



Cultivating a Culture of Excellence and Safety

COL Morris L. Bodrick
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When I assumed command of ATC just over a year ago, I laid out three priorities for strengthening the Command: safety, accountability/responsibility and wellness. These principles are the pillars of this test center, and in an environment focused on "Excellence in Safety," our resources, people, equipment and facilities are protected.

Safety is everyone's responsibility. Each individual is held accountable for his or her actions, and it's every leader's responsibility to see that safety is practiced daily. Safety must be reinforced throughout the organization and emphasized down to the lowest level to ensure that everyone is involved and policies and procedures are followed.

The nature of ATC's test and evaluation mission exposes our employees to a myriad of unique test processes, procedures and operations that may present difficult and dangerous conditions. The variety of testing is immense: automotive reliability and performance assessments at ATC's test courses and conditioning chambers; airfield and watercraft

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Maryland Lieutenant Governor Shares Views on Leadership



Lieutenant Governor Boyd K. Rutherford addresses the audience at ATC's monthly leadership meeting.

The Point Position Staff

You can lead a parade, lead an army, lead by example, and even lead a horse to water.

No matter what the task, good leadership is the result of the little things done to improve the overall environment of subordinates.

"Titles and ranks do not matter, explained Maryland Lieutenant Governor Boyd K. Rutherford during a recent interview with The Point Position. "It's the care and the level of support a leader provides that is most important."

Mr. Rutherford visited the U.S. Army Aberdeen Test Center (ATC) as part of a monthly leadership speaking series. He spoke to the APG Installation workforce regarding what leadership means to him and then took a helicopter tour of the ATC grounds and test facilities. In

between, The Point Position spent a few moments with him one on one for an exclusive interview.

Mr. Rutherford reflected on his past and how it led him to where he is today and shaped his management style.

"Failing is not trying," Rutherford said, regarding his leadership style.

In leadership as well as any worthwhile endeavor, he explained, failure is not the inability to reach a goal, but the unwillingness to "try."

His goal is to always start a new role with strategic messaging to his workforce, the challenges of unforeseen circumstances, and his mantra that "failing is not trying."

"Failing is not trying" has become a tenet of Mr. Rutherford's style.

A good leader, he elaborated, needs to focus on three precepts:

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To Cross Is To Conquer



In a military load classification 140 longitudinal rafting test, a Bridge Erection Boat carries two M1A1 Abrams tanks in the C&D Canal.

Michael S. Reedy

Test Officer, Force Projection and Watercraft Branch, Warfighter Directorate

In wartime, bridge destruction by the enemy must be overcome.

ATC's testing brings the Bridge Erection Boat (BEB) close to full-rate production.

Wet-gap bridging, the crossing of a body of water with vehicles or personnel, is not a high-profile commodity in the military community. However, its importance is not lost on Product Manager Bridging, the division of U.S. Army



The BEB, loaded on a bridge adapter pallet.

TACOM Life Cycle Management Command responsible for acquiring the hardware to obtain this capability. The motto of Product Manager

Bridging, "To Cross Is To Conquer," communicates the vital need for Soldiers to physically travel where needed during conflict. In December 2015, the Iraqi Army used BEBs and improved ribbon bridges from the U.S. Marine Corps to span the Euphrates River and take back

Throughout history, wars have been lost by not crossing rivers.

Gen. George S. Patton

Ramadi from the Islamic State, which had destroyed the other three bridges leading into the city.

The XM 30 BEB is used primarily to push bridge bays in support of worldwide floating bridge and rafting operations of the Multirole Bridge Company (MRBC). The boats provide high thrust at low speeds and operate in environments with high particulate matter (e.g., sand in the air; mud and salt in water). The BEB's wide front face and high deck provide

excellent stability during operation, with raised walking areas front and rear for safe movement between bridge bays. The previous version of the BEB, the Mk II, is still the primary BEB used by the military; however, the Mk II is more than 30 years old, some of its parts are obsolete, and it cannot run with jet fuel. The Army needs a boat with a newer fly-by-wire (electronic) control system compatible with jet fuel. Additional thrust is also required for increasingly heavier Army equipment and ballistic crew protection. The XM 30 BEB is a pristine example of the Army's incremental modernization efforts.

The XM 30 BEB had unique design requirements; perhaps the most paramount consideration was the need for it to interface with previously



A BEB crosses the Spesutie Narrows.

fielded Army inventory being used by the MRBC, including bridges, transportation pallets and transport trucks. Direct interface between the BEB, pallet and truck for transport and launch/retrieval means the Army can retire the obsolete boat cradles required for the legacy BEBs. This will decrease the logistics footprint and maintenance burden on Soldiers and will prove invaluable to military personnel and taxpayers.

The XM 30 is nearing the end of its testing at ATC. In early 2015, seven low-rate initial production BEBs were received for developmental testing, which included human factors engineering, high and low temperature storage and operation, reliability and maintainability, ballistic survivability,

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Soldier as a System

Elizabeth N. Richardson

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Under some tactical conditions, a Soldier might be his or her own Army.

ATC's test personnel understand military structure and tactics and have a passion for protecting our military personnel.

ATC is dedicated to Soldier performance testing.

Individual protective equipment is critical to the survival of our military personnel. It is their personal line of defense against fragment, bullet and other impact threats to vital body areas. Items that are carried and used to enhance vision and communication and increase lethality are part of what we call

the Soldier as a System. All of these items must be tested in realistic wartime scenarios to ensure military personnel can perform their mission with the best equipment.

The Integrated Soldier Systems Branch, known as ISSB, has been at the forefront of Soldier equipment developmental testing for more than 35 years. Soldiers perform essential missions in highly stressful environments while wearing, carrying and using enhanced tactical protective and performance equipment. Nothing is more critical to the design success of individual equipment than the early participation of military personnel in testing.

The ATC Soldier individual and protective equipment core commodity test mission is supported partially at the Soldier

Systems Test Facility, which is equipped with an urban terrain tactical maneuver facility, outdoor and indoor firing ranges, above-ground tunnel complex and obstacle course. These resources provide an excellent small-scale tactical environment for Soldier equipment integration testing. ATC supports approximately 8 to 10 Soldier-involved tests per year. Larger-scale tests are often required to meet statistical goals and are conducted at U.S. military installations nationwide with troops in tactical training environments.

ISSB tests integrated head, torso and extremity protection systems and other individual clothing and equipment such as combat eyewear, foot and hand wear, hearing protection, communication equipment, night vision, weapon sights and all aspects of combat clothing.

Since 2013, ISSB has supported Soldier performance and user assessment testing of the Soldier Protection System, including the Modular Scalable Vest, Ballistic Combat Shirt, Integrated Head Protection System, Integrated Soldier



Soldiers performing vehicle ingress and compatibility trials.

Sensor Suite, and Transition Combat Eye Protection. Depending on scope, 40 to 100 military personnel participate in developmental testing of these components.

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Save a Gallon, Save a Life

Aaron D. Steininger

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Energy-efficient field kitchens get cooking at ATC.

Cut convoys - cut casualties.

When it's time to fill 'er up, we usually think with our wallets. However, the cost of supplying fuel (and water) to our forward troops is measured not simply in dollars, but in lives. Every fuel and water resupply convoy exposes active military personnel to the risk of ambush and improvised explosive device (IED) attacks. In Operation Iraqi Freedom, a casualty occurred an average of once in every 38 fuel convoys; in Operation Enduring Freedom, once in every 24. Between 2003 and 2007, that totals 188 casualties in Afghanistan and 8,858 casualties in Iraq -- more than 9,000 casualties, just for five years' worth of fuel and water -- a statistic that cannot be quantified with a dollar figure.

The U.S. Army Test and Evaluation Command's U.S. Army Aberdeen Test Center (ATC) is immersed in testing new energy-efficient systems and upgrades. In recent years, ATC has tested a shower water reuse system to reduce water consumption, solar panels to reduce energy consumption, and fuel-efficient generators and micro-grids to reduce fuel consumption.

The Force Sustainment and Chem/Bio Protection Branch recently began testing two large-scale energy-efficiency projects for Product

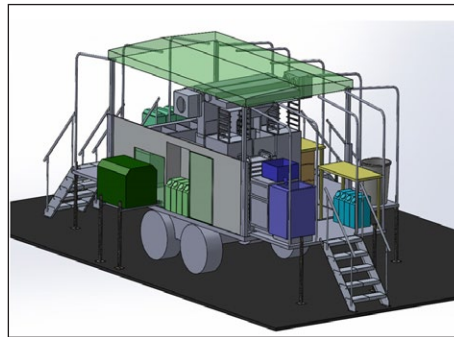
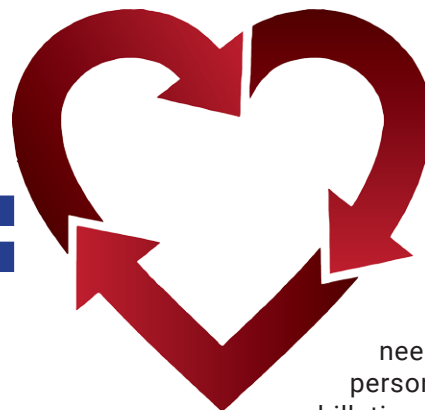
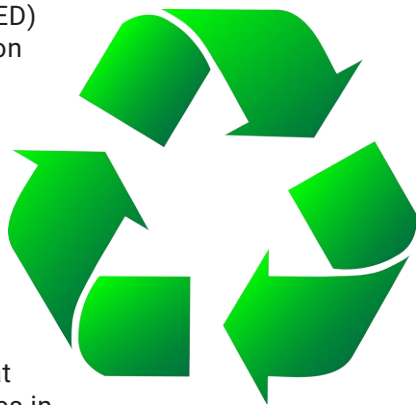


Diagram of BK.

Manager - Force Sustainment Systems (PdM-FSS). The first is the battlefield kitchen (BK), which will replace the 1970s-era mobile kitchen trailer (MKT).



The mission of the BK will be to provide cooking capability immediately behind our front lines. Both the MKT and BK burn common battlefield fuels to heat food. The BK will be 20 percent more energy-efficient by using restaurant-quality appliances to replace the open-burner,



E2RWM billeting.

camp stove-like MKT. Each BK will be able to feed 300 military personnel three meals per day, and the Army plans to purchase 1,500 BKs. ATC and the Natick Soldier Research Development and Engineering Center (NSRDEC) have begun testing BK appliances. After testing, the appliances will be integrated into the BK, and the full BK will return for testing in Fiscal Year 2018.

The second energy-efficiency test project is a hard-walled shelter for Force Provider Expeditionary (FPE) rapidly deployable Life Support Modules (LSM). The Energy-Efficient Rigid Wall Module (E2RWM) will

supplement the current softwall FPE LSMs and will provide a 30 percent energy savings.

The E2RWM will contain all of the shelters needed for 150 personnel, including billeting, administrative, latrine, laundry, kitchen, dining, and shower capabilities. Twenty-four E2RWMs will be produced to replace 24 of the softwall FPE LSMs. Depending on the operational environment, the E2RWM may be deployed in lieu of the softwall FPE LSMs.

ATC tested competing E2RWM shelters last year to narrow the selection field in preparation for sequential testing of the selected E2RWM shelters over the next five years. Currently, ATC is testing the billeting shelter.

Once these energy-efficient systems are deployed, the Army will save fuel and reduce the need for fuel convoys. That means fewer risky missions for our active-duty military personnel.



USMC Lightweight Water Purification System testing at Petroleum and Water Systems site.

Patrick D. Brown

Test Officer, Force Projection and Watercraft Branch, Warfighter Directorate

“The wars of the 21st century will be fought over water.” --Ismail Serageldin, Advisory Committee of the World Social Science Report

ATC tests for the ultimate weapon, and the ultimate weapon runs on water.

Clean, potable water is an absolute necessity during wartime. Without it, everything else – both literally and figuratively – dries up. That’s what makes Aberdeen Test Center’s (ATC) Petroleum and Water Systems (PAWS) work so important: the testing of water purification units to provide military personnel with clean, drinkable water for long-term use.

Daily, more than five gallons of water, per person, are required by military personnel for drinking, cooking and cleaning. The convenience and familiarity of bottled water are preferred, but it is both expensive and a logistical burden. During the recent conflict in Afghanistan, the cost of water was more than \$5.00 per gallon.

Transporting the water created a significant logistical burden and put many lives at risk from ambushes and improvised explosive device (IED) attacks on the convoys.

To reduce the risks and logistical issues, the Army purifies water on-site using the Lightweight Water Purifier (LWP) and the Tactical Water Purification System (TWPS). The systems can purify up to 3,000 and 36,000 gallons per day, respectively. Both systems use reverse osmosis technology to produce potable water from fresh, brackish and seawater sources of up to 60,000 mg/liter salinity, almost double the salinity of average seawater. The systems can also purify nuclear, chemical, biological-contaminated water.

Typically, 20- to 30-percent of the water entering the reverse osmosis filters ends up as product water; the rest is discarded as brine. The product water has lower total dissolved solid levels than bottled water. The only

downside is convenience, since the product water ends up in a large tank instead of individual bottles.

ATC’s PAWS team tested both of these systems before they were sent to military personnel in the field; more recently, the team tested man-portable units. For the U.S. Marine Corps (USMC) and the U.S. Navy, PAWS also tested the Lightweight Water Purification System (LWPS) that is used during wartime and disaster relief. Working alongside the U.S. Army Public Health Command, ATC ensures these systems meet the DOD Tri-Service Water Quality Standards for long-term use (i.e., longer than seven days). In addition to water purifiers, the PAWS team is experienced in testing water pumps as well as water from air, water packaging, water storage and water chilling systems.

The PAWs test site has direct access to the Chesapeake Bay for freshwater testing, and is permitted to withdraw a daily average of 410,000 gallons on an annual basis, with a maximum daily withdrawal of 3,500,000 gallons. Seawater locations are within easy driving distance. Seawater with up to 60,000 mg/liter salinity at temperatures of 32°F to 95°F can also be created to push the reverse osmosis systems to their limits.



USMC LWPS seawater testing at Wallops Island, Virginia.

Our military personnel are our ultimate weapon, and the ultimate weapon runs on water. ATC continues to prime the pump.



A CH-47 helicopter flies the BEB as a sling load.

BEB, From page 2

transportability and performance. In the critical military load class 140 rafting operation, two BEBs propelled a seven-bay ferry loaded with two 70-ton M1 Abrams tanks. The test was done to ensure BEBs can provide maneuverability and thrust for vehicle transport by ferry. In addition, helicopter sling loading was done to test the capability of the BEB to be dropped into water if no launch ramp is available or if the boat needs emergency placement on the water.

Reliability testing on five BEBs replicating a typical mission of bridge crew members was done in Spesutie Narrows, an extremely harsh environment. This muddy body of water is shallow and partially salty, and its temperature fluctuates from 80°F in summer to below freezing

in winter. Spesutie Narrows is one of the test areas that makes ATC the ATEC Test Center Workload Assignment 10-series primary test facility for bridging and watercraft.

After production qualification testing will come a logistics demonstration and limited user test performed by active-duty Soldiers.



BEBs perform reliability testing in the Spesutie Narrows.

The test program will help the military make decisions about full-rate production and full materiel release of the BEB, as the Army plans to acquire 375 BEBs. Soon, the MRBC will have an upgraded, state-of-the-art BEB to cross any wet gap encountered.

EXCELLENCE, From page 1

activities; and munitions and weapons from 9mm handguns to 155mm artillery – to name just a few. This year alone, our team has issued at least 5,300 clearances to fire more than 3 million rounds of 61 different types, including 4,500 static detonations, 2,500 tank rounds (120mm), and 2.6 million small arms ammunitions. Automotive and watercraft testing has covered more than 139,000 miles on our test courses and 35,000 nautical miles. It is imperative that ATC has a rigorous process for evaluating and mitigating safety risks for each test program.

An initiative that has helped to cultivate a culture of safety and prevent complacency is *Second Whistle*, an ATC video series on important safety topics relevant to the ATC workforce and mission and presented in an engaging and educational way. In addition, morning “employee safety huddles” center on that day’s operations and the potential hazards workers will face.

Supporting and performing tests safely can be challenging, but that doesn’t mean it can’t also be fun and rewarding. Currently, a new safety awards program is being rolled out, and our first “Vehicle Safety Rodeo” will soon be held to further encourage our team members to incorporate safety into every action and decision.

A direct correlation exists between employee health/wellness and safety. This year, an exercise room was established, with scheduled lunchtime exercise opportunities. Every 6 weeks, employees take part in a themed walk/run event.

Together with the Army Wellness Center, ATC implemented bimonthly wellness checkups. This has resulted in comradery, teamwork and increased awareness of employees as our greatest resource!

Promoting “Excellence in Safety” is good stewardship of our resources. Safety is not an isolated concept; it is inextricably linked to our organization and environment.

Ultimately, our workforce forms the ATC culture and drives our success. Developing, growing and protecting our team and our mission are central to the ATC culture and the caliber of testing performed here in the defense of our great nation.

LT GOV, From page 1

•Be willing to change course and be accountable if a decision you have



Maryland Lieutenant Governor Boyd K. Rutherford

made is not the correct one;

•If you ask something of your workforce, demonstrate the benefit;

•Never be afraid to jump in and help your workforce complete a task regardless of the job.

The Lt. Governor shared an example of this by recounting how he sought to reduce expenses through energy efficiency in a former leadership post.

“Energy efficiency is a high ticket expense to any organization,” he explained, and by making a few small changes to the day-to-day office routine, significant savings can be gained. He simply asked his employees “to turn off their computers, turn off all non-essential electronic items, and lighting” at the end of the workday.”

The savings were immediate and

were quickly put to use. In return for his employees’ energy conservation, he was able “to renovate by making much needed updates to employee workstations and increase the housekeeping contract for an overall better work environment.”

“Using ‘this is how we have always done it’ as an excuse to avoid new work methods is failure to try,” explained Mr. Rutherford. Embracing change and finding its positive affects is leading by example. ATC leadership speaking series is held monthly to give the workforce a forum to learn how leadership is affected outside the fence of the Command. Inviting non-military leaders to speak on the subject provides a wide breadth of outlooks on the topic.

SOLDIER, From page 3

Soldier assessments consist of individual anthropometric measurements, timed don/doff trials, obstacle course maneuvers, tactical equipment compatibility trials, vehicle ingress/egress, range of motion measurements and functional movement screening. Tactical field events include weapons live fire, foot marches, land



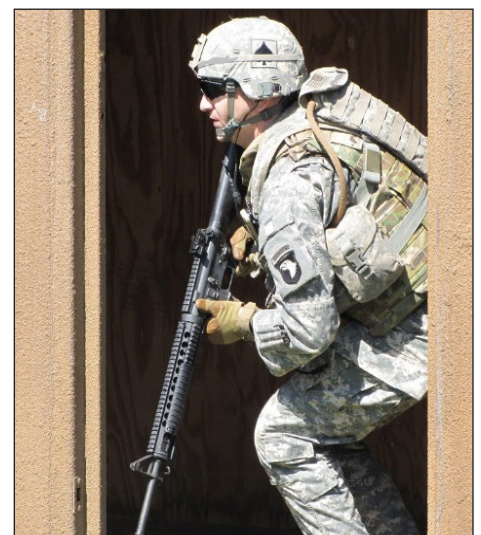
Each Soldier is wearing a modular scalable vest while performing an urban terrain mission.

and augment data findings from the field. The surveys and reviews address critical system design and performance requirements and aid in the selection and fielding of life-saving equipment for military personnel. ATC specializes in test technology that provides scientific, comprehensive data on Soldier as a System performance in a dynamic environment.



Simulated injured Soldier carry.

navigation and urban terrain engagements. Throughout all testing, the Soldiers complete surveys to provide their subjective opinions about comfort, compatibility and performance of the systems. They also complete electronic surveys at the end of all testing, and After Action Reviews are held to expand



Individual protective equipment is the Soldier’s first line of defense.

100 Years of Excellence: The ATC Story, Part 3



Excerpted from an article by Lauren Nelson

Throughout the peacetime years, the personnel at Aberdeen Proving Ground were greatly reduced compared with the numbers during World War I. In a 1932 census, the number of military personnel totaled 150; the number of civilians nearly three times that amount, at 450. These numbers steadily increased and balanced as a new threat to peace arose and APG's workload evolved.

War clouds in Europe signaled a new testing era for APG. As the nation carefully followed the events across the Atlantic, U.S. Armed Forces stepped up defenses, creating more work for the Proof Department.

President Franklin D. Roosevelt, concerned about possible U.S. involvement in the war, visited APG in October 1940 to assess the nation's state of readiness. President Roosevelt toured a number of facilities and test programs before departing to Washington, D.C., causing an increase in activity at APG.



President Franklin D. Roosevelt during his visit to APG in 1940.

Results of this busy time include the completion of an indoor firing range at Michaelsville, which protected testing from weather conditions, and Munson Test Course in 1941. The latter was a series of rough roads constructed for testing tanks, trucks, tractors, and trailers, both wheeled and tracked. Vehicles were chiefly tested for endurance, speed and handling. The course was named after Lieutenant Max Munson, who died in 1941 when an experimental vehicle rolled over on him. These test courses, as well as those built later at Churchville

and Perryman, were extremely helpful in advancing automotive testing for the U.S. Army.

The December 7, 1941, attack on Pearl Harbor hurled the United States into war with Japan, and soon we were embroiled in the war in Europe as well. This heralded the expansion of the U.S. Armed Forces, which created an even more urgent need for increased activity at APG. Almost overnight, war production increased dramatically. This meant not only heightened testing, but also rapid expansion of APG. The U.S. Government purchased 7,000 more acres of land, extending APG to the Aberdeen town limits. Spesutie Island was leased for use, and purchased in 1945, from the estate of J.P. Morgan.



After acceptance tests, numbers are verified on antitank guns. During the war women took on many jobs once reserved for men.

An increased workload calls for an increased staff. Personnel working on APG during World War II grew to 32,664 people; 27,185 military and 5,479 civilian. These extraordinary numbers illustrate the important mission of the Proof Department, which later grew into its own entity called the Proof Center in 1942. These employees served the war effort in every capacity, fully aware of the vital importance of their contribution to the U.S. military in service around the world.

Continued next issue



Workers end the day by boarding waiting Pennsylvania Rail Road passenger cars outside of the main front for their commute home.



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