymphocytic leukemia in May and was later adopted by the Arnold AFB Fire Department as their new deputy fire chief. While visiting AEDC, Olson got the opportunity to play the role as honorary fire chief, conducting roll call, inspecting firefighting equipment and helping to demolish a car, symbolizing the young man’s battle with cancer. Olson’s father, Mark, is an ATA operations controller at Arnold Air Force Base. (Photo by Rick Goodfriend)
Air Force Marathon registration opens with special discounts

By Tiffany Johnson
U.S. Air Force Marathon Office

WRIGHT-PATTERSON AIR FORCE BASE, Ohio (AFNS) – Registration for the 2013 Air Force Marathon, Half Marathon and 10K scheduled for Sept. 21 opened Jan. 1 with special New Year’s resolution discounts.

The full and half marathons held at Wright-Patterson Air Force Base in Ohio will be discounted by $10 Jan. 1. The 10K and 5K races will be discounted by $5.

“We encourage all participants to register as early as possible,” said race director Robert Aguiar.

“Not only are the prices lower the earlier you register, but we sell out very quickly.”

The Air Force Marathon sold out in record time in 2012 and organizers anticipate selling out even faster this year. Officials will not be increasing the number of runners this year, capping the participants at 15,000.

“We sold out on May 19 in 2012,” Aguiar said.

“And we are very excited to debut our course changes in 2013. We believe runners will really like the changes.”

The featured aircraft in 2013 is the C-130J Super Hercules, a military transport plane that has been used in military, civilian and humanitarian aid operations. The Hercules family is the longest continuous production run of any military aircraft in history.

Look for more information about the prices and registration at www.usafmarathon.com.
January is National Blood Donor Month and AEDC employees will have an opportunity to donate blood with Blood Assurance during a blood drive Jan. 21-25, 11 a.m. – 3 p.m. Blood Assurance provides a convenient method for donating blood using a mobile blood collection lab.

The bloodmobile will move to a different location each day while stationed at AEDC.

The dates and corresponding locations are:
- Jan. 21 – the Engine Test Facility office building 877;

During this blood drive, donors will receive a long sleeve T-shirt, snack and drink. Donors will also have a chance to register for the January giveaway which is an Apple iPad 16GB Wi-Fi Tablet with retina display. Participants can complete one registration form per person, per day. One winner will be drawn on Feb. 1. It takes more than 400 donations every day to meet the need for blood in the areas serviced by Blood Assurance. The donations received will be used in Winchester, Manchester and Tullahoma hospitals. Some common struggles this time of the year with receiving donations are holiday schedules, inclement weather and winter illnesses.

“According to Blood Assurance the goal for the upcoming blood drive is 125 units of blood,” said Leslie Myers, a Comprehensive Occupational Resources (CORE) registered nurse (RN) for Aerospace Testing Alliance (ATA). The donation is limited to a single blood donation and usually takes less than 10 minutes.

Myers said preparation is the key to an enjoyable donation. “Hydrate, hydrate, hydrate,” she said. “Eat something at least three hours prior to the donation.” Blood Assurance is a non-profit, full-service regional blood center serving more than 50 health care facilities in Tennessee, Georgia, Alabama and North Carolina. Founded in 1972 as a joint effort of the Chattanooga-Hamilton County Medical Society, the Chattanooga Area Hospital Council, the Chattooga Area Hospital Council and the Chattooga Jaycees, the mission of Blood Assurance is to provide a safe and adequate supply of blood and blood components to every area patient in need.

Blood Assurance is licensed by the Tennessee Department of Public Health, the Georgia Department of Human Resources, the Alabama State Board of Health and the U.S. Food and Drug Administration. For more AEDC blood donation guidelines and information, contact Myers at 454-5387.

By Raquel March
AEDC Public Affairs

January 14, 2013

Give blood during National Blood Donor Month at AEDC

Myths about donating blood

Myth - “You don’t want my blood.”
Fact - With less than 10% of the eligible population actually donating blood, we need every able donor to give blood. We perform 10 tests on each unit of blood to ensure that the blood is safe for the recipient.

Myth - “I can’t give blood because I’m diabetic.”
Fact - Diabetics may donate blood as long as the other medical requirements are met. However, the presence of high blood sugar (insulin from a cow) will result in deferral from blood donation.

Myth - “I can’t give blood because I’m scared of needles.”
Fact - It’s perfectly normal to feel apprehensive about donating blood for the first time. Donating blood is a momentary discomfort for the donor that can provide a lifetime of difference for the patient.

Myth - “I can’t give blood because I’m anemic.”
Fact - Your hemoglobin (iron) level will be checked prior to donating blood. As long as levels are normal on the day of donation, you can give blood. We recommend eating meals that are rich in iron leading up to your donation.

Myth - “I need my blood.”
Fact - The average adult has approximately 10 pints of blood in his/her body. Your body will replace your donated red blood cells within 3-4 weeks.

Myth - “I can’t give blood because I’m on medication.”
Fact - The following medications are the only ones which would prevent you from donating blood: antibiotics*, blood thinners (such as Coumadin, Heparin, Lovenox, Warfarin), Proscar, Avodart, Jylarin, Propacea, Accutane, Soriatane, Tegison, human-derived growth hormones, bovine insulin, Hepatitis B Immune Globulin, and anyone who has received an unlicensed vaccine, usually associated with research.

*Donors who are taking antibiotics are eligible to donate 24 hours after their last dose.

Myth - “I can’t donate blood because I had cancer.”
Fact - While some types of cancer such as leukemia and lymphoma (Hodgkins, non-Hodgkins, etc.) will defer a donor permanently, other cancer survivors can donate blood after being in remission for at least one year.

Myth - “I can’t donate blood because I’ve been out of the country.”
Fact - Simply travelling outside of the United States will not defer you from donating blood. Temporary restrictions are placed on potential donors who have visited countries with a high risk of malaria. These restrictions change almost yearly, so contact Blood Assurance to ask about a specific destination.

Myth - “I can get paid to donate blood.”
Fact - To protect the safety of the blood supply, our donors are not paid. There are two very distinct divisions of blood banking, according to the U.S. Food and Drug Administration. One is the non-profit regional blood centers like Blood Assurance who supply blood products to area hospitals. The other division consists of for-profit paid plasma collections, in which people receive monetary compensation for their blood. The FDA does not allow these blood collections to be used for human transfusion. They are most often used in the manufacturing of cosmetic and pharmaceutical products.

Myth - “I can’t donate because I have a tattoo.”
Fact - If you received your tattoo from a licensed tattoo artist in Alabama, North Carolina or Tennessee, you no longer have to wait one year before donating blood. Tattoos received in Georgia still require a one year deferral.
northern sector, he said. “You can’t just go to sleep and think, ‘We are 9/11 Memorial as we come in here and think, ‘We are safe.’”

Todorov said he hopes to have an interconnected and overlapping system of systems that provides stronger, more reliable defenses than any individual systems could. “With the synergy among all of it, one plus one will equal three,” he said. The success of that endeavor will be vital to the United States’ long-term security, he said. “We can’t take anything for granted,” Todorov said. “There are adversaries out there and groups of people and nation states that would like to do us harm.”

The 9/11 Memorial outside the NORAD and Northcom headquarters, built of membrance from the Shanksville, Pa., crash site, offers a daily reminder to workers here of the gravity of their homeland defense mission. “I think it is our job, every day, to walk past that 9/11 Memorial as we come in here and think, ‘We are not going to let anybody do harm to us like they did on that day,’” Todorov said.
AF opens new nuclear training center

By Staff Sgt. Torri Savarese

F.E. WARREN AIR

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

“This facility has been a vision of Air Force nuclear leaders, as well as Wyoming state leaders, for years,” said Maj. Gen. Michael J. Carey, 20th Air Force commander. “It was truly a joint effort between the town of Guernsey, the state of Wyoming and the Air Force to make that vision come to fruition.”


He explained how the members of the 620th GCTS participate in everything from local parades to cattle branding. “It really makes us a tighter group,” he said.

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

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

The ribbon cutting ceremony for new Nuclear Security Tactics Training Center was held Dec. 13, 2012, in Guernsey, Wyo. The new facility will increase the 620th Ground Combat Training Squadron’s training capabilities by four times. (U.S. Air Force photo/R.J. Oriez)
During his tenure at the academy, Williams participated in the glider program, became a cadet instructor and graduated with a degree in Astronautical Engineering. Upon completion of his academy training, he traveled to Mississippi to begin basic fighter training, after which he began training to fly the F-15 Eagle.

Williams was assigned to the 12th Fighter Squadron in Alaska, and then transferred to the Raptor once the 90th Fighter Squadron stood up. After showing his skills at the cockpit at both Alaska and Hawaii, the Air Force selected him to become the next Raptor demo pilot.

With the new Raptor demo season quickly approaching, Williams said he was excited to show the world the power of the jet. The demo team plans to tour across the country and hopes to make some international stops as well.

As a demo pilot, Williams said he is honored to be the face of both the Raptor and the Air Force. “I have to pinch myself every time I get out of the jet,” Williams said.

Capt. Patrick Williams, Air Force F-22 Raptor demonstration pilot, awaits final preparation of his Raptor before flying at Langley Air Force Base, Va., Nov. 30. Williams wanted to be a pilot after he began flying as a 5-year-old boy with his father in Idaho. Before the demo team goes on tour, the incoming pilot undergoes extensive training with the help of the former pilot. (U.S. Air Force photo/Airman 1st Class Austin Harvill)
New F-16 software platform to be tested by 40th, 85th

By Samuel King Jr.

EGLIN AIR FORCE BASE – For the first time ever, developmental testing for an F-16 operational flight program will occur at the 40th Flight Test Squadron here.

The testing for Block 43 and 50 model F-16s is scheduled to begin in 2014 and will also be the first time developmental testing and operational testing of the OFP will be conducted at the same base.

“This not only gives DT and OT pilots the unique opportunity for daily face-to-face contact to discuss potential test issues, but also allows OT pilots to participate in DT missions alongside their counterparts,” said Brice Booth, the F-16 MT OFP project spearheaded for the 40th Flight Test Squadron.

An OFP is the software in the F-16 that controls the avionics and allows the jet to interface with external weapons. It is currently in the design-try-out phase here. This phase is primarily to help the software developers.

“In the DTO phase, a few early versions of the software, with limited sub-systems, are planned. New capabilities, are flight-test in unison. faucet. As this is the software that is expected to be the go-to interface for any and all future changes before they get too far into the coding,” said Booth.

This takes on a greater importance with the new OFP because it’s the first time an Air Force unit has developed the software. Previous F-16 OFP updates included only 13 test sorties.

Previous F-16 OFP testing had a limited number of sorties due to resources and test objectives. “With this approach is adequate, it results in a relatively small number of opportunities to find potential errors,” said Booth.

“Since there are multiple ways to execute most tasks in the F-16, there are a lot of potential combinations of pilot actions. DT does not have the resources to test.”

This was not the case with this DTO phase, however, since both DT and OT pilots were available to participate. To date, the combined test team has flown 41 test sorties. The previous F-16 OFP DTO included only 13 test sorties.

“The ability to conduct fully integrated DTO/DTI test program allows us to test new OFPs more thoroughly and find them faster and cheaper than ever before,” said Booth.

Historically, even though an OFP passes DTO, DT pilots would find new software errors due to the amount of flight time and pilot availability. The added capability of DTO/DTI increases the potential of finding anomalies in the software. It also gives OT pilots, who are ultimately responsible for the final software development early. OT’s upfront involvement cuts down on any late software changes. It also avoids the associated extra test requirements, increased costs and fielding delays if potential errors are discovered.

Although this F-16 OFP partnership is a new endeavor for the squadrons, the 40th and 85th are frequent collaborators in developmental and operational testing. They are even headquartered in the same building for additional functionality.

“In these fiscally constrained times, the 40th and 85th are setting the benchmark on how to perform integrated test,” said Lt. Col. Thomas Seymour, the 85th TES commander. “Being collocated in the key. This allows us to share aircraft, infrastructure, airspace and ideas, which results in more effective and efficient test responsible for the final fielding recommendation, a critical step in the software development lifecycle. OT’s involvement early, OT’s involvement early, OT’s involvement early.”

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Valentine's Day Date Night Dinner and Movie for Two at the ALC

This two hour and fifty-two minute movie stars Tom Hanks, Halle Berry, Susan Sarandon and Hugh Grant. "Muriel's Wedding" is an exploration of how the actions of individual lives impact one another in the past, present and future. "Muriel's Wedding" is a heart-wrenching tale of a killer into a hero, and an act of kindness that can inspire a revolution.

Call 454-3350 for reservations or more information.

See MEMBERSHIP, page H2

Sign up for club membership and get three months free dues plus instant win cash prizes

Anyone who joins any Air Force club between Feb. 1 and March 31 will automatically receive three months free dues, be enrolled in the free cash back rewards program, and win $5 - $100 instantly upon application.

We want you to consider club membership and understand the benefits of club membership, and our “Make the Right Choice: Get Rewards” membership campaign gives them the opportunity to try their club free for the first three months.

Join the Air Force Club, and Armed Forces Food and Beverage.

Promote the村庄 residents interested in AF Club membership should look into the membership promotional materials in their local club and other Services activities, said McKenney. “Pick up an application, fill it out, and experience the benefits of membership!”

Outdoor Rec offers Blue Moon Hiwassee Island Cruise Feb. 24

Hiwassee Island is one of the most important migratory areas in Southeast Tennessee. The Blue Moon cruise in the Hiwassee Wildlife Refuge is the only way to view the refuge from the water during February.

The Hiwassee Wildlife Refuge has more than 100 species of resident and migratory birds along with rich Native American and early history of the area. An on-board naturalist and storyteller will point out the sites, tell stories and gladly answer questions.

The cruise will last three and one half hours and includes a buffet dinner. The cost is $60 per person and reservations are due by Feb. 9. Cancellations after Feb. 9 are nonrefundable. Meet at Outdoor Rec at 4:30 p.m. and plan to return by 6 p.m.

Remember to bring your camera, binoculars and extra money for drinks not included in the buffet. Call 454-6104 to sign up or for more details.

New Air Force Club membership card benefit

Air Force Clubs are pleased to announce cash back rewards earned by Air Force club members who have the Air Force Club MasterCard®, will no longer expire.

Air Force club members also now have more reward redemption options than before.

These new and improved benefits are automatically and immediately available to Air Force Club MasterCard® members.

According to Emelie Smith Cabic, general manager for Chase Card Services the contractor for the Air Force club card, “Members told us that having points that never expire would provide greater peace of mind to them.

However, only members are entitled to discounts and other benefits associated with membership.
February 2013

Services Division Phone Numbers


MEMBERSHIP from page H1

The membership card provides numerous benefits. The Military Free Cash rewards program is an outstanding benefit to members. When you use your club membership card in any Services activity or store, you earn two percent cash back on every eligible purchase, including AAFES and Commissary. Additionally you can receive one percent cash back on eligible purchases everywhere else including all of those purchases. In addition to being able to redeem points for cash back and gift cards, you can also redeem for travel to include airline tickets, hotels, and car rental super flexibility and it is all free, as a benefit of your membership!

BRIEFS from page H1

H2 • January 14, 2013

is set for Feb. 5 and may be completed anytime during the day. The top finisher in each category will receive a reward for the highest number of reps performed in proper form.

Blood Pressure Screening will be held in Café 100 at 11 a.m. – 12 p.m. Feb. 13. Not sure what your blood pressure level is or what it matters? The Fitness Center staff will be providing free blood pressure screenings and providing information. High blood pressure usually has no symptoms but can lead to serious problems. You can control high blood pressure through healthy lifestyle habits and medication. Stop by and see where your number falls and learn more about heart health.

Dynamic vs. Static Stretching

Flexibility is one of the major health-related concepts of physical fitness. It is defined as the degree to which the body can move through a range of motion. A joint stretching enhances flexibility if performed on a regular basis. We are going to look at two types of stretching methods: dynamic and static stretching.

Dynamic Stretching (sometimes called warm- up/stretch exercises or Active Stretching)

The purpose of dynamic stretching is to warm up the body orthopedically, cardiovasculally, and thermally. – The movement should

See BRIEFS, page H1

3 ALC Super Bowl Party 4:30 p.m., on the big screen, dining room open with food and beverage specials, square layout. Prizes plus half time trivia contest.

10 FC Boot Camp 6 a.m., Wednesday, Thursday, Friday

15 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

24 ODR Blue Moon Herman’s Island Cruise, $60, includes BBQ buffet, sign up by Feb. 8, 454-6284

25 FC Boot Camp 6 a.m., Wednesday, Thursday, Friday

26 FC Boot Camp 6 a.m., Wednesday, Thursday, Friday

27 FC Boot Camp 6 a.m., Wednesday, Thursday, Friday

28 FC Boot Camp 6 a.m., Wednesday, Thursday, Friday

35 Info, Tickets & Travel (ITT): Tuesday through Friday, 10 a.m. – 3 p.m.

44 Arnold Lakeside Center: Information, Tickets & Travel (ITT): Tuesday through Friday, 10 a.m. – 3 p.m.; Friday, 4-10 p.m. and Saturday, 5-10 p.m. Social Hour: Friday, 4-6 p.m. Movie Night: Thursday, 6:30 p.m.

52 Dinner: full menu available Thursday, 5-8 p.m.; Friday and Saturday, 5-9 p.m. Main Bar: Thursday, 5-8 p.m.

60 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

65 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

72 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

77 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

90 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

99 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

108 Arnold Golf Course: Fitness Center: Monday-Friday, 5 a.m.-7:30p.m.; Saturday, 8 a.m.-1 p.m.; Sunday Closed.

117 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

126 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

135 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

144 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

153 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

162 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

171 Mulligan’s Coffee Bar and Grill – Monday through Friday, 10:30 a.m. – 2 p.m.; Saturday, 8 a.m. – 2 p.m.

180 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

189 FC Boot Camp 6 a.m., Monday, Tuesday, Thursday

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451 Mulligan’s Coffee Bar and Grill – Monday through Friday, 10:30 a.m. – 2 p.m.; Saturday, 8 a.m. – 2 p.m.
DRIEFs Page no H2

10                   11              12                  13             14                   15           16
24      25             26    27    28

BRIEFS from page H2

our hotel. After everyone
Gatlinburg and check into

Burg for three days and

Outdoor Recreation

4:30p.m.

day and Friday, 11a.m-

management tool

t Flexibility

Soreness

Suppleness

work-out or at home to relax

Endurance; do at the end of a

Performance, running

Stretches

Responsible for relaxation

- 4 times

Seconds while breathing

Fully extended

Movements; avoid bouncing or

Movements with held posi-

A Low level activity such as

and/or speed of movement

Telltale body movements that

Trace principles on future

Develop an action plan for

Stewardship goals, learn

Respect wildlife and other

Surfaces, dispose of waste,

Prepare, camp on durable

An attitude toward the land

Awareness of and

Follow at all times and

The seven principles

Stretches; prepare, camp on durable

Surfaces, dispose of waste,

Waste, learn

Camping affects, and

Continually review

Describe the journey to

Mysteries of the Briefcase.

ring Jonny Weston, Gerard Butler and Elisabeth Shue. When

As a mysterious briefcase.

trip in Spain, a young Wall Street trader is confronted by the

- "The Cold Light of Day," PG-13 (1 hr. 33

Feb. 21

Reservations due Feb. 12.

Spoon (carrot cake, five layer chocolate cake, pecan pie or

Broccoli, corn or fries), choice of dessert served with two

Choice of appetizer (spinach artichoke dip, cheese sticks, fried

 equipment. Cost to enter

Team and includes a bag of

Equipment. Cost to enter

One team member above

18 and there should be at least eight teams to hold

The tournament. ODR has

paintball guns available on a

first come first served basis.

Indicate at registration of you will be using your

own equipment and need to reserve

Equipment. Cost to enter

the trip is $30 per person

or family. This trip is limited to

participants and is a nationally

and awareness program.

Remember to wear

Warm clothes, gloves, and

other necessary items to keep

warm outdoors as this class

will be in the natural habitat

and hands on instruction on how to

treat the different principles are guidelines to follow at all times and

are an awareness of being

in an attitude toward the land

rather than a set of rules.

Three - seven principles

will help you stay safe and

prepare, camp on durable

surfaces, dispose of waste,

learn waste, learn

Camping affects, and

Continually review

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Rewards.

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Air Force MasterCard® card members can view or redeem rewards options by logging onto www.chase.com/militaryfreecash.

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.

The Gozzick Leadership Center (GLC) may be used for events such as meetings, conferences, luncheons, dinners, etc. and is booked through the Services Conference Center Manager (CCM) up to one year in advance. Requests must be made in writing by email to glc@arnold.af.mil. All event coordinators are required to sign an agreement. Official unit functions are authorized at no charge and are defined as bona fide official meetings or training held in part of the normal duty day. Unofficial and private functions may be held for authorized users at a fee. Community members may host events with the approval of the Services Director for a fee. Outside food and beverages are not allowed. First consideration must be given to Arnold Lakeside Center (GLC) if they cannot accommodate, an outside source may be utilized with CCM approval. For more information contact the CCM at 454-4083.

The AEDC Woman’s Club will meet at 9:30 a.m. Feb. 5 at Arnold Lakeside Center beginning with breakfast. The program will be “Coming to America” by Olga Brandley who lived in Russia.

Reservations must be made in advance. Call or email Liz Jolliffe at 393-2552 or jajolliffe@aol.com. This is a private organization which is not part of the Department of Defense or any of its components and it has no governmental status.


As low as $20 and merchandise. The redesigned Air Force MasterCard® to redeem rewards options by logging onto www.chase.com/militaryfreecash.

Benefits can be made 120 days in advance. Room rates start at $53.25 per night. Please call 454-3051 for reservations. Large group challenges can accommodate up to 60 people.

60 feet Double Drop Wet/Dry slide will be great for any event and is only $130 per day. Please contact Outdoor Recreation at 454-6084 to make your reservation today!

To find out more information or book your team building event.

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