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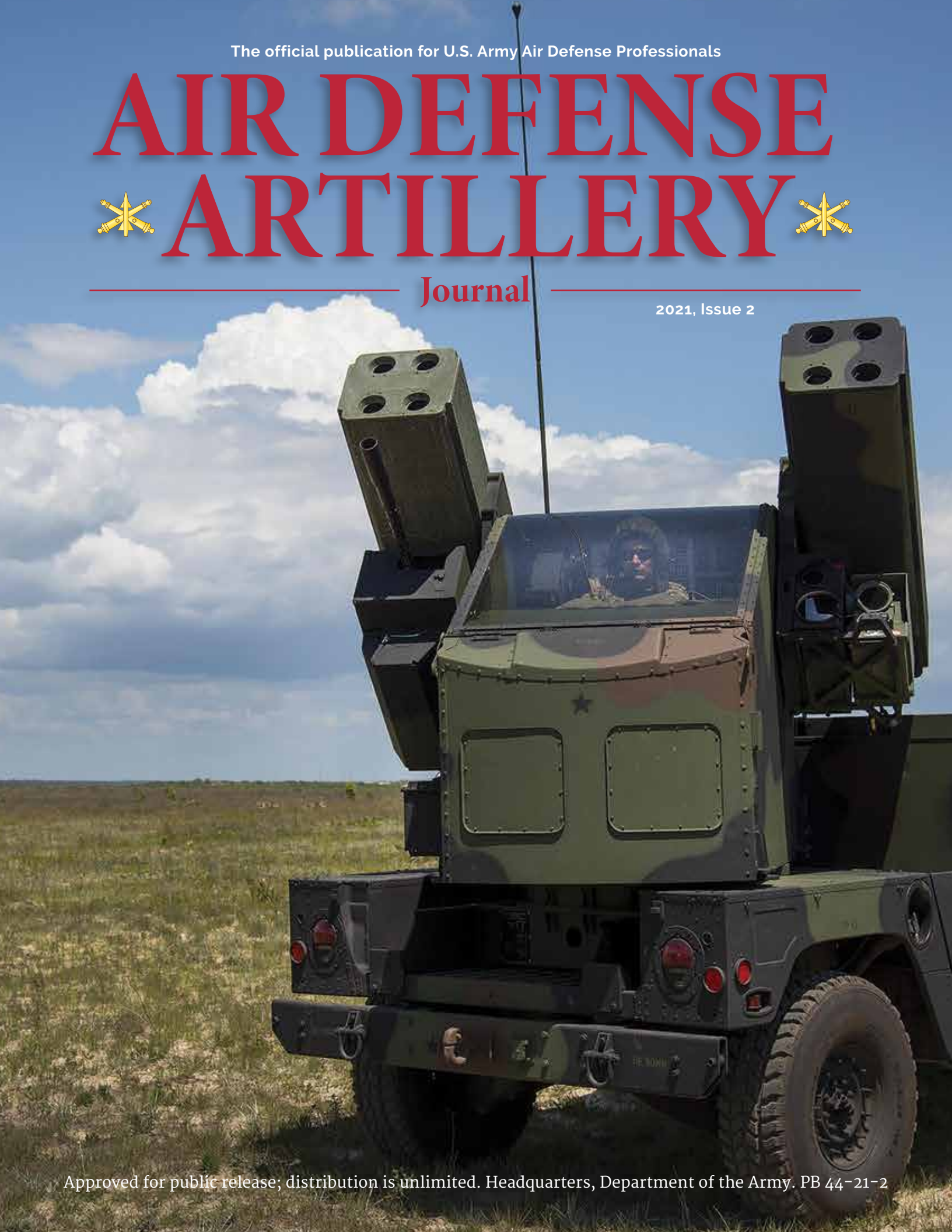

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Purpose:

The Air Defense Artillery Journal serves as a forum for the discussions of all U.S. Army Air Defense Artillery professionals, Active, Reserves and National Guard; disseminates professional knowledge about progress, development and best use in campaigns; cultivates a common understanding of the power, limitations and application of Fires, both lethal and nonlethal; fosters Fires interdependency among the armed services, all of which contribute to the good of the Army, joint and combined forces and our nation. The Air Defense Artillery Journal is pleased to grant permission to reprint; please credit Air Defense Artillery Journal, the author(s) and photographers.

On the cover:

SPC Christopher Bazan, Florida National Guard, 3rd Battalion, 265th Air Defense Artillery Regiment, points the Avenger's turret downrange April 20. The unit, along with the Army's Stinger-Based Systems, used the Eglin Air Force Base range to test fire Stinger missiles from the vehicle.
(U.S. Air Force photo/Samuel King Jr.)

The Modernization of Our Branch

BG Richard A. Harrison

Our branch has one of the most important missions worldwide, and it is vitally important that we keep up with an evolving threat to maintain mission readiness. In my recent travels to see our units, I witnessed the promising advancements we have made as a branch and the talented Soldiers who are tackling new challenges and the evolving daily threat. Modernization is the cornerstone of the future of our branch!

The Army Integrated Air and Missile Defense (AIAMD) program continues to be the top Army AMD modernization priority. AIAMD combines current and future AMD sensors and weapons into a common integrated fire control capability that allows the warfighter to integrate AMD capabilities fully across all echelons. The Integrated Air and Missile Defense Battle Command System (IBCS) is the direct replacement for the mission command nodes for the Patriot weapon system, the Terminal High Altitude Area Defense (THAAD) weapon system, Army Air and Missile Defense Command Headquarters, Air Defense Artillery Brigade Headquarters, and Air Defense Airspace Management cells. It allows rapid convergence of sensors, shooters, and mission command components on an integrated fire control network. Once fully fielded, IBCS will provide a game-changing capability, allowing AMD forces to be tailored and scaled appropriately to meet the given threat. The quantity and mix of capabilities can be dynamically task organized to a formation with an inherent, integrated mission command system to build tiered and layered defenses. The IBCS open architecture enables rapid integration of legacy and developmental sensors and shooters, providing capabilities to defeat emerging threats in Multi-Domain Operations. The program is on schedule, moving forward. This year the IBCS program passed the Milestone C decision, and the program will progress to low-rate initial production. Test Battalion training is currently underway in preparation for the IBCS Initial Operational Test and Evaluation scheduled to begin late this year.

Our efforts to drive change are centered on two complementing priorities: the approved growth of seven active component ADA Battalions and the development of Maneuver Short-Range Air Defense (M-SHORAD) and Indirect Fires Protection Capability (IFPC) weapon systems. In 2018, we stood up our first of four active component M-SHORAD Battalions, 5th Battalion, 4th ADA Regiment in Germany. Here at Fort Sill, we will activate our second M-SHORAD Battalion, 4th Battalion, 60th ADA Regiment next month, followed by our first interim IFPC Battalion (Iron Dome), 1st Battalion, 51st ADA Regiment at Joint Base Lewis-McChord in May of FY22. The third M-SHORAD Battalion, 6th Battalion, 56th Regiment, will stand up at Fort Hood, Texas, in September of FY22. The fourth M-SHORAD Battalion will stand up in the fourth quarter of FY23. We will stand up two additional IFPC Battalions in FY25 and FY26. Finally, in FY27 and FY28, 2-44th and 5-5th ADA will convert to IFPC Battalions.

While we stand up these new formations and field new weapon systems, we must also develop the training and doctrine for our Leaders and Soldiers at all levels. The current doctrine we are working includes the FM 3-01.44, *SHORAD Operations*, which recently finished worldwide staffing. This doctrine is currently in review and adjudicating comments to provide the best product possible for our Soldiers. The second manual is TC 3-01.25, the *Iron Dome Handbook*. This training circulation is projected completion of a draft for the test unit by mid-September 21.

Our two Iron Dome batteries, G Battery, 55th ADA Regiment and F Battery, 55th ADA Regiment, are both currently serving in our Test Battalion, 3rd Battalion, 43rd ADA Regiment at Fort Bliss, Texas. The Soldiers assigned to these systems participated in two Live-Fire Exercises (LFX) this summer. The primary focus for the LFX was to demonstrate the effectiveness against Cruise Missiles (CM). Multiple CM engagements were tested in both of these exercises with overwhelming success! As mentioned above, the Iron Dome batteries will be assigned to 1-51st ADA in May of FY22.

Under the direction of Air and Missile Defense Cross Functional Team (AMD CFT), and the Army Capability Manager, the first platoon of M-SHORAD (four fire units) was fielded to A/5-4th ADA in April 2021.

The Directed Energy (DE) M-SHORAD continues to be developed by the U.S. Army's Rapid Capabilities and Critical Technologies Office in coordination with the AMD CFT and ADA Branch to quickly develop and test. The DE capability recently went through a combat shoot-off at Fort Sill.

The Army is looking to develop a more capable missile to take the place of the Stinger. This missile will be developed to be both a vehicle-launched and man-portable system to be the primary effector on our enduring M-SHORAD weapon system.

In closing, it has been a remarkable summer for our branch. The Soldiers who are executing critical Air and Missile Defense Missions across the globe are making Air Defense Artillery history every day. With the fielding of our new systems, the growth of our branch is crucial to the success of our evolving missions and to the future of the Air Defense Artillery. It's an exciting time to be an Air Defender and a member of this incredible team!

"First to Fire!"

FORT BLISS, Texas – 2LT Devon Moore, 31st Air and Missile Defense Brigade, carries a wounded Soldier during the stress shoot event during Blackjack Best Warrior, May 19 on Fort Bliss. The weeklong Blackjack Best Warrior competition tests Soldiers, in the categories of Soldier, NCO, Officer, Warrant Officer and career counselor, on their intellect, fitness and their understanding of warrior tasks and battle drills. (U.S Army photos by SGT Ian Vega-Cerezo, 32nd Air and Missile Defense Command Public Affairs Office)

Blackjack Warrior Competition 2021

By SGT Ian Vega-Cerezo

Soldiers of the 32nd Army Air and Missile Defense Command gave their all to find out who among them was the best of the best during the Blackjack Warrior Competition, at McGregor Range, held May 10, 2021.

The weeklong, NCO planned-and-led Blackjack Warrior Competition tested 18 Soldiers, in the categories of: Junior Enlisted, Non-Commissioned Officer, Officer, Warrant Officer and Career Counselor, on their intellect, fitness and understanding of warrior tasks and battle drills.

"What qualifies me to be the best career counselor is my physical fitness, my general Soldier knowledge, and my ability to communicate effectively," said SSG Christofer Azcona, winner of the Career Counselor category who proudly serves with 108th Air Defense Artillery Brigade.

Competitors endured long days in the desert heat, undertaking everything from the Army Combat Fitness Test, marksmanship qualifications, a scenario-based training that included an assault on a village to rescue a wounded Soldier, and a timed response to a Chemical Biological Radiological Nuclear attack.

The stress shoot was the most difficult and demanding of these tasks. The event challenged competitors to race across several hundred meters of hills to complete a series of tasks that included treating and fireman-carrying a casualty, fixing a radio, calling in a nine-line medical evacuation

FORT BLISS, Texas – The winners of the best Warrior Competition from left to right are: Career Counselor of the Year SSG Christofer Azcona, Soldier of the Year SPC Ryan Carter, 11th ADA Brigade, NCO of the Year SGT Brandon Cormier, 69th Air Defense Artillery Brigade, Officer of the Year 1LT Sean Kirchner, 108th Air Defense Artillery Brigade, and Warrant Officer of the Year WO Sean Roddick. (U.S Army photos by SGT Ian Vega-Cerezo, 32nd Air and Missile Defense Command Public Affairs Office)

FORT BLISS, Texas – SSG Ricco Lizzarraga, 11th Air and Missile Defense Brigade, pulls security during the village assault during Blackjack Best Warrior, May 18 on Fort Bliss. The weeklong Blackjack Best Warrior competition tests Soldiers, in the categories of Soldier, NCO, Officer, Warrant Officer and career counselor, on their intellect, fitness and their understanding of warrior tasks and battle drills. (U.S Army photos by SGT Ian Vega-Cerezo, 32nd Air and Missile Defense Command Public Affairs Office)

Fort Bliss, Texas. – PFC Taylor Sherwood, 108th Air Defense Artillery Brigade, configures a SINCGARS radio during Blackjack Best Warrior, May 19 on Fort Bliss. The weeklong Blackjack Best Warrior competition tests Soldiers, in the categories of Junior Enlisted, NCO, Officer, Warrant Officer and career counselor, on their intellect, fitness and their understanding of warrior tasks and battle drills. (U.S Army photos by SGT Ian Vega-Cerezo, 32nd Air and Missile Defense Command Public Affairs Office)

report, and lastly engaging a 25-meter target with both an M9 pistol and an M4A1 Carbine.

"These warrior tasks and battle drills are things that we don't do regularly in the Army," said WO Sean Roddick, winner of the Warrant Officer Category and automotive maintenance warrant officer serving with 11th Air Defense Artillery Brigade. "They're use-or-lose skills and mastery over them separates you from your peers as a Soldier."

According to some of the challengers, honing those basic skills is the key to success in Blackjack Warrior.

"The goal is to beat the standard, do everything I know how to do, and do it right," said 1LT Jacob Studdard, 69th Air Defense Artillery Brigade, 4-5th Air Defense Artillery Regiment. "Even if your best isn't as good as someone else's, as long as you're continually getting better, that's all you can really ask for."

While the competitors are expected to succeed and excel on their own merits, ultimately, the competition boils down to teamwork.

"Teamwork is an important part of being the best Soldier because you need to be able to effectively communicate with your team to get the mission done; we work better in groups, not as a single unit," said Azcona.

"There's a lot of different characteristics about what defines the best warrior," said CSM Jerry Jacobitz, command sergeant major, 32nd AAMDC. "Really what we want to see are Soldiers that build cohesive teams and are disciplined, physically fit and well trained."

The previously mentioned winners, SSG Azcona and WO Roddick, are joined by the officer of the year, 1LT Sean Kirchner, 108th Air Defense Artillery Brigade, NCO of the year SGT Brandon Cormier, 69th Air Defense Artillery Brigade and Soldier of the year SPC Ryan Carter, 11th ADA Brigade.

However, claiming the title of Blackjack Warrior is just the first step of many for the Best Warrior challengers who have their work cut out for them going forward.

"The next step for the winners of Blackjack Best Warrior is to go on to FORSCOM," said Jacobitz. "Whoever wins our Solider and NCO of the year will go on to compete and represent our command at the FORSCOM level."

SGT Ian A. Vega-Cerezo is a public affairs specialist serving with 32nd AAMDC in Fort Bliss, Texas. Vega-Cerezo has previously served as an infantryman with the 2-14th Infantry Regiment in Fort Drum, New York, and as a forward observer with the 100th Battalion, 442nd Infantry Regiment. He currently lives with his wife and three dogs in El Paso, Texas.

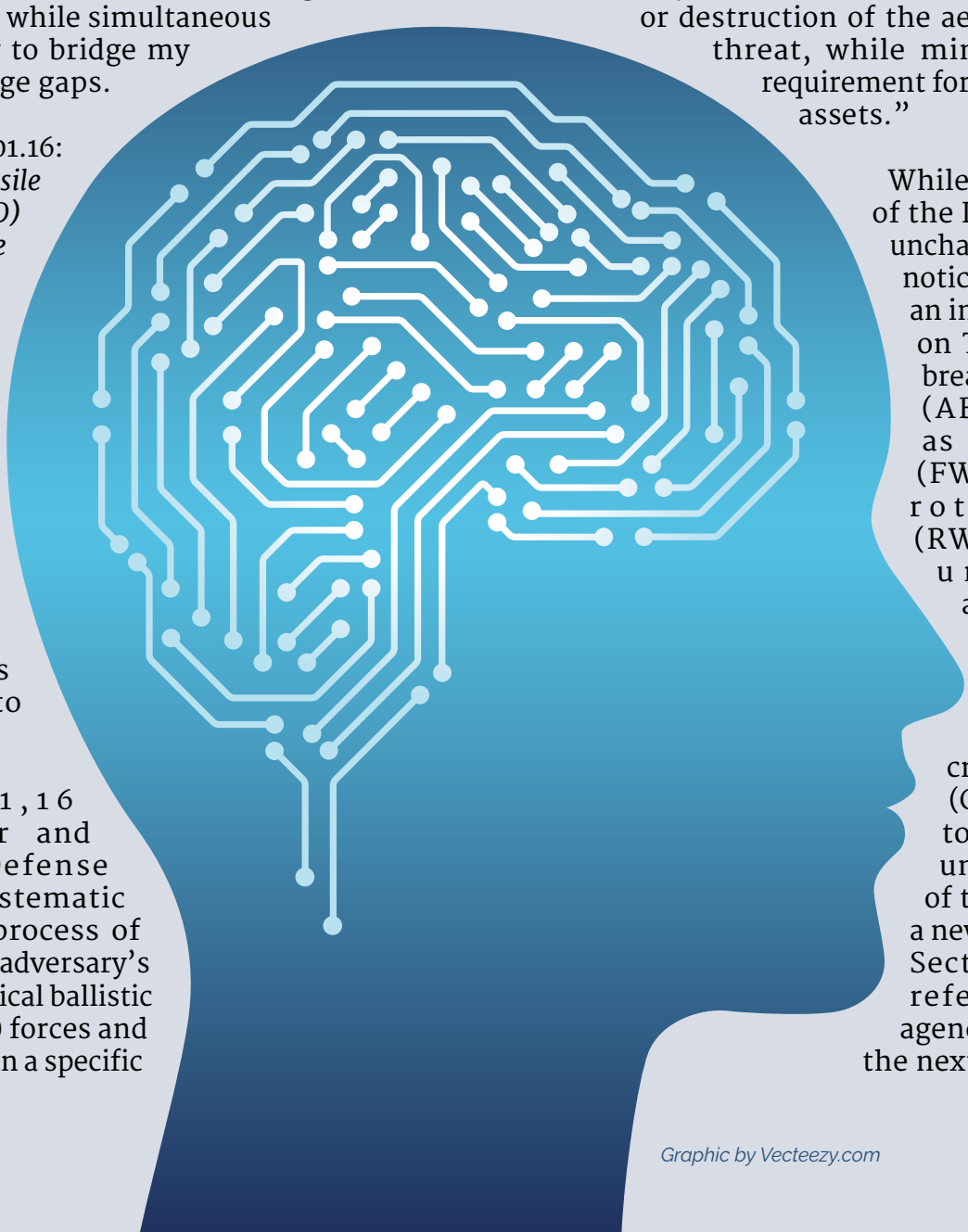
Military Intelligence in an Air Defense Artillery battalion

By CPT Amanda Barrett and SGT Nathaniel Taylor

Intelligence support to Air Defense Artillery (ADA) units differs vastly from that of the conventionally supported combat arms units such as the Infantry, Armor and Field Artillery. As a member of the Intelligence Section of 3rd Battalion, 2nd Air Defense Artillery Regiment, I have experienced this difference first hand and learned over my tenure as the senior intelligence officer for the battalion how best to support the battalion commander's intelligence requirements while simultaneous learning how to bridge my own knowledge gaps.

The ATP 3-01.16: *the Air and Missile Defense (AMD) Intelligence Preparation of the Battlefield (IPB)* serves as one of the most important markers to show how vastly different intelligence support to ADA is compared to other units.

ATP3-01.16 states, "Air and Missile Defense IPB is a systematic continuous process of analyzing the adversary's aerial and tactical ballistic missile (TBM) forces and environment in a specific geographic area and the battlefield around it. By determining the likely adversary courses of action (COAs), their associated branches and sequels, and by describing the environment where air and missile defense forces are operating, this AMD IPB process helps the commander and staff selectively apply and maximize available AMD forces at critical points in time and space on the battlefield. Applied properly, AMD IPB provides for the timely and effective neutralization and/or destruction of the aerial and TBM threat, while minimizing the requirement for friendly AMD assets."



Graphic by Vecteezy.com

While the majority of the IPB process is unchanged, one will notice that there is an increased focus on TBM and air-breathing threats (ABT), such as fixed-wing (FW) aircraft, rotary-wing (RW) aircraft, unmanned aerial systems (UAS), anti-radiation missiles (ARMs) and cruise missiles (CMs). In order to develop an understanding of these threats, a new Intelligence Section should reference the agencies listed on the next page:

- Defense Intelligence Agency – General Military Intelligence; Measurement and Signature Intelligence National Security Agency – Signals Intelligence; Electronic Intelligence
- National Air and Space Intelligence Center (NASIC) – TBMs >1000KM in Range and ABT (FW, RW, UAS, CM)
- Missile and Space Intelligence Center (MSIC) – TBMs <1000KM in Range
- National Ground Intelligence Center (NGIC) – Ground Forces; rockets; chemical, biological, radiological, nuclear and high-yield explosives intelligence

The AMD IPB process consists of the four steps found in conventional IPB (Define the operational environment [OE], Describe environmental effects on operations, Evaluate the threat, and Determine threat COAs), however, AMD IPB focuses heavily on adversary aerial and TBM assets.

The AMD system can affect the battlespace in many different ways and dimensions that are much larger in size and scope than the doctrinal area of operations. The AMD system may have a sensor capable of detecting a threat missile launch from hundreds of miles away. Upon detection, the commander can now begin operations toward mission accomplishment. The commander can provide early warning of launch to appropriate agencies or installations so that personnel can seek cover, or the sensor can be part of an Integrated Air and Missile Defense network, and utilize this launch information to cue other weapon systems that are responsible for target engagement.

The AMD system may have a sensor capable of detecting a threat missile launch from hundreds of miles away.

When viewing the environmental effects on the OE, Air Avenues of Approach (AAA) carry a heavier weight than the conventional ground high-speed avenues of approach. When evaluating AAA, considerations include terrain that masks surface-to-air weapon systems, however, there are also specific AAA considerations for TBMs. The adversary's weapon system may have specific threat angle requirements that must be met in order to operate effectively. The IC, namely MSIC, has developed locations of Ballistic Missile Operation Areas (BMOA), which have helped to shape our understanding of the operational footprint of the adversary.

While evaluating the threat, TBMs and ABTs are the main focus. There is a wide range of TBMs currently deployed and available to adversary countries. The first step in narrowing down the threat analysis is to determine which category of TBMs are applicable to the AMD IPB mission set. ABT platforms must be considered even if they cannot penetrate the airspace surrounding a defended asset. This is due to the platforms ability to carry multiple variations of ordnance that can affect the defended asset—several adversarial munitions employed cannot be negated with friendly airborne weapon systems. The CMs are an additional threat planning factor. The most stressing characteristic of the CM is its ability to fly at very low altitudes, to be masked beyond terrain as it approaches the asset, and the relatively low radar cross section of the airframe. Determining these factors, and how they affect the AMD system, will be paramount to developing the CM defense design. Another threat that AMD emphasizes is the UAS. Though considered an ABT in most threat communities, special attention is given to UAS's by the AMD planner because of the small size, low cost, high proliferation, Intelligence, Surveillance, and Reconnaissance, and/or attack capability of the UAS. Several countries have used UAS in a role that challenges AMD. The final threat specific to AMD IPB is the ARM. This threat is of specific interest and concern to the AMD analyst because the ARM threat does not target the AMD's defended asset, however it targets the AMD sensor.

The final step of AMD IPB is to determine threat COA. The MLCOA is the COA that the enemy will most likely take based on actionable intelligence that has been derived about the enemy and understanding of the enemy's intent. While the enemy MDCOA is derived from the same inputs as the MLCOA, the MDCOA is typically based on a maximum physical capability without regard for enemy intent. Though this doctrine is unchanged,

AMD IPB takes a deeper look at the ballistic missile inventory, system capabilities and limitations, and threat systems within a BMOA.

Despite the fact that these focus areas may seem insignificant on paper, coming into an Air Defense Artillery unit out of the schoolhouse left our Intelligence Section ill-prepared for the mission set—leaving us with a steep learning curve that we had to grasp very quickly.

In order to provide the proper support to ADA units, this article recommends the following COAs when possible: 1) all newly assigned intelligence officers and analysts to an Army Air and Missile Defense Command should have the opportunity to attend a few key ADA/Intelligence developmental courses that provide basic understanding on how to support these units. The courses should include the MSIC Ballistic Missile Threat Immersion course,

...all newly assigned intelligence officers and analysts to an Army Air and Missile Defense Command should have the opportunity to attend a few key ADA/Intelligence developmental courses...

the Joint Ballistic Missile Defense Education and Training Center, Ballistic Missile Defense Staff Officer Course, and the newly developed 32nd AAMDC ADA Intelligence course offered to newly assigned officers over a two-week period. These courses offer a solid foundation to intelligence officers that may have never served in an ADA unit before or attended a Missile Defense course. 2) The United States Army Intelligence Center of Excellence should dedicate a moderate amount of time in the curriculum during BOLC and Military Intelligence Career Captain's Course to teach protection as a warfighting function, especially as we transition from COIN to Great Power Competition. 3) Lastly, the missile threat that the U.S. military currently faces demands a collaborative effort between national agencies and the military. It is recommended that once intelligence officers arrive to their ADA units, commanders provide them with the ability to interact with national agency partners to develop relationships that they will no doubt need once they arrive in a theater of operations.

CPT Amanda Barrett is a military intelligence officer who had the privilege to serve as the intelligence officer for 3rd Battalion, 2nd Air Defense Artillery Regiment for several years. During her tenure, she completed two drastically different deployments with the unit. Her experiences outside of Air Defense led to greater understanding of threats within the "Lethal Strike" Battalion.

SGT Nathaniel Taylor is a military intelligence all-source analyst who served as the primary analyst for 3rd Battalion, 2nd Air Defense Artillery Regiment for several years, including two drastically different deployments with the unit.

ADA NEWS

US Army launches Patriot Missiles during Talisman Saber 21

By U.S. Army Pacific Public Affairs

Soldiers with 1st Battalion, 1st Air Defense Artillery Regiment, fire the MIM-104 Patriot to destroy a drone target July 16, 2021, at Camp Growl in Queensland, Australia, during Exercise Talisman Sabre 2021. This is the first time the MIM-104 Patriot has been fired on Australian soil. Army forces operating in the Indo-Pacific bring a unique blend of key multi-domain capabilities that enable the Joint Force.

U.S. Army Pacific Air and Missile Defense units working with Australian Defence Force counterparts completed the first ever Patriot surface-to-air missile firing on Australian soil during Exercise Talisman Sabre 21 in the Shoalwater Bay Training Area in Queensland, Australia, July 16, 2021.

In the historic first, Soldiers based in Japan and Guam from 38th Air Defense Artillery Brigade, 94th Army Air and Missile Defense Command, successfully engaged drone targets with Patriot missiles as part of TS 21, Australia's largest military exercise with the U.S.

Australian and U.S. Forces combine biannually for Talisman Sabre - a key exercise supporting the Indo-Pacific Pathways initiative to advance a free and open Indo-Pacific by strengthening relationships, building trust and interoperability among allies and partners.

This year's iteration involves more than 17,000 participants from seven nations in a month-long multi-domain exercise, which aims to strengthen military capabilities to respond to the full range of Indo-Pacific security concerns.

In addition to the U.S. and Australia, this year's exercise involves participating forces from Canada, Japan, New Zealand, the Republic of Korea, and the United Kingdom and delegations from India, Indonesia, France, and Germany will observe the exercise.

The exercise includes force preparation (logistic) activities, amphibious landings, ground force maneuvers, urban operations, air combat and maritime operations. Activities will peak from July 18 - 31 across Queensland.

For the latest information visit https://www.dvidshub.net/feature/TalismanSabre21 https://www1.defence.gov.au/exercises/talisman-sabre-21

Soldiers with 1st Battalion, 1st Air Defense Artillery Regiment, fire the MIM-104 Patriot to destroy a drone target July 16, 2021, at Camp Growl in Queensland, Australia, during Exercise Talisman Sabre 2021. This is the first time the MIM-104 Patriot has been fired on Australian soil. Army forces operating in the Indo-Pacific bring a unique blend of key multi-domain capabilities that enable the Joint Force. (U.S. Marine Corps photo by LCpl. Alyssa Chuluda)

CSM Kellen C. Rowley, 38th Air Defense Artillery Brigade senior enlisted advisor, speaks to the Patriot Master Gunner course class 701-21 students about the importance of the knowledge the course offers during a visit at Kadena Air Base, Japan, April 29. The Patriot Master Gunner Course was held in Japan for the first time from April 19 to June 28, 2021.

Patriot Master Gunner Course held in Japan for the first time

By SGT Raquel Birk

The Patriot Master Gunner Course (PMG) was held in Japan for the first time.

Air Defenders across the Indo-Pacific region gained an advanced understanding of Air Defense operations, standards, and doctrine during PMG class 701-21 hosted by the 1st Battalion, 1st Air Defense Artillery Regiment at Kadena Air Base from April 19 to June 28, 2021.

"To be a Master Gunner means you are a technical and tactical expert," said CSM Kellen C. Rowley, 38th Air Defense Artillery Brigade senior enlisted advisor, in his remarks during a class visit. "Patriot Master Gunners are trained in methodology. You are expected to know the standard and be the person in your unit to enforce it and make sure that teams are qualifying correctly. The badge you earn after completing this course is an indicator to commanders and Soldiers to heed your advice regarding training and employment of Air Defense systems."

The course is demanding and critical for Air Defenders around the world. This class consists of students from the 94th Army Air and Missile Defense Command, Hawaii; 38th Air Defense Artillery Brigade, Japan; 35th Air Defense Artillery Brigade,

Republic of Korea; 1-1st ADA, Okinawa, Japan; 14th Missile Defense Battery, Kyotango, Japan; and Echo Battery, Air Defense Artillery Regiment, Guam, who will directly enhance the knowledge, training and expertise of Air Defense operations in the Pacific region upon graduation.

"I'm attending the PMG course to gain a level of knowledge to take back to my unit and push my Soldiers to the envelope, get them ready and trained to defend our mission here in Japan," said SSG Roberto Maldonado, PMG student and Patriot fire control enhanced operator, Battery D, 1-1st ADA. "We are currently on cycling missions and it's important to have the readiness of our Soldiers at the highest level possible and for them to possess the expert skills necessary to maintain a free and open Indo-Pacific region."

The PMG course not only develops expert skills, but it also provides a comprehensive understanding of operations, planning, and airspace management. The course challenges Air Defender competencies using realistic scenarios, hands-on training, examinations, and practical exercises, to evaluate their skills, knowledge, and attributes.

"The goal is for the students to successfully graduate the course and be able to provide their commander with the tools necessary to train Soldiers the correct way which coincides with the commander's intent," said SFC Gregorio Estrada, PMG lead instructor from 3rd Battalion, 6th Air Defense Artillery Regiment, located at Fort Sill, Oklahoma. "They will be Master Gunners, subject-matter experts who people look to when they need to know what

SFC Gregorio Estrada, Patriot Master Gunner Course lead instructor from 3rd Battalion, 6th Air Defense Artillery Regiment located at Fort Sill, Oklahoma, guides SSG Shane Viernum, Patriot fire control enhanced operator with 94th Army Air and Missile Defense Command, through a class assignment during the PMG couse at Kadena Air Base, Japan, April 29. The Patriot Master Gunner Course was held in Japan for the first time. Air Defenders across the Indo-Pacific region gain an advanced understanding of Air Defense operations, standards, and doctrine during PMG class 701-21 hosted by the 1st Battalion, 1st Air Defense Artillery Regiment at Kadena Air Base from April 19 to June 28, 2021.

SSG Roberto Maldonado, Patriot Master Gunner course student and Patriot fire control enhanced operator, Battery D, 1st Battalion, 1st Air Defense Artillery Regiment, works through his classroom studies during the PMG course at Kadena Air Base, Japan, April 29. Air Defenders across the Indo-Pacific region gained an advanced understanding of Air Defense operations, standards, and doctrine during PMG class 701-21 hosted by the 1st Battalion, 1st Air Defense Artillery Regiment at Kadena Air Base from April 19 to June 28, 2021.

right looks like and provide the right answers."

To counter the course load and rigorous academic demands of the PMG course, instructors have partnered up with one of the newest services also being provided in Japan for the first time -- the U.S. Army Japan's (USARJ) Ready and Resilient Performance Center (R2PC). James Gallagher and Jenny Hennig, both Master Resiliency Trainer performance experts with USARJ's R2PC at Okinawa, work with PMG students regularly to maximize their study habits and knowledge retainability to counter the rigorous course load and increase their chances of passing.

"We are here as an extra resource to Soldiers during breaks and lunch to assess and enhance their study habits," said Hennig. "We provide customized performance training that enables Soldiers to sustain personal readiness, enhance resilience, and optimize human performance."

Historically, the average graduation rate for the PMG course is about 65% according to PMG instructors. Experts hope to improve the graduation rate with PMG Class 701-21 taking advantage of this resource.

"Academic support is available anywhere the 32 R2 sites are located, not only for Master Gunner courses, but any Army education training," said Gallagher. "Our Japan offices at Camp Zama and Tori Station recently opened January 2021, and we are excited to serve the Soldiers here in Japan for the first time ever."

By course end, students are required to design and implement defense architecture to employ Air Defense weapon systems using the strategies of the contemporary operating

James Gallagher and Jenny Hennig, both Master Resiliency Trainer performance experts with the U.S. Army Japan Ready and Resilient Performance Center work with Patriot Master Gunner course students regularly to maximize their study habits and knowledge retainability to counter the rigorous course load and increase their chances of passing. To counter the course load and rigorous academic demands of the PMG course, instructors partnered up with one of the newest services also being provided in Japan for the first time, the USARJ R2PC.

environment, such as Airspace Management, Operations, Planning, and Evaluation, plus identify the tasks to employ the Patriot weapon system and fire the Patriot missile.

"As part of the course, the Air Defenders will conduct a block of instruction on Patriot Missile Reload," said Estrada. "As a Master Gunner, part of the training is to learn how to train and evaluate crews and this provides the opportunity to watch the crew team in action and discuss the operations they review in class."

The 94th AAMDC, the higher headquarters to all units in attendance and course sponsor, is optimistic about the future of Air Defense in the region.

"[We] appreciate all the support getting the PMG-MTT [Mobile Training Team] into Japan," said CSM Neil Sartain, 94th AAMDC senior enlisted advisor in a statement on Twitter. "It is so very important to the professional development of our noncommissioned officers. Even more important to the readiness of their units. Good luck to you all. I want to see you all at the graduation ceremony! First Line of Defense!"

SGT Raquel Birk is currently the public affairs noncommissioned officer for 38th Air Defense Artillery Brigade at Sagami General Depot, Japan. She previously served as command information manager for 2nd Infantry Division/ROK-U.S. Combined Division at Camp Humphreys, Republic of Korea. She received a Master of Arts in Sociology from St. John's University, Jamaica, New York.

Training with industry: Letterkenny Army Depot

Serving with the organic industrial base

By CW3 Robert T. Brower

As the second Air and Missile Defense systems technician with Letterkenny Army Depot (LEAD), I have been extremely grateful for the experience. For the majority of my career, the purpose or support by the depot was a bit vague outside of reset or recapitalization efforts for the Patriot missile system. I was lucky enough to have a predecessor who developed a strong baseline for the Training with Industry (TWI) program and I took advantage of every possible venture to imbed myself within LEAD operations and planning. Overall, this was a position that offered a bounty of opportunities to learn best practices and processes from technicians that are elbow deep in the equipment every day. Not only did LEAD management officials allow me to sit in on strategic planning and various production meetings, they also sought input from me to include the thoughts and concerns from a warfighter's perspective. Above all else, the LEAD team strives to share everything they can with the operational force. It was edifying to see their efforts to collaborate with Army Aviation and Missile Command, Army Capability Managers and Program Office Missiles and Space to provide support operations for the Air Defense community both in the continental United States and outside contiguous United States.

Routinely, I would spend anywhere from two to four weeks within a given commodity shop or production area. During this time, I would familiarize myself with the depot procedures governing specific processes for production. Additionally, I would ask the technicians for their insight into repair actions, preventative measures and lead time for resources. This allowed me to mind map the process and how it affects the warfighter. While serving with the Directorate of Missile and Aerospace Readiness, I was allowed to participate in the testing of the PAC-2 missile and assisted with the re-caning of two recertified missiles. I was afforded the chance to participate in various other procedures that support asset readiness in expeditionary conditions. Toward the end of my tour with TWI, two ADA battalions were scheduled and inducted into the reset program. Officials within the Theater Missile Systems Division sought out my collaboration to develop inspection guides for equipment readiness based on the Army 10/20 maintenance standard. If I learned anything from working with the LEAD team, it would be that any process can be improved if the innovation is there.

A large portion of my experience included understanding the organic industrial base and how it operates. Because LEAD is not funded like a traditional Army base, any and all business conducted for production or services rendered directly impacts operations support for the base and its tenants. As part of LEAD's commitment to the Lean Six Sigma principles, they hold meetings such as demand and supply analysis. These meetings were eye opening to the business practices of the depot and their analytical metrics used for forecasting based off of trends. With that said, LEAD

is committed to developing their technicians and associates through industry-recognized training. Whether it is technical training such as wiring and terminal board soldering certifications or project management training, LEAD is avid in their pursuit to foster a workforce of emergent professionals. As part of their dedication, LEAD management saw to it that I was afforded the opportunity to attend these training courses and supported online studying in focus areas such as business analysis and systems acquisitions. It made it a lot easier to participate in working groups when I was able to speak in the right terms afforded to me by this training.

Outside of the consummate work the technicians at LEAD perform, it is their breadth of knowledge of the systems they support that is truly astonishing. While serving with the LEAD team, it is remarkable to witness how dedicated they are to meet warfighter expectations. There were many instances where I approached technicians during troubleshooting and they shared repair measures

If I learned anything from working with the LEAD team, it would be that any process can be improved if the innovation is there.

that explicated beyond the technical manual while still not violating maintenance allocation chart guidance. The team at LEAD was quick to provide me with any information I requested in order to facilitate my learning experience or inform units of capabilities. There have been multiple instances where LEAD sought out opportunities to showcase a skill or ability that eased the strain of operations for the end user. During my tenure here at LEAD, I attended the AMCOM 101 virtual event and two ADA Sustainment Forums. Events like these are phenomenal to sit in on with the knowledge I learned at the depot. They served as a full-spectrum experience, tying together warfighter concerns, future concepts and systems and support planning as part of the life cycle management for Air Defense systems.

Overall, this year's training at Letterkenny has been memorable and informative. My newfound knowledge of the relationships between the various agencies that serve the Air Defense community is something that will definitely benefit any AMD system technician as part of professional development. I know that future candidates will only continue to improve upon the program and bring an onset of changes that result in a community of warrant officers that are erudite in their skills. It is key to remember that we are all life-long learners in the military, and as industry changes so does the way we maintain the fight.

CW3 Robert T. Brower hails from El Paso, Texas, and enlisted in the Army as a 14T Patriot Launching Station Enhanced Operator/Maintainer in November 2006. Brower has served on multiple assignments within the Air Defense community including AMD systems technician for the 12th Missile Defense Battery in CENTCOM. His most recent assignment was the AMD systems technician for Alpha Battery, 2nd ADA Regiment (THAAD) at Fort Bliss, Texas. His deployments include Operation Enduring Freedom and Operation Spartan Shield.

ADA NEWS

Missile Defense becomes part of great power competition

By Jim Garamone, reporter with the U.S. Department of Defense.

All aspects of the military are engaged in great power competition, but while most analysts focus on developments in offensive missiles, Chinese and Russian defense leaders are developing even more capable missile defenses, Defense Department officials said.

"China and Russia are developing increasingly capable and numerous missile defense systems, and integrating them into their defense strategies as they compete with the United States," a DOD official said.

The United States pioneered missile defense systems. Then-President Ronald Reagan proposed missile defense systems in the early 1980s. His "Strategic Defense Initiative" was dubbed the "Star Wars Initiative" — sometimes derisively.

The laughing stopped during Operation Desert Storm, when Patriot missile defense batteries based in Saudi Arabia and Israel stopped Iraqi Scud missile attacks.

Russia is a long-time player. The former Soviet Union created a ring of anti-ballistic missile batteries around Moscow during the Cold War. These nuclear-tipped missiles still exist as part of Russia's A-135 anti-ballistic missile system. The system consists of 68 nuclear-armed interceptors. As part of President Vladimir Putin's military buildup, the system has received new radars and updated electronics. The beauty of this system is that the Russians have only to be close to an incoming threat. The downside is radiation from an intercept would contaminate thousands of acres of countryside.

The Russians are getting ready to field the S-500 system. Designed to intercept short- to medium-range threats, they say the system will defend against ballistic, cruise and hypersonic missiles. The system's initial operating capability is set for some time in 2025.

The other main threat comes from the People's Republic of China. The Chinese see missile defense as a key cog in their military ambitions. The People's Liberation Army Air Force is accelerating the transition of its tasks from territorial Air Defense to both offensive and defensive operations, according to a Chinese white paper on the subject. China's air force is also improving its capabilities for strategic early warning, air strikes, and air and missile defense.

Right now, the Chinese are heavily dependent on Russian missile defense capabilities. The Chinese have invested in the Russian S-300

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Avenger weapon system in support of CJTF-OIR. (Photo credit: Public Domain)

Operational assessment

of Joint Integrated Air and Missile Defense in Iraq - "Max Protect"

By CW4 Noel Del Real

The execution of IAMD in Iraq by 11th ADA BDE is a "microcosm of the future of Army Integrated Air and Missile base defense that should be studied and implement immediately."- LTG Leopoldo (Lee) Quintas, Jr., USA, DCG FORSCOM

In January 2020, an Operational Planning Team (OPT) from 11th Air Defense Artillery, Imperial Brigade, addressed the complexities of integrating multiple IAMD platforms collocated in defense of a singular asset. The OPT traveled to the National Capital Region and studied their mission command processes, systems, and procedures. The 11th ADA BDE OPT returned to Fort Bliss, Texas, and provided 2nd Battalion, 43rd ADA the playbook labeled *Max Protect* for integrating multiple IAMD weapon systems as they prepared to deploy in support of U. S. Central Command (USCENTCOM) requirements and Operation Inherent Resolve (OIR). The OPT determined that in order to efficiently and effectively defend a singular asset, there were several actions that needed to take place. The 2-43rd ADA BN would need to finalize full integration and positive and procedural controls to synchronize multi-tiered defense with Patriot, Avenger, Sentinel radars, Counter-Rocket, Artillery and Mortar (C-RAM), and non-kinetic Counter-Unmanned Aerial Systems (C-UAS) to neutralize and defeat indirect fire, UAS, cruise missiles and tactical ballistic missiles. Most importantly, 2-43rd ADA BN would need to educate the base commanders and their staffs on how to successfully defend against different types of threats that include tactical ballistic missiles, cruise missiles, indirect fire and unmanned aerial systems.

In June of 2020, I joined the OPT and visited 2-43rd ADA BN in Iraq to assess operations. The team identified that progress had been made to integrate the Patriot air and missile defense weapon system with Avengers, Sentinel radars, and C-RAM into the local and the USCENTCOM Joint Kill Chain. One thing that was missing was the tactical and technical integration of kinetic kill systems with the non-kinetic, C-UAS.

The lack of C-UAS interoperability with limited Patriot and Avenger integration resulted in ineffective and inefficient asset defense. Local Tactics, Techniques and Procedures (TTPs) were not fully developed to maximize the effectiveness of multiple weapon systems. Airspace Control Measures were not consistently implemented or utilized by the local base commander, Patriot, Avenger or Sentinel. Data sharing was limited to the Patriot Information Coordination Central and its local fire units. Most importantly to note, there was a lack of physical presence by the AMD experts in the Base Defense Operations Center (BDOC) to advise the base commander and develop their situational awareness.

Once the deficiencies were identified, 2-43rd ADA Battalion quickly moved toward full integration. Within weeks, 2-43rd ADA BN achieved *Max Protect* with full AMD integration in Iraq. The battalion assumed an advisory role to the base commanders and educated their staffs on AMD system capabilities and limitations, TTP implementation, and positive and procedural controls.

The battalion created and implemented a Patriot Coordination Cell that allowed the BDOC to quickly determine the identification of non-friendly tracks and determine the kinetic options per the local TTPs. Sensor data with Joint Data Network designation is now shared locally using the Forward Area Air Defense (FAAD) Command and Control Intra-FAAD network, between multiple C-RAM locations using the Intra-FAAD Forward Operating Base network, and across the wider area of responsibility using the Multi-TDL Network. The 11th ADA Brigade and 2-43rd ADA BN worked in sync with CJTF-OIR and 2nd Brigade Combat Team, 82nd Airborne Division, and developed and implemented airspace control measures, TTPs, and pre-planned responses as they worked toward full implementation of *Max Protect*.

Once implemented, the *Max Protect* concept was critical to the defense of Al Assad Air Base and Erbil Air Base against indirect fire (IDF). During and after IDF events, base commanders were able to control and direct base defense systems to ensure Soldiers were protected. The concept allowed base commanders, through their BDOCs, to neutralize enemy threats using both kinetic and non-kinetic air defense systems.

As the requirement for IAMD grows across the combatant commands, it is important to remember the costs associated with organizing Patriot, Short-Range Air Defense (SHORAD) and C-UAS systems on the same asset. One such cost is the sustainment requirement of Class IX repair parts and enablers needed to maintain the systems. Logistical chains must be established in order to maintain older SHORAD equipment as it makes its way back into the fight.

The United States Army Air Defense Artillery School should consider implementing the most recent lessons learned from Iraq into its Professional Military Education and functional courses to include the Pre-Command Course, Captains Career Course, Warrant Officer Advanced Courses, and Avenger and Patriot Master Gunner. The students should study the risks and mitigations associated with JIAMD and be tested on their understanding of engagement operations and force operations. The Patriot Top Gun and Air Defense Artillery Fire Control Officer courses follow this model and have been extremely beneficial to the U.S. Army and the Joint Force.

CW4 Noel Del Real, is the Top Notch standardization officer for 11th ADA Brigade.

ADA NEWS

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and S-400 systems – missile defense capabilities. The Chinese are assiduously studying the problem and have invested in research to build their own capabilities, DOD officials said.

This includes the HQ-19 missile defense system, which could be used against incoming, medium-range ballistic missiles. Initial operating capability is set for next year.

China is also developing a mid-course interceptor. The Chinese government said they tested that capability in February 2018. U.S. officials say initial operating capability is not likely until the late-2020s. They anticipate it would have good capability against intermediate-range ballistic missiles and could be adapted to target intercontinental s and submarine-launched ballistic missiles.

The United States homeland's missile defense system is in place to defend against accidental launches or attacks from rogue states such as Iran and North Korea. Unlike Russia, the U.S. uses non-nuclear "kinetic kill" vehicles, which destroy incoming warheads using their speed and mass to collide with the threat.

Battery command philosophy: "Leadership simplicity is the key"

By CPT Nathan Gibbs

Battery command is a humbling experience. It has pushed me to self-reflect often to ensure I am being the best possible leader to those within my formation. It forces you to examine and re-examine your leadership philosophy on a regular basis to make sure you are not only leading with integrity but also growing in your perspective. My command philosophy is one of the documents I use to both define the principles I would like my team to apply in all aspects of daily operations and as my personal azimuth check.

My command philosophy is quite simple; one page long to be exact. I've seen command philosophies that span two to three or more pages, but the truth is Soldiers are less likely to read a drawn out document. In my opinion, concise but effective communication is key. My philosophy lists six fundamental expectations so my team understands left and right limits. Placing your left and right limits/key points up front and sharing your command philosophy early on as part of initial counseling is helpful to building trust among your subordinates. Easily understood

Patriot exercise, Sept. 23, 2020. *(Photo by Ygal Kaufman, Fort Sill PAO Office)*

and articulated expectations lead to empowered subordinate leaders, and directly, mission accomplishment.

The foundational aspect of my command philosophy is my personal leadership philosophy. In my short eight-year Army career, I have found

In my opinion, concise but effective communication is key.

that my leadership philosophy changes as I grow. I take lessons learned and best practices gained from each assignment to help me better lead in the next. I reflect on actions taken by leaders I have worked with to understand what drove their actions and try to emulate the best of what

Delegation of these tasks to the most junior Soldier ensures ownership of the mission and its required tasks.

I have seen. Compassionate leadership has driven many of my principles and philosophy. Simply put, being human, approachable, and taking a personal approach has guided me well during the past eight years. When I address my Soldiers, I let them know that although we may

Delegation ensures that the mission is completed effectively and efficiently.

have different ranks and responsibilities, I am a person just like them. This personal and involved leadership style is natural to me, and one I quickly adopted and retained. Furthermore, I expect my subordinates to make mistakes, and I accept that risk. I am fortunate to have had leaders who allowed me to make mistakes, figure out how to correct said mistakes, and provide guidance to reach desired expectations if warranted. As such, I embedded these same principles into my own philosophy. When I started my career, I thought I could accomplish anything and everything without assistance. What I did not realize was this philosophy was not obtainable. I learned that even Superman had the Justice League to help and that I needed to get better at empowering my team. Retaining key information and tasks at your level does not improve the organization. Delegation of these tasks to the most junior Soldier ensures ownership of the mission and its required tasks. Delegation ensures that the mission is completed effectively and efficiently. You cannot accomplish everything on your own, but, as a team, you can accomplish anything. In order to capture lessons learned if course correction is needed, I immediately step in to provide teaching via personal experience, and if necessary informal/formal counseling. Furthermore, lessons learned also build upon unit successes to improve unit operations and tactics, techniques and procedures.

Thank you for this opportunity to share a few highlights and lessons learned over the past eight years in the Air Defense Branch. I encourage current platoon leaders and executive officers to start pondering, and developing their own leadership philosophy. By no means is my philosophy perfect, however it has worked well for me. I only ask that you think about my approach, and integrate some, all, or even none of my approach. Developing your own leadership philosophy and style will serve you well as you continue your careers.

"Cobra Strike" "By the Horns"

CPT Nathan Gibbs is a native of Gallipolis, Ohio, but resides in El Paso, Texas, with his wife, Samantha Martinez-Gibbs and son, Jacob Gibbs. He is a graduate of Virginia Military Institute with a bachelor's degree in Chemistry and Drexel University with a master's degree in Biomedical Science. CPT Gibbs is assigned to B Battery, 1st Battalion, 43rd Air Defense Artillery as battery commander.

Spinning plates: Air Defense brigade staffs and the theater fight

By COL Glenn A. Henke

Air Defense Artillery brigades often execute theater-level roles on a limited or enduring basis. Doctrine acknowledges this situation, noting that the ADA brigade commander can execute these duties when an Army Air and Missile Defense Command (AAMDC) is not present. The challenge for brigade staffs is how to help their commander manage these responsibilities while wearing different hats for multiple bosses. While an AAMDC is designed to execute these roles, an ADA brigade is not resourced to support these responsibilities.

This article is intended to assist ADA brigade staffs in support of their commanders when the brigade finds itself executing these specific roles. Army Techniques Publication (ATP) 3-01.7 and ATP 3-01.15 remain the definitive doctrinal sources. Chapter 2 of ATP 3-01.94 also provides an AAMDC-level perspective that is directly applicable to brigade staffs.

The three roles

Staffs must understand the three theater-level roles potentially performed by a brigade commander. Staffs must be ready to support their commander executing these roles and the specific headquarters these roles support.

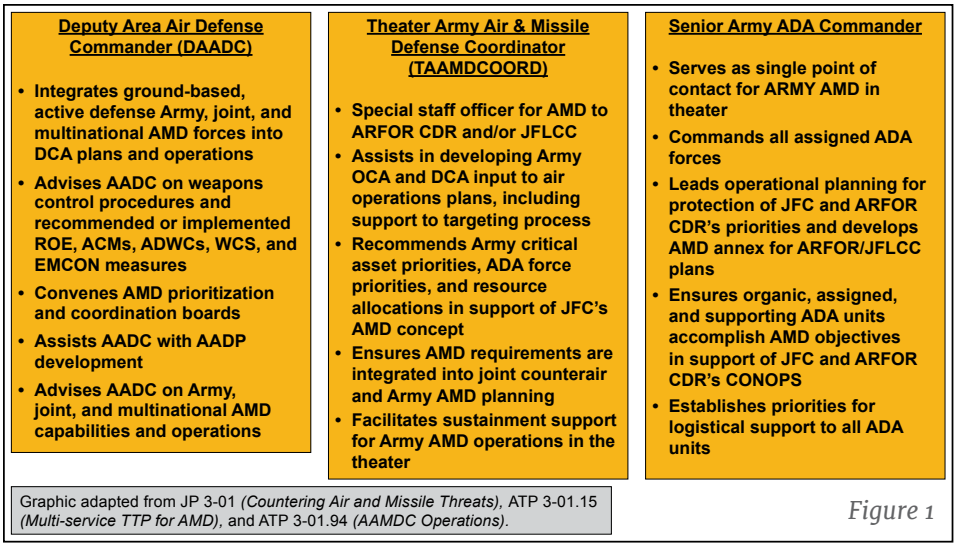
The first role is the deputy area Air Defense commander (DAADC). This is a joint role, defined in Joint Publication (JP) 3-01, *Countering Air and Missile Threats*. As the name implies, the DAADC serves as a deputy to the area Air Defense commander, normally the joint functional air component commander. Practically speaking, the DAADC is the primary advisor on ballistic missile defense (BMD) when the Army has the preponderance of theater BMD capabilities. The DAADC also advises the AADC on all Army capabilities supporting the offensive and defensive counterair fight. These responsibilities include planning, advising on weapons control status and posture, and integrating Army capabilities into the defensive counterair framework.

The second theater-level role is the theater Army Air and Missile Defense coordinator (TAAMDCOORD). This is an Army role, defined in ATP 3-01.15, executed for the Army Forces (ARFOR) or Joint Functional Land Component Command (JFLCC) commanders (or both). As TAAMDCOORD, the brigade commander functions as a special staff officer to the ARFOR or JFLCC, advising the commander and staffs on AMD capabilities, plans and operations. The TAAMDCOORD supports planning efforts and integrates Army AMD capabilities into the offensive and defensive counterair plans.

The third theater-level role is the senior Army ADA commander. Much like the TAAMDCOORD, this is an Army role, defined in ATP 3-01.15, and executed in support of the ARFOR or JFLCC commanders. While many of the responsibilities defined in doctrine overlap with the TAAMDCOORD, the critical difference is that this is a command role with command authorities. The TAAMDCOORD normally does not exercise decision-making authority, while a senior Air Defense commander will normally be delegated certain authorities consistent with command.

A quick review of these roles outlined in Figure 1 shows obvious overlap between the roles, which is why the same commander normally executes these duties. Different theaters can vary widely in how units execute these roles based on the specific operation plan (OPLAN) and steady state operations. In many cases, these responsibilities change during a transition to crisis. The obvious overlap is why these roles are combined, but the roles themselves are not entirely clear-cut at times.

Not listed as a formal role is that of brigade commander. For staffs, it is sometimes helpful to think of this as an Army-specific role executed for the ARFOR commander and focused on those forces under the operational control (OPCON) of the brigade.



Graphic adapted from JP 3-01 *(Countering Air and Missile Threats)*, ATP 3-01.15 *(Multi-service TTP for AMD)*, and ATP 3-01.94 *(AAMDC Operations)*.

Figure 1

This is a "down-and-in" role, whereas the theater-level roles are focused "up-and-out." The challenge for staffs is the natural tendency to focus on the brigade commander role at the expense of the theater roles. This requires that staffs develop a theater perspective. This role overlaps almost entirely with senior ADA commander until an AAMDC commander assumes those duties.

The theater perspective

How does a brigade staff develop a theater-level perspective? Staffs must understand how the theater fight works and how the brigade staff fits into each of the roles. The easiest way is to consider theater operations in terms of the four operational elements, theater-level decision-making, and multinational considerations.

The four operational elements of theater AMD (also known as the four "pillars" of AMD) defined in ATP 3-01.94 provide a helpful framework. The operational elements are active defense, passive defense, attack operations and mission command. Staffs can use the operational elements to differentiate from theater-level functions and brigade-level functions.

Active defense is the practical business of planning and executing AMD operations. This includes all engagement operations and force operations. Passive defense normally encompasses everything associated with disseminating shared early warning at the theater level. Although not defined doctrinally, passive defense normally includes survivability operations and chemical defense for AMD units. The mission command operational element covers the command and control networks required to execute force operations and engagement operations.

Attack operations includes everything associated with finding and destroying enemy ballistic missile capabilities "left of launch." The idea behind attack operations is to kill the archer so you don't have to kill the arrow (active defense). Unlike an AAMDC, brigades cannot easily support this mission area without augmentation. A close relationship with the battlefield coordination detachment can partially mitigate this until an AAMDC or augmentation arrives.

Beyond the operational elements, staffs must understand the structure and framework for theater-level AMD decision-making. This framework can vary widely between theaters but is typically codified in the Area Air Defense Plan, sometimes in a separate authority matrix. At a minimum, the decision framework should include which decisions are retained or delegated during different phases of OPLAN execution. A notional example is included in Figure 2. Staffs must understand which decisions the brigade commander makes as the DAADC, senior ADA commander, and brigade commander. The TAAMDCOORD will not typically have decision-making authority unless specifically delegated by the ARFOR or JFLCC commanders. In many cases, commanders will decide when to make specific recommendations to a decision-maker, like the AADC or JFC. An

Figure 2

Decision	JFC	AADC	JFLCC	DAADC/ TAAMDCOORD	Senior ADA CDR
CAL Approval	Decision	Recommendation			
DAL Approval	Decision	Recommendation		Recommendation	
Interceptor reallocation			Delegated to Senior ADA CDR		Decision
Weapons Control Status (WCS)		Delegated to DAADC		Decision	
TBM ID & Engagement Authority				Delegated to BN ICC	
ABT Engagement Authority		Delegated to SADC			

example would be to recommend the AADC request deployment of additional capabilities to theater. In either case the brigade staff must develop the brigade commander's decision support matrix with supporting information requirements in a way that covers all the assigned theater-level roles.

One major element of decision-making specific to the DAADC is the Joint Theater Air and Missile Defense (JTAMD) board (also known as the AMD Coordination Board and Theater Missile Operations Board). The JTAMD board, usually chaired by the DAADC, approves staff prioritization recommendations for AADC decision (or AADC endorsement for JFC decisions) on the critical and defended asset lists. Brigade staffs will likely have daily responsibilities to support the planning that culminates in a JTAMD board, chaired by the DAADC. In many cases, the brigade staff will lead the working groups with joint and combined component planners.

The final major consideration in the theater-level perspective concerns allies and coalition partners. Nearly every theater has elements of combined AMD, and the staff must understand partner capabilities. The brigade should track partner AMD units, assets covered, and interoperability with U.S. systems or networks. Command and control structures can vary widely, such as integrated command authority or parallel authorities. This can also include multiple DAADCs, with a delineation between U.S.-DAADC and partner-DAADC authorities. In all cases, the staff must understand the partner's requirements, challenges, and national considerations, particularly when they are defending their own territory.

Organizing the staff for success

Once the staff understands the theater-level fight, the next step is to understand the specific relationships each section has with the various headquarters. Understanding where the staff plugs into their counterparts is critical to success and the most likely source of friction during operations. Since the staff must engage multiple headquarters, they must first understand what those headquarters do.

Helping the commander execute the DAADC roles requires staffs to broaden their view of the operations beyond the normal brigade-level operations.

The relationship with the AADC is probably the most complicated for inexperienced staffs. The AADC is a *role* executed by the JFACC and not a separate headquarters. The JFACC usually fights from an Air Operations Center (AOC) during wartime, and in many cases the JFACC staff will merge seamlessly with the AOC directorates. The brigade S2 will routinely engage with the A2 staff section and intelligence, surveillance and reconnaissance directorate in the AOC. The brigade S3 coordinates with the A3/5 and multiple directorates within the AOC. The ADAFCOs may also be integrated into the AOC. The S6 and brigade 140A often have a relationship with the Joint Interface Control Cell for Link-16 integration and establishing the joint or combined air picture.

Helping the commander execute the DAADC roles requires staffs to broaden their view of the operations beyond the normal brigade-level operations. In particular, the staff must learn to look beyond the brigade's assigned forces and consider the entire defended asset list. This includes tracking joint and combined partner unit status and defended assets. The staff should organize operations center processes to address all four operational elements, particularly attack operations and passive defense. Routine update briefings should cover the operational elements in order to provide the commander the theater-level perspective required to execute the DAADC functions.

Brigade staffs will usually integrate more easily with the ARFOR or JFLCC staff since the relationships are more familiar. In most cases, S-staffs will coordinate routinely with their G-staff counterparts. While these engagements will rarely distinguish between the brigade commander's senior ADA commander and TAAMDCOORD roles, this is not a hard and fast rule. This is particularly true if the JFLCC and ARFOR are not the same headquarters.

In order to support the senior ADA commander and TAAMDCOORD roles, the staff must maintain awareness of all Army AMD units, not just those OPCON to the brigade. Although Short-range Air Defense units will rarely fall under the brigade's OPCON, the senior ADA commander maintains integration responsibilities for all AMD capabilities, while the TAAMDCOORD must make recommendations on their employment to the ARFOR or JFLCC.

In all cases, staffs need to understand the entire OPLAN, particularly when the OPLAN brings additional AMD assets into the theater. As TAAMDCOORD, the brigade commander supports planning for the reception, staging, onward movement, and integration (RSOI) of BMD forces. As senior ADA commander, the brigade commander executes the RSOI plan. As DAADC, the brigade commander synchronizes U.S. force flow with joint and combined capabilities.

The daily and weekly battle rhythm is decisive to shaping the commander's ability to support all three roles. The staff must integrate into the battle rhythms of the JFACC, ARFOR and JFLCC. The commander may have daily engagements with each of these headquarters, and the staff must consider which "hat" the commander wears at that specific meeting.

Transition considerations

Brigade staffs must consider how they will transition support responsibilities for each of the three major roles performed by the commander. This transition can include relief-in-place with another brigade for units rotating to theater or to an AAMDC during wartime. In either case, transition is a deliberate operation that requires planning and careful execution.

In the case of rotational brigades transitioning with another brigade staff, this process takes place over many months. Units in theater typically support training and mission rehearsal exercises for their eventual replacements. Incoming rotational brigades will likely face two challenges that cannot be easily mitigated. One challenge is how to hand off specific relationships with staff counterparts in the multiple operational headquarters, which may or may not be in theater themselves during steady state operations.

The more significant challenge for rotational brigades is conducting mission rehearsal exercises that replicate the theater AMD fight during OPLAN execution. In most cases these exercises are not integrated with theater training events. This means the brigade commander and staff may not have the ability to execute DAADC or TAAMDCOORD responsibilities with counterpart headquarters participation. A brigade headquarters may be in theater several months before a theater-level exercise provides this training.

In crisis, the brigade staff must prepare for handing off theater-level responsibilities to the AAMDC. In all likelihood the AAMDC will arrive in theater during a transition to crisis or after the commencement of hostilities. Although the AAMDC has a larger staff designed to execute theater-level responsibilities and is already familiar with the OPLAN, it will still need to establish operations and assume the fight from the brigade. A relief-in-place approach applies in these cases, and brigade and AAMDC leaders must take a deliberate approach. Despite the need for a quick transition, it will still be a conditions-based event and only completed when the AAMDC commander assesses the AAMDC staff is ready to execute operations.

Conclusion

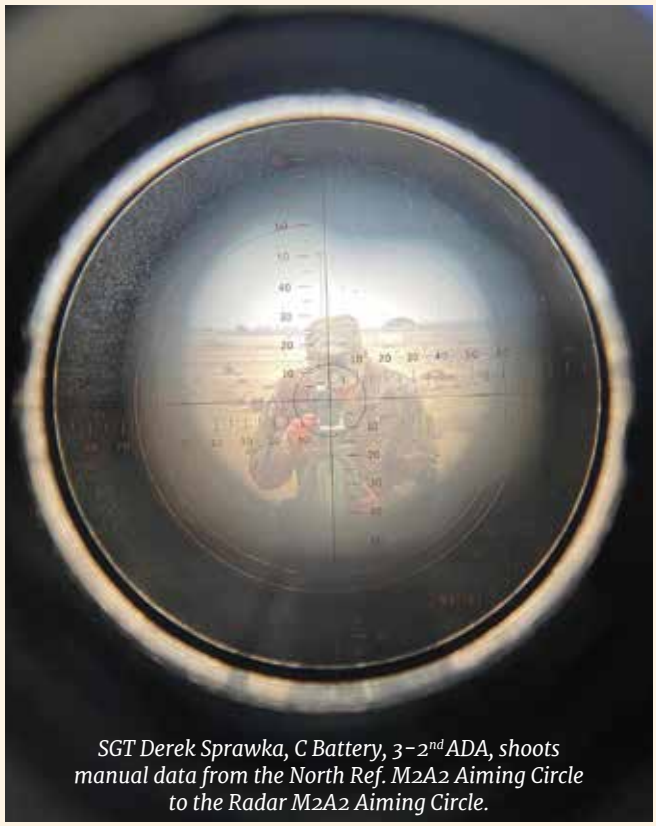
Several years ago, I had the opportunity to listen to a theater-level Army commander discuss AMD operations with an AAMDC commander. This commander mentioned that the distinguishing feature of theater-level commands is serving multiple masters. This is certainly true for forward deployed or forward stationed Air Defense brigades who may be serving in the theater-level roles on a limited or enduring basis. Commanders are responsible for keeping their units in alignment with all their "hats" and meeting the intent of multiple commanders. The staff has a critical role in shaping commander's decision-making and effectiveness in executing all these roles. Staffs that understand the theater-level responsibilities will be better postured to support their commander. This requires study, planning and organization.

COL Glenn A. Henke commands the 35th ADA Brigade. His previous duty positions include the Theater Air and Missile Defense Division Chief for U.S. Forces Korea and Combined Forces Command, assistant chief of staff G-3 for 32nd Army Air and Missile Defense Command, and commander of 1st Battalion, 43rd Air Defense Artillery Regiment.

3-2nd ADA Battalion
PMG Mentorship Program

By SFC Daniel Johnson

The Patriot Master Gunner (PMG) Course provides the skills and expertise necessary for Air Defense NCOs to plan, conduct and evaluate training for individual Soldiers and Patriot equipment crews. Led by some of the most experienced and knowledgeable warrant officers and NCOs in the branch, the 10-week course represents one of the greatest achievements for a Patriot-enlisted Soldier. The primary focus is to teach essential tactical knowledge required to employ the weapon system in a dynamic operational environment by ensuring these NCOs are proficient in basic and advanced gunnery tasks. Students achieve this through a diverse lesson plan varying from classroom-based instruction to hands-on practical exercises, culminating in a defense design brief to a panel of experts from within the branch. NCOs receive an additional skill identifier (ASI T4), the coveted Master Gunner belt buckle, and the right to wear the Master Gunner Identification Badge upon their graduation. They return to their units as experts within the field, with more finely tuned skills and more responsibility for the future successes or failures within their units.



SGT Derek Sprawka, C Battery, 3-2nd ADA, shoots manual data from the North Ref. M2A2 Aiming Circle to the Radar M2A2 Aiming Circle.

When battalion and battery leadership select NCOs to attend PMG, the prospective students typically receive a one to two-week "pre-course," designed to prepare them for the rigors of the course and highlight areas of special emphasis. Often times, the PMG pre-course exposes these leaders for the first time to certain materials that may be outside of their MOS or duty position. For such a complex weapons system, this poses a unique challenge for the students who are required to absorb an immense amount of information in a very short amount of time. If a primary goal is to produce more Patriot Master Gunners, the secondary should then be to prepare Soldiers earlier in their careers in order to broaden their knowledge of the weapons system ultimately strengthening the branch.

The 3rd Battalion, 2nd Air Defense Artillery Regiment, designed the *Lethal Strike* PMG Mentorship Program as a creative way to attack this problem set, while also highlighting the contributions of a select group of junior Air Defense Soldiers. Battery command teams, the battalion standardization team, and in some cases, the battalion commander, hand selected privates first class and specialists across the battalion who have displayed a history of high performance and more importantly, potential. Attendance in the course was voluntary but the end goal was to finish with the same students that began. The Soldiers use their newly gained knowledge as a force multiplier at the conclusion of the program, enforcing standards in their respective units and advising their commanders in all future gunnery operations.

Soldiers from D Battery 3-2nd ADA learn Manual Emplacement on a Launching Station.

SGT Derek Sprawka and SPC Anthony Contrino, C Battery, 3-2nd ADA learn how to measure roll and crossroll using the M1A1 Gunners Quadrant.

Although less intensive, the composition of the PMG Mentorship Program mimics the overall structure of the PMG Course in both classroom training and practical exercises. The training material acts as the building block for their future professional growth, focusing on basic gunnery tasks, which are seldom taught given the current operational tempo of Patriot forces. Regardless of MOS, the students received training on a variety of topics that helped enable their understanding of Air Defense operations on a larger scale. Some of the blocks of instruction included: the Patriot Gunnery Program, Launching Station Operations, Radar and Launcher Manual Emplacement, Engagement Control Station Tabular Display, and Early Warning Capabilities, all led by the 3-2nd ADA Battalion Standardization Team. Classes were held biweekly -- either in person or by video teleconference -- in an attempt to maximize participation across the four batteries spread throughout Kuwait. Individuals who were unable to attend a training block due to shift work or competing mission requirements, were given the chance to attend on a following day to ensure they didn't miss any relevant material. Armed with a new understanding of the Patriot Gunnery Program and a base knowledge of system capabilities and limitations, the Soldiers then took on a much more difficult task. As a culminating event, they were required to brief an eight-month training strategy to the battalion commander, command sergeant major, and battalion standardization team, explaining how they would take their batteries from redeployment to certifying Air Defense Gunnery Table VIII by the end of the calendar year. They were provided a master calendar outlining holidays, notional changes of command ceremonies, and other "training distractors," while finding ways to build and sustain gunnery proficiency. Within their plans, they needed to describe the resources required and explain how their planned events supported the commander's intent to certify Table VIII. It is obvious that the level of detail needed for this project went far beyond the expectations of the average PFC and SPC. The students met and exceeded those expectations with sustained mentorship from their unit leaders while being challenged in ways they hadn't been before the training.

Implementing and running a course of this depth and intensity proved to be challenging in a forward environment, both in terms of scheduling and participation. It finished, however, as an enormous success. The Soldiers learned a vast amount of information and were able to use it as a scenario that very much depicted a real-world training glide path. It is without question that many of them will go on to become Patriot Master Gunners, and are already better prepared than most. They have earned the respect of their peers for the moment, continuing to drive their units forward. More importantly, they are sharing that knowledge and level of understanding with their peers, leaders and future subordinates.

SFC Daniel K. Johnson serves as the Air Defense Master Evaluator for the 3rd Battalion, 2nd Air Defense Artillery Regiment. He enlisted in the Army in 2011 as a 14T and works with 1-7th ADA Battalion, 3-2nd ADA Battalion, and the Patriot Technical Assistance Field Team-Taiwan. He plans to continue his career in the Air Defense Artillery branch as a warrant officer, continuing to improve the technical expertise and tactical proficiency of Patriot operators. (Photos by CW3 Michael Matthie/U.S. Army)

"Incheon landing Monument" (Photo by 1LT Morgan A. Lloyd)

We have forgotten lessons learned in blood.

Impacts of Staff Ride Military History Developmental Programs

By 1LT Morgan A. Lloyd

"The advance commenced on the 5th of September… (the place was) nearly deserted, and men, women, and children were seen running and scattered over the hills as we approached; but when the people returned, they found all their abandoned property safe, which must have given them a favorable opinion of "the Yankees"…

The plaza in the center of the city was the citadel, properly speaking. All the streets leading from it were covered by artillery, cannons being entrenched behind temporary parapets. The housetops near the plaza were converted into infantry fortifications by the use of sand bags… All advances into the city were treacherous and held much danger.

While moving along those streets not leading to the plaza, our men were protected from fire and from the view of the enemy except at the crossings; but at these crossings a volley of (fire) and a discharge of (artillery) were invariably encountered. The 3rd and 4th Regiments of infantry made an advance nearly to the plaza in this

"UNMC Memorial Wall at Busan with reflections of 2-1st ADA Soldiers, CPT Kevin DeCook (in red hat) and CPT Cristian A. Yanes Salazar (in the plaid shirt)" (Photo by 1LT Morgan A. Lloyd)

"2-1st ADA at Incheon Landing monument" (Photo by MAJ Andrew J. Moncrief)

way and with heavy loss. The loss of the 3rd Infantry... was especially severe. (Of) the 12 officers present... five were killed. When within a square of the plaza this small command, 10 companies in all, were halted. Placing themselves under cover from the enemy, the men would watch to detect a head above the sandbags on the neighboring houses...

While this was going on in the east...a small division of troops was advancing toward the plaza from the opposite end of the city. He resorted to a better expedient for getting to the plaza—the citadel—than we did on the east. Instead of moving by the open streets, he advanced through the houses, cutting passageways from one to another. Without much loss of life, he got so near the plaza during the night that before morning... (the enemy) commander made overtures for the surrender of the city and garrison. This stopped all further hostilities."

What did you imagine while you read this account? The advance on Fallujah in Operation Phantom Fury? The Battle of Hue during the Tet Offensive in Vietnam? Perhaps you imagined even the Battle for Brest in World War II? In any of these cases, you would be wrong. The account above was written by Lieutenant Ulysses S. Grant—future General of the Army, Civil War hero, and President of the United States—about the attack on Monterey in the Mexican-American War. It is imperative that our modern Army possesses, and retains programs to remind our current warfighters of the lessons our forefathers paid so much and

so dearly to learn. The Staff Ride Military History Developmental Program is the solution.

Developed officially in 1906 by MAJ Eben Swift and the officer-students of Fort Leavenworth, the Staff Ride has existed in practice since the dawn of war. Sun Tzu, writing in 500 BCE, stressed the importance of the study of terrain, and it is difficult not to imagine Aristotle walking the young, soon-to-be-great Alexander around the fields of his father's great victories over the Greeks. To hear the account of a conflict, in the very location in which real human lives struggled desperately against one another, is to make that account relatable to the listener. Someone just like me fought for his or her life right here, and looking at it, I can see why he or she made the decisions they did. What worked, what didn't work? How would I react if I had to fight here too? The Staff Ride brings these lessons to life.

No military leader today would consider any operation without first conducting a proper reconnaissance. The Staff Ride program *is* a leader's reconnaissance, one of locations of proven importance—where the lessons on how to fight and win in that very place are history. Analyzing the terrain and events of yesterday's battles better prepares us to fight tonight, maintain mission readiness, and overall makes us a more lethal force.

Not a day goes by that we don't hear about the importance of doctrine and the necessity of being familiar with it. When we

"Korean Tikis in Busan" (Photo by 1LT Morgan A. Lloyd)

"Charlie 2-1st ADA at UNMC at Busan" (Photo by SFC Nathan Boyd)

"SPC John Thomas Kreinheder holds the C/2-1st ADA Guidon next to SPC Eduardo Garcia as they look off the peak of Hill 303—the location of a battle for the Pusan perimeter and where American POWs were executed by the North Koreans." (Photo by CPT Cristian A. Yanes Salazar)

"SPC Adriana Ruiz-Ortiz poses atop a tank recreation in the Chilgok Patriots and Peace Memorial Museum, which focuses on the battles which occurred along the Nakdong River during the Korean War." (Photo by 1LT Morgan A. Lloyd)

make decisions, lives and the good reputation of the United States are on the line. It is paramount that we uphold the responsibility placed in us as "Guardians of Freedom and the American way of life." Military history is the source of doctrine. The dry training manuals we study and recite today are full of information learned through the sweat, tears, and blood of brothers, sons, husbands, and fathers on actual fields of battle, and we owe it to them and ourselves to know what happened.

This program has been especially valuable in the Korean theater of operations, where most young Soldiers have heard little or nothing about the Korean War, and have even less of an idea why they deployed to this edge of the American sphere of influence. It is precisely the Staff Rides, and the lessons they impart, which help ground the Soldiers in their role in the grand scheme of history and the American geopolitical landscape. Providing the Soldiers with context directly increases their sense of purpose. Suddenly their routine battle drills are not just work; they become a conscious service on behalf of the United States and her allies.

Today, the 2nd Battalion, 1st Air Defense Artillery Regiment revived the Staff Ride Program, under LTC Jennifer O. Hunter, to great success. The 2-1st ADA is a direct descendant of the 1st Coastal Artillery Regiment—whose very own Charlie Battery participated in the opening volleys of the Civil War at Fort Sumter. The 2-1st ADA continues to fire shots heard 'round the world' as floods of Air Defenders cycle through their ranks, carrying the valuable experiences they have in Korea to their next duty stations, thereby enriching the entire force. To date, the regiment has conducted Staff Rides to such legendary locations as the site of Task Force (TF) Smith's valiant stand as rearguard against a red tide of rapidly advancing Communist forces. The 2-1st ADA scouted Incheon Landing, where General MacArthur famously flanked an entire nation and sent the North Korean Army on the run—avenging TF Smith. The regiment has also visited several museums—including the Korean War Memorial and Independence Hall—with plans to visit the 38th Parallel's Demilitarized Zone (DMZ), Joint Security Area, and the United Nations Memorial Cemetery in Busan. Each one of these trips has capitalized on the regiment's unique forward deployed location, fostered the Soldier's understanding of their own importance to the East Asian region and the United States, and directly impacted the commitment and urgency with which the service members conduct their daily Warrior tasks and battle drills.

Patrick Henry said in his Liberty or Death speech, "I have but one lamp by which my feet are guided, and that is the lamp of experience. I know of no surer way of judging the future but by the past." Let us not now close our eyes to this excellent tool for the illumination of the past and experiences, and instead place a renewed emphasis on the value of the Staff Ride Military History Program so our future operations are more successful. Stand or Die, Ready in Defense… Always, and God bless the United States Army and the United States of America.

1LT Morgan A. Lloyd is the executive officer of Centurion Battery, 2nd Battalion, 1st Air Defense Artillery Regiment. An Eagle Scout, he graduated from St. Mary's College of Maryland in 2017 with a Bachelor's degree in Political Science, and served two years as a Chief of Staff in the Maryland Senate before receiving his Commission from the Officer Candidate School in Fort Benning, Georgia, in 2019. He is joined by his wife, Katarina, and hopes to continue to serve his country for years to come in the profession of arms.

"UNMC Busan": 2 Korean Nationals, Staff of Memorial Cemetery (Photo by 1LT Morgan A. Lloyd)

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Developing Air Defenders as Ethical Leaders

By Chaplain (MAJ) Willie Newton

Developing Air Defense Artillery (ADA) leaders and Soldiers as ethical leaders is critical to sustaining an ethically and lethally ready force. To sustain such a force, ethics training must be conducted effectively and routinely. This article posits that ethics training is not merely to teach Soldiers that they must be moral and uphold the highest Army standards (this goes without saying) but also to equip them with the conceptual tools to make intelligent ethical decisions. First, this article discusses the importance of proper ethics training using models to aid Soldiers as they think through various courses of action in ethically dubious situations. Second, it considers the significance of ethics training that is practical and requires critical and creative thinking. Third, it propounds that ethics training is essential for officers, NCOs, Soldiers, and civilians as a part of professional development. Although my target audience is Air Defenders, a broader audience can benefit from this article.

Ethical leadership entails a personal and professional commitment to moral conduct through personal example and by holding others accountable to high ethical standards. Ethical leadership is described as "the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement, and decision-making."[1] Thus, ethical leadership is demonstrative, emulative, and promotive. One assumption is that most Soldiers know the difference between moral rectitude and morally reprehensible behavior; that leaders and Soldiers inherently know what the right thing to do is. Another assumption is that leaders and Soldiers develop ethical leadership with increased responsibility and expanded institutional and operational knowledge. Although this may be true in some instances, these assumptions ultimately fail to disprove our Army's current reality: leaders and Soldiers of various ranks have been profiled in the media for professional misconduct. Does ethical leadership matter? Does it matter if a "good" Soldier exhibits questionable behavior in other areas of life?

Say, for example, that a Soldier is physically fit, competent, well-liked, and well-respected by superiors and peers. Does it matter that the Soldier overindulges in strong drink, manages finances irresponsibly, treats people abusively, or is unfaithful in marriage? Take, for another example, the counterproductive leader who is abusive, self-serving, erratic, and unethical. Do these counterproductive attributes matter if the leader accomplishes the mission? Yes, of course it does. Unfortunately, Soldiers' vices go unnoticed until their unethical conduct draws public attention and is subsequently scrutinized and punished by senior leaders. The unvarnished truth is that an individual can be a "good" Soldier, exemplary even, and terrible at personal affairs, or good at personal matters, emulously so, and terrible as a Soldier. Then there is the question of competence: Is it necessary for Soldiers to be "morally good" as long as they are proficient at their jobs? In combat, for instance, do Soldiers' personal indiscretions matter as much as their ability to perform their jobs and win the nation's wars? These questions beg our ethical attention.

I recently conducted a brown bag luncheon for students from the 2nd Battalion, 6th Air Defense Artillery Basic Officer Leadership Course (BOLC), Fort Sill, Oklahoma, on the importance of the seven Army Values (Loyalty,

1 M. E. Brown, L.K. Trevino, and D. Harrison, "Ethical Leadership: A Social Learning Perspective for Construct Development and Testing," Organizational Behavior and Human Decision Processes 97, no. 2 (2005): 120.

Duty, Respect, Selfless Service, Honor, Integrity, and Personal Courage), with a particular focus on loyalty. Prior to the brown bag luncheon, students were required to read a case study that involved a lieutenant's misunderstanding of loyalty, although some do not readily apprehend this. Mind you, what may seem like an ethically unambiguous situation to one person may seem quite ambiguous to another.

In the case study, 2LT Johnson and three officer peers went overseas on temporary duty to participate in a private military company's training course. The instructor and Johnson knew each other. The instructor paid for the Army officers' meals, drinks and related expenses. Upon their return, the group's senior officer, a captain, submitted vouchers for everyone, knowingly claiming expenses they did not incur. The captain informs Johnson that the other three officers have signed their vouchers and that he needed to sign his to close out all the vouchers. Johnson notices discrepancies in the voucher but remains silent because he does not want to get the others in trouble. He chose loyalty to peers over his obligation to do the "right" thing. The case study shows that the "right" thing is not always patently clear.

Far too often, negative case studies uncritically present black-and-white certainties to illustrate unethical behavior. Such case studies, although well-intended, deprive students of the opportunity to apply ethical reasoning skills. Merely highlighting examples of ethical misconduct does little in terms of professional development and even less in terms of critical thinking. During the brown bag luncheon, students talked with one another about the case study, the main characters' actions, and the characters' decisions given the circumstances. As an ethics instructor, I was concerned to know how the students understood Johnson's concept of loyalty and how it influenced his decision. As I observed students exchange ideas and rationalize for or against Johnson's decision, three crucial observations emerged regarding ethics training for current and future Air Defenders.

BOLC students (Class #001-21) 2LT Danielle Dias (center), 2LT Stephanie Pantano (right), and 2LT Cameron Griffith (left) participate in a practical exercise in which they identify conflicting loyalties in the military.

Ethics training teaches ethical reasoning models

To provide Soldiers with confidence in dubious ethical situations, they must have proper ethics training that includes ethical reasoning models. Consider, for example, Johnson's decision to sign the voucher. He understood loyalty as allegiance to his fellow officers, regardless of the situation. The Army Values represent a set of core values that leaders internalize, uphold, and reinforce through their actions. Soldiers are required and expected to uphold all the Values equally and uncompromisingly. Unquestionably, though, loyalty, as understood in common parlance, is the most problematic and least understood of the Army Values. Soldiers have many loyalties (Family, friends, peers, organizations, social media, and so on) that at any given time can conflict with one another or military duties. Soldiers' conceptions of loyalty – understood as fidelity to one another shaped by shared experiences – can conflict with their military obligation to the Army Ethic and the Army Values. To be sure, peer influence, groupthink, and a fear of being stigmatized as "disloyal" have their say in Soldiers' actions and decisions. Some Soldiers are willing to engage in behaviors at variance with the values to which they pledged their duty to avoid the perception of disloyalty. Sure, one could argue, as many do, that Johnson was "loyal" to his friends. In this sense, however, he demonstrated "loyalty" to his fellow officers, not the Army. His loyalty was misapplied.

During ethics training, Soldiers learn that loyalty means to bear true faith and allegiance to the U.S. Constitution, the Army, one's unit, and other Soldiers in the Army. Army professionals volunteer and take a solemn oath to bear true faith and allegiance to the Constitution and protect the freedoms it defines. Army leadership doctrine expounds on the meaning of loyalty: "The Army Value of loyalty clearly reflects this fact [Soldiers' allegiance to the Constitution]. Allegiance means willing obedience to the lawful orders of elected and appointed leaders. Army professionals demonstrate true faith in leading by example, doing their duty in taking action to uphold the moral principles of the Army Ethic, and rejecting

orders in violation of law."[2] Indeed, such an understanding of loyalty conflicts with commonplace, cultural conceptions of loyalty.

When I asked students if they thought Johnson made the right decision, many responded with a resounding "yes." As they see it, he dutifully protected the other officers from trouble, thus fulfilling his obligation to be "loyal." When asked if the senior officer in the group acted loyally, students responded "no." Once they grasp the meaning of loyalty as defined in Army doctrine the ethical conflict becomes clear. I explained further that, according to virtue ethics, an action is right if a moral agent with a virtuous character would do it in such circumstances. Would a virtuous person claim expenses that she or he did not incur? Whether loyalty is a virtue depends on the end to which it is aimed, be it ethical or unethical. That is to say, loyalty to an unethical action is not *virtuous*, for it lacks the demonstration of virtue. So understood, loyalty in the military requires a commitment to a higher ideal, a higher standard of conducting oneself.

The Army uses Aristotelian virtue ethics to develop Soldiers' character by instilling virtues such as the Army Values. A salient shortcoming in the Army's approach is that instructing Soldiers "to be brave, loyal, and so forth, does not tell them what to do when there are conflicts between the requirements of various virtues."[3] Furthermore, virtue ethics "needs to go beyond mere rote learning of lists of virtues in an attempt to teach Soldiers to reason and understand exactly what the virtues mean and how to resolve conflicts between them."[4] In essence, being able to recite virtues or values is not the same as understanding, definitionally, what they mean or how they are applied. For this reason, as noted previously, Soldiers must understand the application of the Army Values in a military context. They must be trained ethical leaders who uphold the Army Values and hold others accountable to them.

...loyalty in the military requires a commitment to a higher ideal, a higher standard of conducting oneself...

Army leaders are expected to recognize and think through difficult ethical situations. Army leadership doctrine states: "Ethical choices may not always be obvious decisions between right and wrong. Leaders use multiple perspectives to think about ethical concerns, applying them to determine the most ethical choice."[5] An ethical dilemma involves a situation where there is only one ethical answer, a matter of "right" versus "right," not "right" versus "wrong." Cases consisting of "right" versus "wrong" require moral courage. Moreover, as Jack Kem notes, "To define a problem in terms of 'right versus wrong' either defines a problem that isn't an ethical dilemma – or, worse yet, pre-defines the solution to the problem since one virtue or value is stated in a positive way while the other virtue or value is stated in a negative way."[6] When a conflict exists between virtues (an ethical dilemma) or when Soldiers have difficulty choosing the right thing to do (moral courage), they can use various ethical models to make a decision. The Army uses models to assist with ethical reasoning, two of which are the ethical reasoning model and the ethical triangle.

The ethical reasoning model teaches four steps to help Soldiers, one, determine if an ethical dilemma exists and, two, choose the best ethical decision. The first step in the process is to acknowledge an ethical conflict exists and identify the conflicting rules (or regulations), virtues (the Army Ethic; Army Values), and-or outcomes (courses of action). The second step is to evaluate courses of action using the lenses of rules, virtues, and consequences to determine

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2 Department of the Army, Army Leadership and the Profession, Army Doctrine Publication 6-22 with change no.1 (Washington, DC: Headquarters, Department of the Army, November 25, 2019), para. 1-59.

3 Paul Robinson, "Ethics Training and Development in the Military," The US Army War College Quarterly: Parameters 37, no. 1 (2007): 31.

4 Ibid.

5 ADP 6-22, para 2-18.

6 Jack D. Kem, "The Use of the 'Ethical Triangle" in Military Ethical Decision Making," Public Administration and Management 11, no. 1 (2006): 26.

which course of action is the best choice. The third step is to commit to the best ethical course of action. The fourth step is to act on the ethical decision. Simple enough, to be sure, but the model provides a step-by-step process to objectively evaluate an ethical conflict and commit to an ethical course of action.

The ethical triangle uses three theories or approaches to ethical decision making: principles-based, consequences-based, and virtues-based. The three approaches provide different lenses through which to analyze ethical problems. A principles-based approach asks what rules or principles exist to guide a moral agent's actions. A consequences-based approach considers the outcome or utility of an action based on the results to be maximized; in essence, what produces the greatest good for the greatest number. And a virtues-based approach ponders what a "virtuous" person would do in a similar situation. The point is, these models aid Soldiers in their ethical reasoning. Soldiers who understand the Army Values and are familiar with ethical reasoning models have the necessary tools to serve as ethical leaders to the Air Defense Artillery community and the Army.

Ethics training promotes critical thinking

To develop Soldiers' cognitive faculties, they must experience practical ethics training that requires critical and creative thinking. Ethics training instructs officers, NCOs, Soldiers, and civilians to be ethical change agents. Training in moral philosophy is a good idea, especially for leaders, but not necessarily for junior personnel. Many an earnest ethics training provided sophisticated philosophical arguments with no practical application to training or the operational environment. For ethics training to be effective, it must be practical and relevant. Like field training exercises, practical ethics training forces students to exercise their creative and critical thinking skills to resolve ethically ambiguous

Chaplain (Major) Newton observes BOLC students brainstorming how personal and professional loyalties of Army professionals come into conflict.

or complex problems. When done correctly, ethics training touches Soldiers' personal and professional life. To that end, it is concerned with professionally developing individuals to be good Soldiers (role morality) – exemplars of the Army Values and Army Ethic – and good citizens (general morality) – models for their families, neighbors and communities. It boils down to this: good people as such may not necessarily make good Soldiers, but "good" Soldiers are required to be good people.

Army leadership doctrine provides a clear and concise description of what ethical leadership requires: "To be an ethical leader requires more than merely knowing the Army Values. Leaders must be able to live by them to find moral solutions to diverse problems. Ethical reasoning must occur in everything leaders do—in planning, preparing, executing and assessing operations."[7] Conceptualized as such, ethics is a rigorous intellectual activity and a practical (or "applied") exercise. Regarding the former, ethics provokes us to think about how we *ought to live*; regarding the latter, it is concerned with determinedly acting according to ethical values or virtues. As is true with any learning endeavor, it requires cognition about obligations, courses of action, cultural and religious beliefs, and, of course, biases.

At its best, ethics training consists of thoughtful consideration of the complexities, ambiguities and varieties of actions in multifarious operational environments – combat and non-combat situations. It exists to help Soldiers think through real-world problems and issues. When viewed as an occasion for professional, intellectual and moral development, ethics training can help Army professionals understand the moral challenges and dilemmas inherent in their professional duties and obligations. In some cases, the framework will prove indispensable, while in others, irrelevant. Commanders who value ethics training know that the right ethical decision may not always be clear – complexities abound – but ethically-trained Soldiers with a conceptual framework are better prepared to handle the complexities and ambiguities of the operational environment.

7 *ADP 6-22, para 2-17.*

In *A Practical Companion to Ethics*, Anthony Weston teaches that creative problem-solving in ethics entails expanding possibilities by generating new ideas and solutions to problems, reframing problems, or changing or recasting the problem itself. The aim of expanding possibilities is to create as many ideas as possible by asking others for ideas, brainstorming, or looking to other places and times. To reframe the problem involves imaginatively considering different aspects of the problem, viewing the situation as an opportunity. In this sense, Weston advises: "Instead of trying to solve the problem, we can ask instead how we can make use of it—not, or not just, as a 'problem' but as a resource, as a solution, if we can just find the right problem for it, or reconceive the one in front of us."[8] Thus, the problem provides opportunities for creative problem-solving. Another method involves looking "before" or "behind" the "presenting" problem. Ask, for example, whether the problem is a problem in the first place. Sometimes the issue that presents itself as the problem is no problem at all.

Ethics training should not be supplemental or compulsory. On the contrary, it should be included in leader professional development at all levels of professional military education and as a part of military training exercises. Essentially, ethics training must be cemented into the foundation of military life. The current trend, so it seems, is to conduct ethics training in response to highly publicized professional misconduct or a unit's readiness degradation because of an alarming increase in serious incidents. Such training rarely, if ever, yields the desired outcome partly because it is perceived as mass punishment. Besides, the professional misconduct that prompted the training may be only tangential to the organization's specific ethical problem(s). As one ethicist shrewdly points out: "Ethics training needs to be seen as something other than a burdensome compulsory duty. Rather it needs to be integrated into military training from a very early stage as a fundamental part of the process of developing professional Soldiers."[9] The fact of the matter is, ethics training is a commander's moral tool to help shape Army professionals of character, commitment and competence. Of course, any tool's adept utility is subject to the discretion and skill of the artisan.

Chaplain Willie Newton teaches Air Defense Artillery lieutenants in the Basic Officer Leader Course the importance of Ethics and covers such topics as the seven Army values and the importance of loyalty and ethical actions as a leader in the Army. (Photo by Monica Wood, Staff)

Ethics training creates an ethically ready force

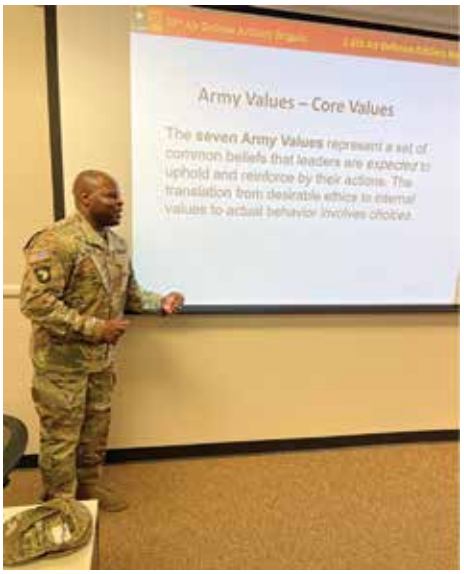
To create an ethically ready force, ethics training must be required for officers, NCOs, Soldiers, and civilians. The systemic leadership failures at Fort Hood highlight the importance of ethics training for leaders and Soldiers. In response to these events, Secretary Ryan McCarthy appointed the Fort Hood Independent Review Committee (FHIRC), a five-member committee with impressive credentials and varied military and civilian expertise, to conduct a comprehensive assessment of the Fort Hood command climate and culture. The committee determined that the Sexual Harassment/Assault Response and Prevention (SHARP) Program's implementation, among other organizational issues, was ineffective. According to the committee's report, the culture of Fort Hood was such that "no commanding general or subordinate echelon commander chose to intervene proactively and mitigate known risks of high crime, sexual assault and sexual

8 Anthony Weston, A Practical Companion to Ethics, 4th ed. (New York: Oxford University Press, 2011), 95.
9 Robinson, "Ethics Training and Development in the Military," 34.

harassment."[10] Consequently, 14 officers, including the commanding general, were either relieved of duty, suspended, or received a letter of reprimand.

The report also identified NCOs' moral failure to ensure that victims of sexual harassment and sexual assault felt comfortable filing a report. As a result, victims underreported SHARP incidents, fearing "ostracism, shunning and shamming, harsh treatment, and indelible damage to their career."[11] What's more, the report points out the moral failure of junior leaders to implement SHARP procedures. The report notes: "The FHIRC determined that, while basic components of the Fort Hood SHARP Program were in place and there was attention devoted to the program at the III Corps Headquarters level, the core elements of the SHARP Program were diluted at each level below III Corps, to the point of being barely functional within the enlisted ranks."[12] Additionally, the report highlights another moral leadership problem: "Too many NCOs acted as if they had to shield the higher echelons from SHARP issues; and, there were too many instances described during the individual interviews of NCOs themselves taking advantage of subordinate victims."[13] Simply put, the NCOs lacked moral courage, among other moral leadership values and attributes.

Army leadership doctrine defines moral courage as the willingness to stand firm on values, principles and convictions. Personal courage has two forms: physical and moral. Whereas the former demonstrates a Soldier's bravery, courage, and willingness to suffer bodily injury or death to accomplish the mission, the latter induces a Soldier to do and say the morally correct thing, regardless of the consequences. Moral courage manifests itself "as candor—being frank, honest, and sincere with others."[14] Army doctrine describes moral leadership as "the process of influencing people by providing moral purpose, direction, or motivation to accomplish the mission and improve the organization consistent with the Army Ethic."[15] A critical aspect of moral leadership is the moral courage to do what is right despite risk, adversity, and fear. Hence, as is clear from the committee's findings, NCOs failed to be moral leaders by their unwillingness to report SHARP issues to superiors because of reprisal.



Chaplain (Major) Newton discusses the Core Values.

On the heels of the SHARP incidents at Fort Hood came another widely reported incident of ethical misconduct. *USA Today* reported that the U.S. Military Academy at West Point accused 73 cadets in a class of 1,200 of cheating on the calculus exam. The Academy's honors committee conducted an investigation. The upshot was that two cases were dropped for lack of evidence and four because the cadets resigned. Of the remaining 67 cases, 55 admitted to cheating and were required to enroll in a six-month rehabilitation program focused on ethics.[16] One should be concerned that the Academy accused 6% of the freshman class of cheating and roughly 5% admitted to cheating. I commend the Academy for understanding the importance of ethics training. However, as

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10 Fort Hood Independent Review Committee, Report of the Fort Hood Independent Review Committee, accessed December 3, 2020, https://www.army.mil/e2/downloads/rv7/forthoodreview/2020-12-03_FHIRC_report_redacted.pdf.

11 Ibid.

12 Ibid., 17.

13 Ibid., 18.

14 ADP 6-22, para 2-13.

15 Department of the Army, Religious Activities: Moral Leadership, Department of the Army Pamphlet 165-19 (Washington, DC: Government Printing Office, November 27, 2020), 4.

16 Tom Vanden Brook, "West Point Accuses More Than 70 Cadets of Cheating in Worst Academic Scandal in Nearly 45 Years," USA Today, December 21, 2020, https://www.usatoday.com/story/news/politics/2020/12/21/west-point-catches-70-cadets-worst-cheating-scandal-50-years/5856130002.

Soldiers learn about the importance of ethics and ethical actions in a leadership role from Chaplain Willie Newton during an Ethics Course at Patterson Hall, Fort Sill, Oklahoma. (Photo by Monica Wood, Staff)

noted previously, the training is punitive in nature and responsive in character. It unintendedly teaches future military leaders that ethics training is for those who commit unethical offenses.

These recent incidents have undermined public trust (rightfully so), prompted national scrutiny, invited criticism of Army systems and processes, and degraded mission readiness. Like it or not, one Soldier's ethical misconduct – even the lowest-ranking Soldier at the tactical level – reflects an organization's climate and culture. It also has a strategic effect; that is, it destroys the American peoples' and the international community's trust and support for the mission. Army leadership doctrine is unambiguously clear on the point: "Army professionals are committed to lifelong learning and set the example for what it means to live by and uphold the Army Ethic. Conversely, misconduct undermines trust and can bring discredit to the Army profession."[17] Army professionals have a moral obligation to safeguard the American people's trust by exemplifying ethical leadership, preventing unethical behavior, and proactively eliminating unethical practices, thus sustaining an ethical climate and culture. "Moral failure compromises the Army profession's bond of trust among its members, with the American people, and with the international community."[18] Therefore, it is of utmost importance that Army professionals understand their roles as ethical leaders who exemplify and enforce the ethical standards of the profession.

Conclusion

Ethics training is vital to the professional development of current and future Air Defenders as ethical leaders. Such training aids Soldiers' understanding of the meaning and application of the Army Ethic and the Army Values. Ethics training uses ethical models to equip Soldiers with the cognitive apparatus to think through difficult ethical situations. Effective ethics training should be practical and relevant to training exercises and the operational mission, not compulsory or punitive. Like field training exercises, it should force Soldiers to use their creative and critical thinking skills to resolve ethically ambiguous situations. The sustainment of an ethically and lethally ready force consists of ethically trained leaders, NCOs, Soldiers, and civilians. When Army professionals fail to live by and uphold the Army Values, fail to provide a safe command climate and culture, and fail to exercise moral courage, the American people and the international community loses confidence in the Army. Character matters. A perceptive writer once said, "Character is what a man [or woman] is, they said, and reputation is what people think he [or she] is; take care of the first and the second will care for itself."[19] It is the Army's moral duty to develop ethical leaders of character, competence and commitment.

Chaplain (Major) Willie J. Newton Jr. currently serves as Ethics Instructor, 30th Air Defense Artillery Brigade, Fires Center of Excellence, Fort Sill, Oklahoma. He holds a Master's of Public Administration from the University of Oklahoma, a Master's of Sacred Theology in Ethics from Yale University Divinity School, and a Doctor of Ministry in Leadership from Duke University Divinity School.

17 ADP 6-22, para 1-19.

18 Ibid.

19 Harry Emerson Fosdick, "The Ghost of a Chance," The Power to See It Through (New York: Harper & Brothers, 1935), 87.


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Big sky, little bullet?

Air Defense Artillery airspace coordinating measures save lives

By MAJ Michael Nizolak

Maneuver short-range air defense (M-SHORAD) is here to support the division maneuver force. Now is the time to re-emphasize the importance of integrating Air Defense into Army Airspace Management. While Patriot and Terminal High Altitude Area Defense system or THAAD have more visibility in airspace planning through integration with the Air Force, M-SHORAD will operate within the division's airspace. Army planners will need to take the lead in integrating M-SHORAD's effects. Airspace coordinating measures (ACMs) are crucial to minimize complexity in the air and reduce or mitigate risk of fratricide.

Air-ground operations

To win in a large-scale combat operation (LSCO), all domains will need to integrate in order to achieve victory. Army and Air Force assets will complement maneuver forces from the air and maximize the effect on the decisive point in battle. Envisioning a mass force-on-force battle in a LSCO environment makes it easy to foresee the congested airspace that will develop. Fires, unmanned aerial vehicles, rotary-wing, and fixed-wing aircraft will all be concentrated and simultaneously engaged with the enemy within a relatively smaller box than the entire sky allows. This airspace needs to be managed to ensure integration of assets while reducing the risk to friendly forces.

Army-managed airspace resides underneath the coordinating altitude and within the Fire Support Coordination Line. A division Joint Air-Ground Integration Cell (JAGIC) will do its best to integrate and deconflict air assets, but does not have sufficient capacity to maintain positive control on everything. Procedural controls are their best method to manage their assigned airspace. Procedural controls are essential for LSCO coordination because they are pre-coordinated control measures that enable integration rather than deconfliction between air elements. Considering the possibility of a degraded communication environment, procedural controls are also a built-in fail-safe. Procedural controls will be crucial to safely integrate Air Defense into multi-domain operations during LSCO.

M-SHORAD considerations

M-SHORAD will provide a critical protection capability to division maneuver forces and semi-fixed assets by destroying, neutralizing, or deterring low-altitude air threats. Unlike Patriot, which has operated in primarily static locations, M-SHORAD has the flexibility to operate in a more dispersed, decentralized manner. Ultimately, this will mean that M-SHORAD will be mobile, providing localized protection throughout the division's area of operations. These assets will need to operate this way to be effective against their threat set. To gain surprise on the enemy, they will need to position along likely air avenues of approach while using cover and concealment.

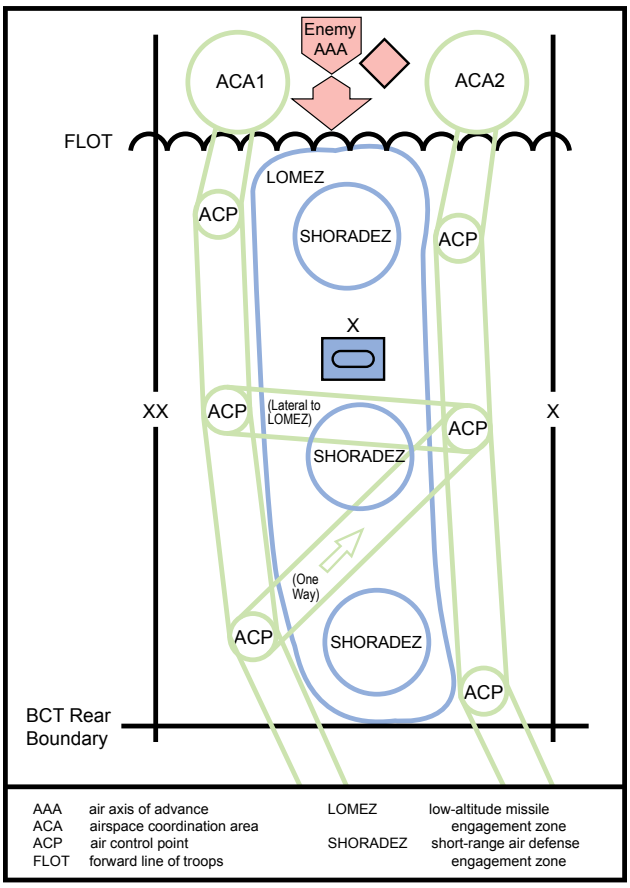
From a friendly perspective, the operating area of M-SHORAD units must be known as they move around the battlefield. M-SHORAD units will engage with little to no notice. A flawed assumption is that ADA Fires will not cross any overhead flight routes. When able, planning air routes around or outside ADA operating areas reduces complexity for the Soldiers who have to contend with detecting and identifying air threats within short windows of time.

The Initial Maneuver Short-Range Air Defense System completed testing on White Sands Missile Range. (John Hamilton, White Sands Missile Range Public Affairs)

Planning air routes around ADA engagement zones may not always be possible. Open air routes are likely to be favorable for both friendly and enemy forces and will be advantageous ADA emplacement locations. Integrating Air Defense units in the airspace planning and developing complementary rules of engagement (ROE) can mitigate risk. A potential coordination procedure is to use one-way routes from the friendly direction outbound or cross laterally. This adds a safety factor to ROE for ADA Soldiers to consider aircraft direction. If not already in place, ensuring the use of Identification Friend or Foe On/Off lines will ensure ADA Soldiers can utilize a system response to confirm identity.

M-SHORAD Unit Airspace Plan integration

M-SHORAD capabilities need to integrate with division planning. A typical unit airspace plan development process should begin with Fires. Ensure this definition is expanded to include Air Defense Artillery in addition to Field Artillery. United States Message Text Format 2004 (still in effect for most digital systems) limits options for accepted airspace coordinating measures. For M-SHORAD, two ACMs to consider are Low-Altitude Missile Engagement Zones (LOMEZ) and Short-Range Air Defense Engagement Zones (SHORADEZ). By definition, these measures are similarly worded. A LOMEZ is defined as airspace within which the responsibility for engagement of air threats normally rests with low-to-medium altitude surface-to-air missiles. A SHORADEZ is defined as airspace within which the responsibility for engagement of air threat normally rests with short-range Air Defense weapons and may be established within a low or high-altitude missile engagement zone. A best practice would be to use these ACMs in a complementary way to provide enhanced information.



A simplified depiction of a Unit Airspace Plan with M-SHORAD integration. SHORADEZs are centered around cental fire platoon locations within the LOMEZ. Air corridors are developed to minimize crossing the LOMEZ. (Created by the author)

A potential method would be to utilize a LOMEZ to define the areas where engagements will occur across a larger area. This area would inform airspace users where M-SHORAD units may need to establish firing positions throughout an operation. Then dynamically, as M-SHORAD units move around the battlefield, place SHORADEZs over their location. Coordination with the division JAGIC would enable Army airspace users to stay informed as Fires are shifted. The JAGIC, in turn, can keep Air Defense units informed of airspace changes, including new overhead corridors. A tightly integrated airspace system can keep friendly air assets safe.

An active role in airspace management

Air Defense Artillery Soldiers are the right experts to advocate for the implementation of ACMs, which will simplify our airspace and help to keep our friendly forces safe. Employing M-SHORAD will require us to continue to think about ways to integrate our Fires into division planning and continue to stay engaged with the JAGIC as the situation changes. Reducing complexity in the air environment will only help Air Defense units and air assets combine effects and be successful in warfare.

MAJ Michael Nizolak is an Air Defense Artillery officer and currently a student at the Army's Command and General Staff Officer College. He holds a Master's of Arts in Leadership Studies from the University of Texas at El Paso. *He would like to thank Dave Collins (Command and General Staff School Assistant Professor, DTAC) for his guidance on this article.*

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Beyond the surface:
Lethal Strike Battalion's EO & SHARP Ambassador Program

By SFC Maria Sandoval and SFC Tami Wentz

The 3rd Battalion, 2nd Air Defense Artillery Regiment, *Lethal Strike Battalion*, based out of Fort Sill, Oklahoma, is dedicated to promoting a safe and comfortable work environment for all Soldiers. *Lethal Strike* leaders at all levels are proficient in their knowledge and implementation of Army programs such as Equal Opportunity (EO) and the Sexual Harassment/Assault Response and Prevention program (SHARP). This year, the battalion has implemented a fresh approach to spread such knowledge to our junior enlisted Soldiers, known as the SHARP and EO Ambassador Program.

The SHARP and EO Ambassador Program provides weekly learning events. Unit-level SHARP and EO representatives have joined to facilitate a few of the training sessions as well. Over 30 Soldiers volunteered to become trained ambassadors allowing them to take the knowledge and skills they gain in the program back to their units, where they can continue to contribute to a positive work environment in which everyone can thrive.

The EO Ambassador Program kicked off its first session on Jan. 30, 2021. Many Soldiers are able to attend the sessions in person, with a handful of Soldiers who attend via video teleconference, which allows Soldiers not stationed at Camp Arifjan to participate. Ambassadors have convened for six Saturday sessions so far and are looking forward to continuing their training and education well into their return from deployment.

Ambassadors receive a well-rounded overview of the Army's EO Program, starting with the basics and expanding their knowledge base and skills with each session. The Soldiers are well versed in the EO Policy, to include an in-depth knowledge of the key terms and concepts used in the policy, such as discrimination, racism, hazing and bullying. The Soldiers receive extensive training on the basis of discrimination: race, color, national origin, religion, sex (to include gender identity) and sexual orientation. Additionally, the training includes issues such as hazing, bullying, retaliation and reprisal through a variety of training approaches with a focus on more interaction and less PowerPoint.

Ambassadors regularly exercise their newly acquired knowledge and skills in class by participating in problem-solving exercises in which they must use critical thinking and quick decision-making. They also learn from each other through scenario-based and role-play training sessions during which they demonstrate how they would apply their skills. Between classes, Soldiers take their

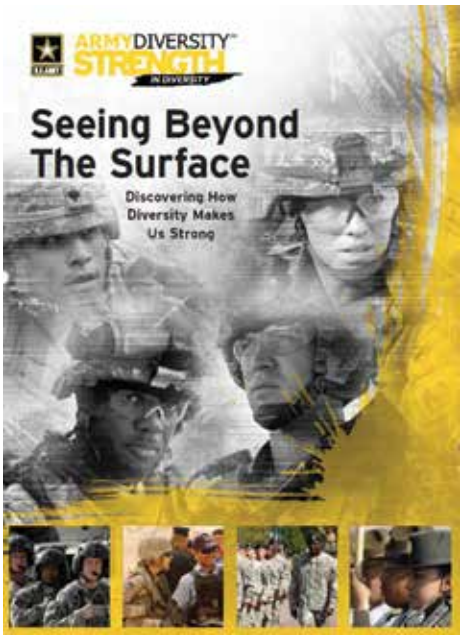
AJ SAMFE Nurse, MAJ Penny Mosely, hosts a class and hospital tour for the ambassadors from the 3-2nd ADA Battalion. This tour provides insight into the process a sexual assault survivor goes through.

knowledge and skills back to their respective units by recognizing when something is not right and understanding what the options are for approaching the issue.

SPC Joseph Gonzalez of Alpha Battery recently shared his insight on how the Ambassador Program is already working to make the units of the *Lethal Strike Battalion* better. He said, "I have been able to implement the skills I learned, and I have also been able to make necessary corrections when I see the wrong thing." SPC Gonzalez has a bright outlook for the future, saying "All the junior enlisted are going to become NCOs, officers, and warrants one day – and hopefully they bring the Ambassador Program wherever they go creating change throughout the organization by promoting Equal Opportunity and a safe place for all Soldiers of all ranks!"

On Jan. 30, 2021, there were well over 20 junior enlisted Soldiers that attended the SHARP and EO Ambassador Program. For their first session, Soldiers met their battalion Sexual Assault Response Coordinator and Equal Opportunity leader. The SHARP portion of this first class covered sexual harassment, informal and formal complaints. They did role-playing on how to approach someone that was playing inappropriate music or telling inappropriate sexual jokes. Every one of the Soldiers was very active and participated in the role-playing.

Throughout the next six weeks, they learned about differences in sexual harassment and sexual assault, the different reporting options for both, and options everyone has when filing a report. Throughout the whole experience, one of the biggest concerns brought up consistently for the Soldiers has been reprisal/retribution against anyone filing a report. The biggest help to the Soldiers, as they have stated, has been the open-forum conversations and the role-playing, situational examples, not a death by PowerPoint approach!



As one ambassador said, "Coming to these meetings and the knowledge has helped me to implement some things with my own personal situation. It truly gives me hope about the Army (anonymous)."

Another Soldier, SPC Razo Gabriel, from Charlie Battery said, "There is a light shining on our ranks now that our formations have ambassadors within them. Knowing that it's okay to make on-the-spot corrections, regardless of rank, can create a domino effect for the better." He said, "My favorite part of the SHARP sessions is when we discuss what we are to do as ambassadors whenever we are called on as a resource to guide a fellow Soldier in the right direction."

It is heartwarming to see the ambassadors come to class eager to learn. Anyone can see the light in his or her eyes and the willingness to learn. They soak up the information like a sponge and they even challenge the instructors to ensure they know the information and are doing them justice by ensuring they are prepared to take on the roles and responsibilities of an ambassador.

These ambassadors are the future of our Army, equipped with knowledge to help battle buddies to their left and right. All these ambassadors now know they have a voice, and they are learning to be confident in using that voice!

According to all Soldiers involved in the program, being a part of this exceptional program is an honor including the opportunity to learn from each other. Additionally, it is exciting to see where the ambassador program takes this battalion and the positive change that all the ambassadors are already starting to make!

SFC Tami Wentz serves as the launcher platoon sergeant for Delta Battery, 3-2nd ADA Battalion at Fort Sill, Oklahoma. She is currently serving in multiple vital roles for Delta Battery and the 3-2nd ADA Battalion. These roles include battalion and battery Equal Opportunity leader, battery master resiliency trainer and battery unit movement officer.

SFC Maria Sandoval was born in Bucaramanga, Colombia. She entered the Army in 2008. Currently she is the launcher platoon sergeant for Charlie Battery, 3-2nd ADA Battalion at Fort Sill, Oklahoma. She also holds positions as the battalion Sexual Assault Response Coordinator, battery master resiliency trainer, battery unit movement officer and the battery weight control NCO.

Operation Desperado

By 2LT Samuel Smith

As a yearlong deployment to USCENTCOM began to wind down, most Soldiers in the 5th Battalion, 52nd Air Defense Artillery Regiment, *Team Deuce*, began to look forward to the same two things: redeployment and block leave.

This was not the case for the six Soldiers in Echo Company, 5-52nd ADA, who will almost immediately attend the Army's notoriously challenging Wheeled Vehicle Recovery Course within weeks of redeployment. Affectionately known as the "Hotel Eight" (H8) course, this training and certification provides an invaluable skillset to the maintenance specialists for any organization.

"Every recovery mission is different and may have an incredibly high risk factor," said SSG Sonny Bugay of Echo Company. "It takes a deep understanding of the tools at your disposal to complete the mission without injuring people or further damaging the equipment, as well as attention to detail, teamwork and motivation to successfully complete the course."

The larger purpose of H8 is to provide clear Army guidance and training on proper recovery operations in support of the conduct of field maintenance. Soldiers who successfully complete the Wheeled Vehicle Recovery Course will earn the Additional Skill Identifier (ASI) H8 and valuable expertise. Any Soldier carrying this ASI is a critical asset to the battalion they are assigned, as it shows they are able to safely recover a wheeled vehicle in almost any circumstances.

"The real difficult part is that every recovery (mission) is different," said SPC Isaac Brom. "It often requires quick and outside-the-box thinking, attention to detail and knowing that you're never going to be working in favorable conditions."

The importance of organic recovery assets cannot be overstated over the last two decades of conflict in the Middle East.

"Be it unimproved roads in Iraq or narrow mountainous passages in Afghanistan, our vehicles are often weighed down by literal tons of equipment, being able to quickly and safely recover our vehicles is paramount to the success of the mission and safety of our Soldiers," said CW2 Michael McDougall, a veteran of both Iraqi Freedom and Enduring Freedom conflicts in Afghanistan. "If a vehicle gets stuck in a combat zone, we have no choice but to recover it. We cannot leave anything of that nature behind."

The conflicts in Iraq and Afghanistan are full of examples of the critical nature of recovery operations. In 2003, details emerged of the dire situations in Iraq when delays and recovery operations turned deadly. The delays in recovery of disabled vehicles added to chaotic events ultimately ending with a deadly ambush.

Echo Company, 5th Battalion, 52nd Air Defense Artillery Regiment, recognized the importance of proficiency during recovery operations. Echo Company recently conducted Operation Desperado on Al Udeid Air Base and Al Dhafra Air Base to prepare Soldiers to fill this critical role and mitigate risks during upcoming mobility operations. The team incorporated their Air Force counterparts from the 379th Expeditionary Maintenance Group (EMXG) in an exchange of recovery practices and different equipment sets. Soldiers from Echo Company were able to get hands-on time with Air Ground Equipment while Air Force mechanics learned the basics of H8.

Together with the Air Force, Echo's Soldiers learned new and fresh skills that can be utilized in future operations, further increasing the efficiency and safety of Wheeled Vehicle Recovery. "I feel more prepared than ever to conquer Hotel Eight and I can't wait to be trained in such a crucial task," said PFC Roman Yell. PFC Yell plans to attend the H8 course upon redeployment.

2LT Samuel Smith is an Ordnance Officer with Echo Company Executioners, and is from Little Rock, Arkansas, where he received his commission from The Citadel in 2020.

Photo 1, *SPC Armando Rodriguez, Echo, 5-52nd ADA, provides a class on wrecker operations to members of the 379th EMXG. Photo by 1LT Olubokula Yusuf, Echo, 5-52nd ADA*
Photo 2, *Group photo between Echo Company and 379th EMXG taken at Al Udeid Air Base. Photo by SSG Roy Hendricks, HHB*
Photo 3, *Unidentified Airman demonstrates his welding proficiency. Photo by 1LT Olubokula Yusuf, Echo, 5-52nd ADA*
Photo 4, *SGT Paolo Wabinga, Echo, 5-52nd ADA leads Airmen from the 379th EMXG, through the technical inspection checklist (DA5988) for a disabled vehicle. Photo by 1LT Olubokula Yusuf, Echo, 5-52nd ADA*
Photo 5, *SPC Roger Ramos, Echo, 5-52nd ADA operates the boon M984 Wrecker in support of Operation Desperado. Photo by 2LT Samuel Smith, Echo, 5-52nd ADA*
Photo 6, *SPC Isaac Brom and SPC Roman Yell, Echo, 5-52nd ADA train on recovery of a disabled Humvee. Photo by 2LT Samuel Smith, Echo, 5-52nd ADA*
Photo 7, *SPC Issac Brom, Echo, 5-52nd ADA operates the wrecker during Operation Desperado. Photo by 2LT Samuel Smith, Echo, 5-52nd ADA*
Photo 8, *Soldiers of Echo, 5-52nd ADA receive training on the M984 Wrecker. Photo by 1LT Olubokula Yusuf, Echo, 5-52nd ADA*
Photo 9, *Soldiers of Echo, 5-52nd ADA receive instructions from CPL Nathanial Wimpy on the proper use of a crane to recover an overturned Humvee during Operation Desperado. Photo by LTC Matthew Inglis, 5-52nd ADA*

Training experiences with host nation partners

By CPT Brian Trabun

Within the world of Air Defense Artillery, the U.S. and its allies employ Patriot weapon systems around the globe for enhanced coordination and integration in order to support operations and successfully defend geopolitical assets. Whether defending a U.S. or allied asset, a strong and cohesive team is critical for mission success. The 3rd Battalion, 2nd Air Defense Artillery Regiment, *Lethal Strike*, deployed to the CENTCOM area of operations (AOR) - Kuwait in support of Operation Enduring Freedom Spartan Shield from May 2020 to April 2021, and experienced the challenges and trials inherent in joint partnerships. Together the 3-2nd ADA Battalion and Kuwaiti 9th Air Defense Artillery Brigade have 10 Patriot batteries emplaced throughout Kuwait, an area approximately 17,000 square miles. Due to the close proximity of U.S. and Kuwaiti Patriot firing batteries, it is imperative that both countries maintain a robust professional relationship in order to achieve dual mission success. However, the U.S.' high unit turnover rate can prove to be a challenge. Despite this forecasted obstacle, the *Lethal Strike Battalion* worked diligently for a year to improve and sustain long-lasting relationships with the Kuwaiti military. This was accomplished through constant communication, cross-training events and exercises posturing the theater for future units and operational success.

The 3-2nd ADA Battalion executed these initiatives through Key Leader Engagements (KLEs); strengthening U.S.-Kuwaiti partnerships through multinational training events, exercises and coordinated layered Air and Missile Defense (AMD). These initiatives executed within the Kuwaiti AOR enhanced international relationships and joint lethality, reinforcing execution of U.S. and partner AMD capabilities. The battalion built strong relationships with the Kuwaitis through bi-weekly KLEs. During meetings between the Kuwait Air Defense Fire Units (KADF) and 3-2nd ADA senior leaders, topics of discussion included: building realistic and sustainable training objectives, assisting and providing suggestions for training plans, refining and improving multinational defense designs, and enhancing the combined efforts to effectively execute the Kuwait Operational Guide. These engagements were the building blocks for the 3-2nd ADA Battalion's success in executing training and ultimately fighting alongside the Kuwaitis during potential real-world escalations. Once both nations set the conditions and parameters of their dynamic working relationship, training commenced between the 3-2nd ADA Battalion and the Kuwaiti 9th Air Defense Artillery Brigade.

The *Lethal Strike Battalion* executed numerous training events ranging from blocks of classroom instruction, discussions on Patriot capabilities and limitations, system improvements to increase lethality while simultaneously ensuring friendly protection, systems integration, multinational AMD training and mobility exercises. Early on in the deployment, tacticians from both countries regularly met to discuss tactics, techniques and procedures (TTPs) and tabular entry differences between the two countries' weapons systems. These discussions led to a mutual understanding of each other's weapons systems configurations, how to conduct AMD operations during heightened tensions overall improving the Patriot weapons systems lethality and friendly protect measures, and increasing multinational defense of co-defended assets across the Kuwaiti AOR.

The Communications Relay Group (CRG) platoon conducted training regularly with the KADF. The CRG platoon deployed to multiple U.S. and Kuwaiti military bases to establish redundant communications links in support of the battalion's primary, alternate, contingency, and emergency plan. During the course of these missions, the CRG platoon capitalized on a unique opportunity to cross-train with the Kuwaiti's communication system operators through collective U.S. and Kuwaiti prepare for march order and emplacement (PM&E) drills with the Antenna Mast Group (AMG)

and Kuwaiti CRG shelter. The Kuwaiti's led classes on their communications link architecture and allowed 3-2nd ADA personnel to utilize their fixed AMG antenna towers, which were the size of large cell phone towers on KADF Patriot sites to extend the operational capabilities of communication links to U.S. Patriot sites.

The *Lethal Strike Battalion* also participated in the Kuwaiti 9th Air Defense Artillery Brigade's culminating AMD exercise "Storm 3," where tacticians from both nations shared TTPs and conducted joint Air Battle Management training, creating a shared understanding on how we fight and win in a combined operational environment, improving best practices between the U.S. and Kuwaiti Air Defense Forces. The 3-2nd ADA Battalion supported this operation with two U.S. Patriot fire unit crews and one battalion information coordination central crew. The 3-2nd ADA Battalion and battery-level operators gained hands-on experience during this exercise and instilled confidence in both nations' ability to conduct combined AMD operations. The last major training exercise 3-2nd ADA Battalion conducted with the Kuwaiti's was establishing a remote Launcher Control Station (LCS) within a Kuwaiti Fire Unit's operational footprint, increasing the 3-2nd's lethality and coverage of co-defended assets within Kuwait. This operation achieved numerous mission objectives by establishing a LCS, increasing the overall AMD coverage in the AOR, coordinating with host nation partners for co-use land agreements, and cross-training KADF Air Defenders on Patriot Launcher PM&E and reload operations. In addition to these achievements, 3-2nd ADA Battalion and KADF gained many useful lessons in their dynamic cross-training structure, lessons that can be applied to any Air Defense unit working with host nation partners.

The greatest benefit our cross-nation partnership has produced is the multiple teachings we have gained from its inception. Namely, the construction and maintenance of strong professional relationships. Units conducting a Relief in Place (RIP) need to ensure a smooth transfer of authority by including a KLE as part of the RIP process in order to ensure continuity of all future plans and training events. Differences in training methodology are to be expected when working alongside host nation forces. Though Patriot equipment is physically the same, doctrinally, the U.S. and the Kuwaitis employ the Patriot weapon system

The 3-2nd ADA BN and Kuwaiti Soldiers conduct reload operations on a PAC-3 Launcher.

The 3-2nd ADA Soldiers receiving a block of instruction on a Kuwait CRG Shelter.

The 3-2nd ADA Soldiers receiving a tour of a Kuwait CRG Shelter.

A U.S. PAC-2 Remote Launcher emplaced on a Kuwaiti Patriot Site.

and conduct training certifications differently. Variances in TTPs and weapon system posturing were noted during combined training events. The *Lethal Strike Battalion* overcame this through consistent dialogue and advising, without directly instructing the Kuwaitis on how to employ and use their weapon system. This allowed the Kuwaitis to receive information and apply it to their AMD operations in a way that best met their missions' intent. Between international AMD entities, information sharing was the biggest obstacle to overcome. For this reason, the dissemination of classified information during topics of discussion needs to be understood by units working with host nation partners. U.S. Patriot systems by nature are secret. This fact has made sharing information with the Kuwaitis challenging for system tacticians from the U.S. as they advise and instruct system operators from Kuwait.

As the 3-2nd ADA Battalion transitioned out of the Kuwaiti AOR, they left a legacy for other units to follow and build upon. The *Lethal Strike Battalion's* ability to deploy its Soldiers in the midst of a global pandemic, build and sustain relationships with the Kuwaiti military, conduct combined AMD operations, and strengthen the AORs ability to defeat and neutralize enemy aerial threats between both nations is a goal all units can strive to achieve.

CPT Brian Trabun currently serves as an Air Defense tactical director and as the Fire Direction Center officer in charge in the 3rd Battalion, 2nd Air Defense Artillery Regiment. He also served as a fire control platoon leader and as an Avenger platoon leader in the Republic of Korea. He served one tour to Kuwait from 2020-2021 in support of Operation Enduring Freedom (Spartan Shield).

ADA NEWS

New Patriot Missile Storage Facility unveiled in Okinawa

By 1LT Daniel Andrews

The 1st Battalion, 1st Air Defense Artillery Regiment celebrated the unveiling of the first Patriot Missile Storage Facility in Japan during a ribbon-cutting ceremony at Kadena Air Base May 19.

The MSF was a joint and bilateral construction project between Japan District, U.S. Army Corps of Engineers; 38th Air Defense Artillery Brigade; U.S. Air Force 18th Munitions Squadron; and Japan's Nishimatsu Construction Company, which began in 2020. It was designed to store Patriot missiles and facilitate rapid access to meet critical time requirements during 1-1st ADA integrated air and missile defense operations.

"With the opening of this facility, we will now be able to safely store our precious Patriot interceptors in a climate-controlled environment and quickly respond," said LTC Rosanna Clemente, commander, 1-1st ADA. "When the mission calls, we will be able to increase our readiness, improve our response times and enable quick assumption of our mission to defend Okinawa and all of our families and friends that reside here."

The construction of the MSF was one of the first projects to use multiple innovative building strategies by the Japan District, U.S. Army Corps of Engineers, such as using Japanese industrial standards and materials as acceptable alternatives for U.S. standards and products.

"It is the first-ever project that the Japan Engineering District used to incorporate virtual reality technology in its inspection and its construction, providing a realistic 3D picture, and allowing stakeholders a walkthrough of the facility during its design," said COL Thomas J. Verell, Japan Engineer District commander in his remarks during the ribbon-cutting ceremony. "The virtual reality tool facilitated comprehensive, real-time collaboration between all partners, ensuring the design met all of the mission requirement. These revolutionary bilateral strategic initiatives will change construction methods in Japan forever into the future."

1LT Daniel Andrews is the executive officer for Delta Battery, 1st Battalion, 1st Air Defense Artillery Regiment.

COL Thomas J. Verell, Japan District, U.S. Army Corps of Engineers commander, and LTC Rosanna Clemente, 1st Battalion, 1st Air Defense Artillery Regiment commander, cut the ribbon during the Patriot Missile Storage Facility ribbon-cutting ceremony to celebrate the unveiling of the first MSF at Kadena Air Base, Japan May 19, 2021.

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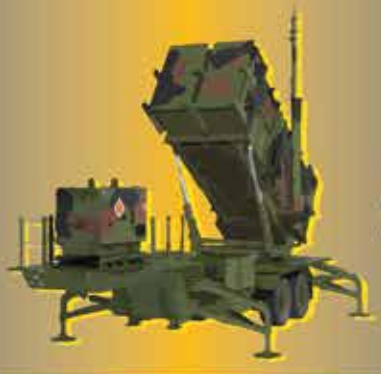


JOIN THE FIGHT! **CONTACT US AT:** **army-ada-proponent@mail.mil**

A Bandit's last ride

By 1LT T. Dwayne Waldroup-Rodriguez

Over the last three years, B Battery, 2nd Air Defense Artillery Terminal High Altitude Area Defense (THAAD) traveled the globe in an Air Defense world tour of sorts. The "*Bandits*" of Taylor Road at Fort Bliss, Texas, were placed on an operational conveyor belt that saw America's air-defending sons and daughters visit the combatant commands of North America, Europe, and lastly the Middle East. While USNORTHCOM and USEUCOM were large moments in the THAAD community and demonstrated the efficacy of erratic mobilization techniques, the *Bandits*' visit to USCENTCOM will have the longest and over-arching impact on the global United States' ballistic missile defense (BMD) architecture.

THAAD has conventionally represented a somewhat similar but fundamentally distinct battle rhythm from the operational tempo of its Patriot and Avenger counterparts in the Middle East, principally occupied with rotations to the Korean Peninsula or the island of Guam, but the past years of B-2 ADA THAAD have harshly juxtaposed those conventions. Previously deemed generally unnecessary in the Middle East, rapid expansion of the technological sophistication of adversarial weapon platforms continues to close the gap between our allies' defenses and our enemies' lethality.

This evolving climate in the Middle East has simultaneously increased the necessity for grander weapon systems exponentially. The escalating significance of America's capacity to preserve its interests and its partners, coupled with the Department of Defense's pivot on Air Defense's value in the last decade, has thrust many THAAD and Missile Defense Battery (MDB) units onto the world stage and into highly kinetic regional conflicts they had formerly delivered overwatch to from afar.

A commonality between all THAAD and MDB operators is the process of the Immediate Reaction Force (IRF), previously attributed as the Global Reaction Force. IRF represents a six-month, or until relieved, timeline for a BMD unit to perpetually be on a 72-hour prepare-to- deploy order. The B-2 ADA THAAD found itself in this situation leading into the months preceding the acceleration of hostilities in what is now termed the 2020 Persian Gulf Crisis.

Bottom line up front, the *Bandits*' mission was a success when examining the operation's intended outcomes; rapidly deploy to an expeditionary environment, integrate the THAAD weapon system into a preset BMD architecture, and provide active deterrence for its assigned portion of the region against tactical ballistic missiles (TBM). The context behind the first two signposts is what gives credence to the proclamation that B-2's mission to USCENTCOM will provide an everlasting foundation for future High to Medium Air Defense (HIMAD) units to iterate upon in the theater.

Mobilizing rapidly is on no occasion going to be an article of concern for a proficiently trained THAAD unit, as it is a fundamental aspect of its operator's DNA, however functioning proficiently in an expeditionary environment, for an undetermined period, will bend and strain previously unagitated cogs in any machine. To this point, a generic non-rotational American THAAD deployment or overseas assignment would barely stretch past three months; a non-zero sum of time for most people but not what any U.S. Army service member would deem lengthy. With proper upkeep from operators and additional support by conventional and systems maintenance personnel, three months is well within tolerance for a THAAD unit to survive without proper resupply routes and expedient access to equipment readiness code one parts. However, to discuss the elephant in the room, COVID-19 got a vote in the *Bandit's* lives just as it did for all of humanity during 2020.

As the pandemic placed a temporary halt on the world, the *Bandits* were entering the fourth and fifth months of boots on ground, which set an unforeseen strain on the unit's maintenance capabilities. Sustaining the unit's operational readiness was no longer a foregone conclusion, but a looming sentiment in all service member's minds. This situation goaded B-2 and its Contractor Logistics Support (CLS) teams into a familiarity with the

equipment previously unrequired for an orthodox THAAD unit. With temperatures blistering into 120 degrees Fahrenheit and above, in the most austere environment the weapon system had seen, the tactics employed, and lessons learned by all of B-2's operators saw the unit persisting for seven months before conceding its first report as a non-mission capable battery. The knowledge garnered in those months not only revolutionized the operator's grasp of the tactical systems but also led to the continuous expansion and modernization of CLS's comprehension of the capabilities and constraints of the THAAD system in particularly arduous conditions.

A U.S. Army Terminal High Altitude Area Defense launching station prepares to load onto a 4th Airlift Squadron C-17 Globemaster III at Fort Bliss, Texas, Feb. 23, 2019. The THAAD missile system is a land-based platform capable of intercepting ballistic missiles both inside and just outside the atmosphere. (U.S. Air Force photo by Staff Sgt. Cory D. Payne)

On the tactical side of the house is where the *Bandits'* saw the glut of active change and impact. The BMD crews in B-2 transitioned out of their overseas assignment in USEUCOM, a heavily layered, multi-tiered, joint missile-defense region with decades' worth of HIMAD experiences, and into USCENTCOM, an almost entirely blank slate in terms of U.S. HIMAD conceptualization, in less than six months. The pre-planned responses (PPR) provided to B-2 went through real-time iterative workshopping as it unceasingly ran air battle simulation after simulation in theater, in essence beta-testing all conceivable aftermaths and circumstances that may arise in a worst-case scenario TBM raid in the area. Due to the context that the U.S. Army's THAAD system had not once been in the region, B-2 was implanting itself into a conflict that had never been fought at its level in the Air Defense community; therefore, no enemy air raid could be considered an impossibility nor any gap in the region's BMD architecture be assumed an abnormality.

Those *gaps* in USCENTCOM's BMD structure are a solemn indication of the ever-increasing threat of our adversaries in the region and the chief motivation for B-2's deployment to the area. While the area boasts a plethora of Patriot units and a non-zero amount of AEGIS ships, there existed an opening between the engagement capabilities of those weapon systems where kinetic action may have not been a predetermined success. Injecting the THAAD platform into the area, repeating air missile defense exercises with all American BMD actors in the region, and perfecting the minutia of preplanned results has ensured TBM defense stability beyond anything USCENTCOM has facilitated before.

In a testament to the collaborative nature of the Air Defense Artillery branch and its civilian and contractor counterparts at the Missile Defense Agency, Raytheon, Leidos, and others, the avenues of communication were constantly open and as a result, permitted discussion about fundamental changes from the operators on the ground to the powers-that-be at the decision-making level. In the highly interlinked world of U.S.-joint military operations, it is exorbitantly rare for service members to find themselves in fields where their day-to-day decisions and experiences can propose instant consequences on strategic-level procedures.

The B-2 ADA THAAD *Bandits*, bolstered by the communitive nature of the ADA and exacerbated by the restrictions of COVID-19, discovered themselves developing not only their own expertise but also the competencies of all HIMAD platforms in the region. The successes and, maybe more importantly, the failures and setbacks, of the *Bandits* allowed them to depart the region with an impact that will be considered and examined, unknowingly or not, by all future HIMAD units in USCENTCOM.

The son of two retired, enlisted U.S. Army service members, 1LT T. Dwayne Waldroup-Rodriguez was born in Augusta, Georgia, and raised in the town of Forest City, North Carolina. He graduated from the United States Military Academy in May 2018 with a Bachelor's of Science in English and attended Basic Officer Leader Course in the same year. His first assignment was to Bravo Battery, 2nd Air Defense Artillery Regiment, a Terminal High Altitude Area Defense (THAAD) unit in the 11th Air Defense Artillery Imperial Brigade. Through his time in the unit, Waldroup-Rodriguez served as the Launcher Station platoon leader, Crew One Tactical Control officer and OIC, and executive officer during an operational exercise to the country of Israel and a combat deployment to the Kingdom of Saudi Arabia.

Developing and maintaining clear and simple ADAM/BAE processes and procedures

By SSG Brian Patterson

How well a process or procedure is defined directly affects the efficiency and effectiveness of a unit's abilities/capabilities to execute their mission. I have been a member of the Army National Guard for over 17 years and have seen the results of well-documented and well-executed processes and procedures. On the other hand, I have also witnessed the pain, suffering and chaos caused by poorly established/documented processes and procedures. What is the root cause for this inconsistency and how can it be resolved? I wondered this for years until I began a career as a business process analyst for a Fortune 500 technology company. I learned a lot about process documentation, training, maturity, and more there. I strongly believe Business Process Management (BPM) principles can bring a lot of value to the U.S. Armed Forces that would enable consistency and standardization. In this article, I will focus on what BPM principles I think should supplement existing tactics, techniques and procedures (TTPs), standard operating procedures (SOPs) and Army doctrine associated with air-ground operations. These principles can ensure air defense airspace management/brigade aviation element (ADAM/BAE) procedures integrate into all applicable warfighting functions. To support my opinion, I will provide examples of what I have observed in the field, types of BPM principles the United States Army recently adopted, and how I propose to integrate these principles in my own unit.

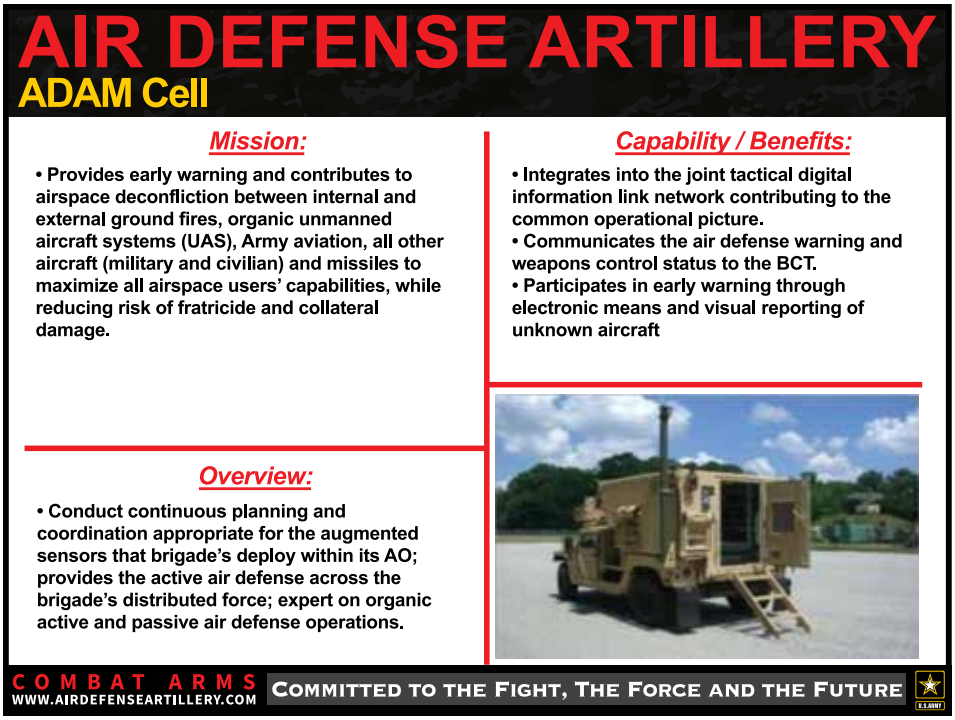
Observed problems: the National Training Center example

A few years back at the NTC, I recognized some major pain points in our ADAM/BAE cell procedures. One that stands out is the management of all the immediate restricted operations zone (ROZ) requests for the Ravens that were operating in our area of operations. Instead of filtering the requests up the chain through the battalions, we had the operators coordinate with us, directly. This was incredibly difficult because the demand for those ROZs were sorely underestimated. In addition, the procedures lacked simple instructions on what inputs we needed to submit those requests. We had to reach out to each company to obtain omitted information required to process the requests, only to realize it conflicted with other Raven ROZ requests from the same battalion. This consumed a significant amount of time we did not have in the current operations environment. As a result, we put those requests off just so we could handle higher priority items and the battalions lost Raven capabilities and responsiveness.

The Raven ROZ issue was just one of many with which we had to contend. There was an overall trend across the board with our partners regarding poorly defined or poorly enforced procedures. Procedures like this limit the commander's capabilities and decrease their combat power. As a learning experience, our section is striving to define, train and mature our procedures to enable a more cross-functional end-to-end (E2E) approach. We are striving to align to the doctrine in *ADP 6-0, 1-102,* which states "procedures govern actions within the command and control system to make it more effective and efficient." In addition, we must consider the Airspace Operations Process criteria outlined in *ADP 3.52.2* to understand how we fit into that hierarchy of operations. This will ensure airspace users are well integrated and unified in their efforts. So, what BPM process/procedural standards has the Army adopted and what resources are available to us?

U.S. Army adopts business process practices

In 2016, the U.S. Army adopted BPM standards and practices, which are managed by the Business Process Re-Engineering Center of Excellence (BPR CoE). The BPR CoE was established to "improve the Army's processes by providing training, advisory support, and the facilitation of BPR initiatives." So, what does it focus on? The BPR is a "logical



method for assessing process weaknesses, identifying gaps, implementing innovations, and optimizing opportunities. BPR efforts take a holistic view of current and future states and consider the people, policy and technology impacts to fix problems and achieve goals." (The Office of Business Transformation, 2018) The Army's BPR program aligns closely with the proven business process practices used by Fortune 500 companies, which I will expand on next. Even if the BPR COE may not have enough staff to assist all the Army's needs, we could still leverage their training aids to educate and assist in the development of our individual unit processes/procedures.

What are processes and procedures?

It is important to know that processes and procedures are hierarchal in nature. This means there are different levels of processes, which define the actions, until you get to the more detailed procedural level or tasks. *ADP 3-0* defines process as a "series of actions or steps taken to achieve a specific end, such as the military decision-making process. Procedures are standard, detailed steps that prescribe how to perform specific tasks." Hierarchy builds understanding and context as to where a given procedure fits in or affects other stakeholders. In other words, it helps the Soldier see the bigger picture and know where their procedures fit in. This provides more situational awareness and empowers Soldiers to adapt to any environment.

My proposed solution

To better grasp where a procedure fits within the context of the warfighting functions or hierarchy, I will standardize BPM principles provided by the BPR CoE for all ADAM/BAE related processes and procedures at my unit. These principles include the following six criteria:

1. A purpose statement.
2. Required inputs and outputs.
3. Triggering/concluding events.
4. The step-by-step procedure.
5. Ownership (roles and responsibilities. [R&R])
6. Metrics.

The first four principles define the what, how, why, and when of the procedure(s) while principles five and six define who and how to measure your efficiencies and effectiveness. All together, these make up the critical elements of a well-defined procedure. These are the principles I propose we use to supplement the TTPs, SOPs and other critical/applicable publications. This ensures we document all dimensions of the procedure and will keep the organization's E2E objective in view. So, what do these six elements mean?

The first and second principles (the purpose and inputs/outputs) establish the boundaries this procedure resides in and who or what procedure is up and downstream from you. The purpose statement is clear and concise. It describes what the procedure is, the high-level how, and why this procedure is important, or, in other words, its impact to the mission and value add. The inputs and outputs define what you require to do your job and defines what you are supposed to deliver (the value) downstream from you. These inputs/outputs should also come with defined acceptance criteria. These criteria define from whom you are receiving your inputs, in which format you need it, where you need it delivered, when you need it and who will supply it.

The same is true with the output acceptance criteria. Typically, the person who needs the inputs would define those criteria, and then supply the requirements to those upstream from them. This ensures everyone has what he or she need to meet the deliverable requirements in an efficient and effective manner.

The third and fourth principles define the procedures at the task-by-task level of detail. The triggering event lets us know what kicks off the procedure and the concluding event lets us know when we are done. If not defined, then the Soldier may be wondering when he should begin executing. Next, is defining the systematic tasks within the procedure. These tasks should be cross-functional and focused on requirements and constraints related to tempo, manpower, equipment, competencies, risk, quality, efficiency and effectiveness. This is not an all-inclusive list, but rather an example of things to consider. Typically, these tasks should consider decision points, steps that can happen in parallel and steps that are dependent upon other steps (your critical path). Now that the first four principles are understood, it's important to consider the people involved and principles on how to improve/mature your processes/procedures until you hit your metric targets.

The fifth and sixth principles define the ownership and maturing a procedure. Ownership defines the R&R of each task within the procedure. R&R, also known as a RACI, consider who is *responsible* for doing each step, who must be *consulted* before completing a task, who should be *informed* once the task is complete and who is *accountable* if the task isn't done or done well. Metrics help determine if you are doing your job efficiently and effectively. Metrics are critical because this measures how well you are performing and establishes more accountability and ownership. Metric data is used to conduct root cause analysis and determine your gaps and improvement needs. This action of analyzing and improving is process maturity. You may not realize or perform at your target set on your metric(s), but as you rehearse and refine, you will eventually get there.

Proposal of an integrated action and evaluation plan

I plan to integrate these principles and methods to better support my unit. I intend to start by first rehearsing our current procedures which should expose the gaps/disconnects, and then collaborate with the warfighting function cells to find ways to improve and close those gaps. I will leverage airspace TTPs, publications and SOPs from other successful ADAM/BAE cells as a baseline. Once we have defined procedures that meet requirements specific to the unit's needs, we will rehearse and refine until we consistently achieve our targeted results. In addition, we'll plan time on a regular basis to analyze our operational environment, manpower, equipment and mission to determine if our procedures are still current and relevant.

There is a lot of work that can go into this, but once it is established, it saves the unit time and builds the brigade combat team's confidence in our ADAM/BAE cell. Our commander must be able to trust and rely on our ability to manage the airspace, manage and minimize risk to maximize the commander's combat power. With the help of my unit, I hope to ensure ADAM/BAE cell is responsive, flexible, adaptable, relevant, and that knowledge and experience is never lost despite personnel turnover. The operational environment we are in is complex and these procedures take these complexities and turn them into something that is easy to follow and understand at the most basic Soldier level.

SSG Brian Patterson enlisted in the Army National Guard as an Aviation Operations Specialist (15P) in May of 2004. He currently serves as the Aviation Operations NCOIC in 116th ABCT ADAM/BAE. Patterson has served in numerous roles throughout his career, namely, flight operations, installation master planning, and Air Defense Air Management. Shortly after graduating with a bachelor's degree in Business from Boise State University, he began his civilian career as a senior business process analyst (BPA) at Micron Technology, a Fortune 500 company. He leads a number of teams in developing multiple high-value processes such as managing enterprise-wide bill of materials, and new product introduction for assembly and test engineering.

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Oozlefinch, the ADA mascot, presides over the opening of the new Air Defense Artillery Training Support Facility at Fort Sill, Oklahoma. Left to right: BG Richard Harrison, MG Ken Kamper and visiting LTG Daniel Karbler at the ribbon-cutting ceremony; LTG Karbler addresses the attendees; and LTG Karbler and MG Kamper discuss the day's events inside the facility.

(Photos by Ygal Kaufman, Fort Sill PAO Office, Dec. 10, 2020)

5-5th ADA Soldiers certify joint training with the 2nd Battalion, 44th Air Defense Artillery on the Land-Based Phalanx Weapon System, better known as the C-RAM at Fort Sill, Oklahoma. *(Photo By Mitch Meador, Jan. 31, 2020)*

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