

AIR DEFENSE ARTILLERY



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Operation Iraqi Freedom/Enduring Freedom

Air Defense Artillery Soldiers Reveal Lessons Learned From
The front Lines of the Global War on Terrorism



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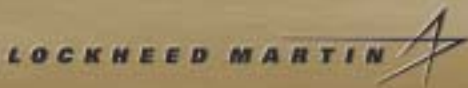


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FEATURES



Intercept Point Page 3
The Chief of Air Defense Artillery declares ADA Soldiers who meet the criteria, have earned the right to wear Close Combat Badges.



Stripes Page 6
Air Defense Artillery's command sergeant major says Army Transformation creates enhanced career opportunities for ADA Soldiers.

LESSONS LEARNED

Operation Iraqi Freedom and Operation Enduring Freedom Lessons Learned
Combat vets offer insights, observations, tactics, techniques and procedures from the battlefields of Iraq and Afghanistan.

Theater Air and Missile Defense Implications of Operations Iraqi Freedom and Enduring Freedom Page 7

Spearhead: Patriot Battery Makes Epic Journey to Operation Iraqi Freedom Battlefields Page 11

Divisional Air Defense Artillery Units Learn Keys to Survival and Victory in Iraq and Afghanistan Page 12

Task Force 1-4: ADA Soldiers Defend Baghdad International Airport Page 17

Task Force Renegade: 4-5 ADA Soldiers See National Elections Fulfill Promise of Operation Iraqi Freedom Page 24

1-62 Air Defense Artillery Writes Final Chapter of Its History Page 27

A Maneuver Air and Missile Defense Battery Adapts to Ground Combat in Iraq Page 31

How ADA Sentinel Teams Helped Restore Democracy to Afghanistan Page 34

4-3 ADA ADADO Section Answers a Burning Question: How Could 4-3 ADA Cover the 1st Infantry Division's Battlespace in Iraq With Only Six Sentinel Radars? Page 36

ADA School Creates New Office to Speed AMD Lesson Learned to Warfighters Page 38

Lessons Learned and Support Branch will collect, analyze and disseminate lessons learned in the Global War on Terrorism.

Center for Army Lessons Learned: 20 Years of Transformation Page 3

The Center for Army Lessons Learned serves as clearing-house for combat observations and insights.

Kasserine Pass Page 40
U.S. antiaircraft artillery units go up against Rommel's vaunted Afrika Corps.



U.S. Army Air Defense Artillery School Updates Page 43
The U.S. Army Air Defense Artillery School and Fort Bliss report on projects, programs and initiatives.

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Articles appearing in *ADA Magazine* do not necessarily reflect the opinion of the officers or members of the U.S. Army Air Defense Artillery School, the Department of the Army, or the Air Defense Artillery Association.

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On the Cover Limited edition prints of Richard E. Thompson's painting of ADA Soldiers engaged in the Global War on Terrorism are available at the ADA Association Gift Shop. Go to: <http://adaagiftshop.safeshopper.com>



INTERCEPT POINT

by MG Michael A. Vane

The Army's decision to authorize the award of the newly created Close Combat Badge to non-Infantry Soldiers is the direct result of lessons learned from the Global War on Terrorism. In the contemporary operational environment, all Soldiers—regardless of military occupational speciality—must be prepared to close with and destroy the enemy in ground-combat operations. The Close Combat Badge will recognize Soldiers—colonels and below—who served as infantry in units purposefully reorganized to routinely conduct infantry-unique close combat missions and were personally present and under fire while conducting those types of missions.

Eligibility for the Close Combat Badge is not limited to Armor, Cavalry, Artillery, or Combat Engineer Soldiers. Air Defense Artillery Soldiers who meet the criteria are also eligible to wear the new badge, which is certain to become one of the most coveted military decorations. The Army soon will release an administrative message outlining exact Close Combat Badge rules and regulations. The Office, Chief of Air Defense Artillery, will follow up by forwarding the message, along with tips on preparing and submitting recommendations, to all ADA commanders. Read the criteria carefully as many of our Avenger and Bradley Soldiers who deployed to Iraq and Afghanistan can qualify. I strongly urge ADA commanders to recommend ADA Soldiers who meet the criteria—and there are many—for the award, which offers us an unprecedented opportunity to recognize ADA Soldiers we place in harm's way.

That the contemporary operational environment blurs the boundaries between combat and noncombat jobs is just one of many lessons learned emerging from asymmetric warfare in Iraq and Afghanistan. The Global War on Terrorism has produced, and is still producing, an immense database of lessons learned. Some are generic in nature and pertain to the Army at large, while others are specific and address mission areas, including our mission area—air and missile defense (AMD) operations. This issue of *Air Defense Artillery Magazine* focuses on AMD lessons learned in Iraq and Afghanistan. Cataloging what went right and what went wrong is a common task performed by armies between wars, but cataloging isn't the objective of lessons learned. To truly reap the benefits of lessons learned, leaders must embrace the lesson, dissect it into components or sub-tasks, then develop and execute training plans to ensure good trends continue or bad trends are reversed. Without this change, lessons are simply observed; not learned. Make a difference in our Army and branch by truly learning and continuously executing change.

Today, Air Defense Artillery is challenged to sort out what worked from what didn't work and apply the lessons learned while our forces are still engaged in two combat theaters of operations. We must also accomplish this task while in the throes of Army Transformation. It is not enough to determine how the Global War on Terrorism lessons learned should be applied to the AMD force as it exists today; we must determine how these lessons should apply to the dramatically different AMD force we are transforming into—a more modular, agile, and robust force. Army Transformation will make putting some of the Operation Iraqi Freedom and Operation Enduring Freedom lessons learned into effect a challenging endeavor, but nevertheless, we must not ignore them.

Toward that end, the U.S. Army Air Defense Artillery School has created a Lessons Learned Branch in the Directorate of Training, Doctrine and Leader Development, to spearhead the effort to institutionalize the process of documenting, analyzing, and implementing corrective actions derived from lessons learned. The Air Defense Artillery branch is working closely with the Center for Army Lessons Learned to capture generic lessons learned from the force, but tailoring lessons learned to the AMD force requires ADA units to submit branch-specific lessons learned, which we will make part of our dynamic AMD doctrinal development process and training. I encourage you to provide your input via the unclassified lessons learned website at (adalessonslearned.bliss.army.smil.mil) or the classified website at (<https://airdefense.bliss.army.mil/secure/adall>).

During recent combat operations ADA units performed traditional ADA missions and non-traditional missions. In Operation Iraqi Freedom, Patriot battalions intercepted and destroyed every theater ballistic missile that threatened coalition forces and assets, but there were many lessons learned during this conflict which have resulted in Patriot hardware modifications, software changes, and updates to tactics, techniques and procedures that will improve Patriot performance on future battlefields. Additionally, Operation Iraqi Freedom lessons learned have shown us the need to change how we instruct operators,



certify crews, and the need to develop a cadre of AMD planners. These lessons drove us to develop the Patriot Master Gunner Course, the Patriot Top Gun Course, and the Joint Theater Air and Missile Defense Planners Course.

Our Bradley Linebacker, Bradley Stinger Fighting Vehicle, and Avenger Soldiers earned praise and well-deserved medals—the sort that come with "V" devices—in Afghanistan and Iraq. With a minimal conventional air threat to counter, these forces played, and continue to play, key roles as ground combat forces, providing maneuver commanders a lethal and versatile combat multiplier. Many might term this a "non-traditional ADA mission," but close examination of our roles in WWII, Korea, Vietnam, and Operation Just Cause will show forward area ADA units fighting side by side with their maneuver brethren in close combat. Lessons learned from recent operations have driven changes in the Avenger Master Gunner Course, the Avenger Table Top Trainer, and ground-support tactics, techniques and procedures.

Assigned traditional air defense missions, our Sentinel radar and Forward Area Air Defense Command, Control, Communications, Computers and Intelligence (FAAD C⁴I) Soldiers have won accolades for their indispensable performance in both theaters of operations. They have provided continuous, reliable, and accurate situational awareness of the third dimension to maneuver commanders and the Joint Force. Additionally, as our efforts to develop a Counter-Rocket, Artillery, and Mortar capability move forward, these Soldiers will find they have a very important part to play in developing and maintaining situational awareness, and enabling other AMD Soldiers to execute an intercept.

Amassing and analyzing observations and lessons learned can be a tedious process, requiring us to focus on the negative, as well as the positive, aspects of our branch's tremendous operational successes. However, applying Iraqi Freedom and Enduring Freedom lessons learned to the emerging AMD defense force is the surest way of ensuring victory on current and future battlefields, and the most appropriate way of honoring ADA Soldiers who have given their lives in the Global War on Terrorism.

First to Fire!

Michael A. Vane

Michael A. Vane
MG, USA
Commanding

MG Michael A. Vane is the Chief of Air Defense Artillery, Commandant of the U.S. Army Air Defense Artillery School, and the Commanding General of the U.S. Army Air Defense Artillery Center and Fort Bliss, Texas.



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Forever New Frontiers



STRIPES

by CSM Stanley L. Davis

Army transformation is creating exciting new career options and enhanced promotional opportunities for ADA Soldiers willing to embrace rather than reject change. As part of Army Transformation, we are rapidly inactivating our divisional Bradley Linebacker and Avenger battalions and merging Avenger units with Patriot batteries to create composite air and missile defense (AMD) battalions. These new AMD battalions will

deploy to future battlefields with units of employment or units of action. (A unit of action is the transformational term for a brigade combat team. Brigade combat teams will fight under the command and control of a divisional unit of employment)

Bradley Linebackers aren't making the transition to the new AMD battalions; they are going away, and Military Occupational Specialty (MOS) 14R, Bradley Linebacker Crewmember, is disappearing with them. There won't be as many Avenger batteries in the AMD battalions as there were in the divisional air defense battalions, and the Avenger batteries in the AMD battalions will have fewer fire units. We are reducing our MOS 14S, Avenger Crewmember, authorizations by about 50 percent over the next two years, which will reduce promotional opportunities for our Avenger Soldiers.

There is a "silver lining" in what appears to be "the dark transformation cloud," and that is tremendous growth in MOS 14J, Air Defense Tactical Operations Center Operator. Every brigade combat team and every headquarters at the unit of employment level will have an air defense and airspace management (ADAM) cell, and these cells are primarily manned by 14Js. Our Bradley Linebacker and Avenger Soldiers, who are facing crucial career decisions, have an opportunity to reclassify into this AMD MOS, which is growing and has good promotion opportunities. At present, the future requirement for 14Js is projected to increase by another 221 NCO authorizations. These challenging new positions provide varied assignment opportunities and rewarding careers.

I strongly encourage 14Rs, who qualify, to submit a DA Forms 4187 for voluntary reclassification into the 14J MOS. Other expanding MOS opportunities include 14E, Patriot Fire Control Enhanced Operator/Maintainer, and 14T, Patriot Launching Station Enhanced Operator/Maintainer. Your general technical (GT) and mechanical maintenance (MM) scores must be a minimum of 100 to meet qualification standards, which are waivable to 95. Submit your reclassification requests through your unit retention NCO. Bradley Linebacker Soldiers with more than 15 years time in service should contact SFC Douglas Cantrell, Human Resources Command's 14R Professional Development NCO, at DSN 221-8911 or COM (703) 325-8911 for waiver information prior to submitting their reclassification packet.

At present, all 14S10s have to reenlist for another MOS because we are over strength in 14S20 and 14S30. Human Resources Command is handling 14S20 and 14S30 NCOs on a case by case basis, depending on the unit they are assigned to, with the priority going to NCOs in inactivating units. Not all Soldiers can reenlist or reclassify out of MOS 14S due to the need to keep qualified 14S Soldiers in the future AMD battalions.

Bradley Linebacker and Avenger Soldiers who qualify should also consider applying for Warrant Officer Candidate School. The creation of ADAM cells has not only increased the demand for 14Js, it has also increased the requirement for 140A, Command and Control Technician, warrant officers. Air Defense Artillery is also short of warrant officers in MOS 140E, Patriot System Technician; so if you desire to become a warrant officer and can qualify, there are opportunities to be exploited!

Another area for potential MOS growth for our 14-series Soldiers is with the counter-rocket, artillery, and mortar (C-RAM) initiative. The branch is working diligently with the Field Artillery School to develop a capability to defeat rockets, artillery, and mortars. This initiative is known as Counter-RAM, or C-RAM. Experiments have proven we may have a near-term capability but how large the initial deployment will be and how many systems we will buy is still unknown. What we do know is this" if the C-RAM capability proves to be successful, manning of the interceptor system and its supporting command sections will be an ADA mission, and it will open more opportunities to 14Js and possibly another 14-series MOS. Stand-by for more updates!

Our Bradley Linebacker and Avenger Soldiers fought their way to Baghdad and Kabul alongside our infantry and armored divisions. Following the redeployment of the Patriot force from the combat zone, our Romeos and Sierras stayed on to battle insurgents and Taliban rebels, laying the foundations for Iraqi and Afghan democracy. They bore the brunt of battle and convincingly demonstrated the fighting qualities of ADA Soldiers to the combined arms team. We want to keep these great Soldiers in Air Defense Artillery.

The Personnel Proponent Division, Office, Chief of Air Defense Artillery (OCADA), and Human Resources Command are working to ensure our Bradley Linebacker and Avenger Soldiers get fair treatment as they seek reenlistment or reclassification. Teams from OCADA and Human Resources Command are visiting units to brief ADA soldiers on their options. The message is that Air Defense Artillery continues to offer challenging and promising career opportunities.

First to Fire!

Stanley L. Davis

Stanley L. Davis
CSM, USA



Theater Air and Missile Defense Implications of Operations Iraqi Freedom and Enduring Freedom



It was through sheer skill, energy, and tenacity that Patriot batteries maintained pace with the maneuver forces and sustained air and missile defense coverage over critical assets on the march to Baghdad.

Shear Skill, Energy and Tenacity of Patriot Soldiers Defeated Iraq's Tactical Ballistic Missiles

On 20 March 2003, Iraqi forces launched an Ababil-100 tactical ballistic missile (TBM) at coalition forces in Kuwait. One of the sensors in the U.S. Central Command's Theater Air and Missile Defense (TAMD) System immediately detected the launch, initiated an early warning alarm across the theater and passed an update report that predicted the missile's impact point to be in Tactical Assembly Area Thunder—where 4,000 Soldiers and the Aviation Brigade of the 101st Airborne Division (Air Assault) were assembled. Moments after the warning, sirens sounded across Kuwait. Soldiers headed toward bunkers, donning protective masks and their protective suits, and air defenders went to battle stations.

The 32nd Army Air and Missile Defense Command (AAMDC) passed instructions to firing batteries, including Delta Battery, 5th Battalion, 52nd Air Defense Artillery, a recently created "shortstop battery." The Soldiers

of Delta Battery responded to the alert and destroyed the in-bound Ababil-100 with a direct hit, prompting MG Dave Petreaus, Commander of the 101st to state, "Patriot saved the 101st!"

This engagement signified the culmination of more than a decade of effort by the Army air and missile defense community to improve our nation's theater ballistic missile defense capability. The mixed results of Patriot missile defense during Operation Desert Storm in 1991, when Patriot had been unable to target the warheads of incoming Scud missiles, had left air defenders determined that, next time around, Patriot's performance would be conclusive and decisive.

The air and missile defense community's aggressive developmental approach spanned the full range of joint doctrine, organization, training, materiel, leadership, people and facilities. It required significant investment of

all resources—time, money, technologies, and personal effort—by the entire air and missile defense establishment.

Advancements in missile technology and associated radar and software corrected previous Patriot shortcomings in targeting the warheads of inbound missiles. As the need to defend American and coalition forces from ballistic missile attack became more probable after 9/11, the Army accelerated the early fielding of Guidance-Enhanced Missiles-Plus (GEM+s) and Patriot Advanced Capabilities-3 (PAC-3) missiles into the Central Command theater of operations.

***...the Kuwaiti government
invested heavily in Patriot
missile defense...this investment
would bear fruit during
Operation Iraqi Freedom...***

During the decade following Operation Desert Storm, the doctrinal approach towards defending the force from ballistic missile attack changed in two significant ways. First, rather than being an Army responsibility, TAMDC became a truly joint and coalition effort. Learning the lessons of Desert Storm, the Kuwaiti government invested heavily in Patriot missile defense and backed up its materiel investment by forming a training partnership with U.S. air defenders. This investment would bear fruit during Operation Iraqi Freedom, for on 21 March 2003, an Iraqi TBM targeted a friendly assembly area in Kuwait, and a Kuwaiti battery destroyed the incoming Ababil-100.

At the same time, the Army led a joint effort toward the creating a comprehensive, joint and coalition TAMDC architecture. Brigadier General Howard B. Bromberg, commanding general of the 32nd AAMDC, was designated as the Combined Force Air Component Command's Deputy Area Air Defense Commander to plan the overall TAMDC fight and as the Coalition Forces Land Component Command's (CFLCC) TAMDC coordinator for the coalition's ground-based air and missile defense plan. Bromberg led a joint staff through the development and rehearsal of the TAMDC plan, and together they established an operational architecture to maximize situational awareness and improve timely engagement.

This comprehensive TAMDC plan included providing the 108th Air Defense Artillery Brigade to the 1st U.S. Marine Expeditionary Force to extend missile defense coverage over Marines and United Kingdom forces as they maneuvered north through eastern Iraq and into the Basrah and Al Faw peninsula. Additionally, Army air defenders trained Marines and British Soldiers on sensor and communications systems, enabling integrated planning and execution of air and missile defense operations. These capabilities also provided Marine elements with visibility of all aircraft (friendly and enemy) flying in theater.

The second major change was a shift away from predominantly defensive efforts towards a more balanced offensive/defensive air and missile defense approach. This

offensive effort, or attack operations, included aircraft from all services and other systems working together to coordinate joint fires against Iraqi TBMs in hide positions, in launch facilities, or on the move. This joint effort required significant integration of collection efforts, and continuous application of the intelligence preparations of the battlefield process to locate, target and attack Iraqi missile systems before they launched. In addition, the 32nd AAMDC passed voice early warning to the Kuwaiti Ministry of Defense and Ministry of Civil Defense, which then activated more than 100 sirens throughout Kuwait.

Upon assuming command of CFLCC, LTG David



Brigadier General Howard B. Bromberg commanded the 32nd Army Air and Missile Defense Command during its deployment for Operations Iraqi Freedom and Enduring Freedom. He has since been nominated for promotion to major general.

McKiernan reorganized the traditional staff structure into a staff organized around integrated operational functions. For air and missile defense, this meant expanding responsibilities beyond traditional air defense of ground units towards a more comprehensive function of operational protection across the theater battlespace. The operational sub-functions (Nuclear-Biological-Chemical Defense, Force Protection, and TAMDC) were combined to form Operational Protection, which was placed under the oversight of the 32nd AAMDC. The CFLCC staff formed a Command Operational Protection Cell that conducted a vulnerability analysis of CFLCC nodes, including ports, pipelines, camps and other key facilities.

As war approached, the Patriot force flowed into theater, and Patriot batteries deployed to defend strategically key nations in the region, including: Turkey, Israel, Qatar, Bahrain and Saudi Arabia. Patriot batteries integrated with Kuwaiti Patriot batteries to protect critical ports, airfields, bases and infrastructure in Kuwait. Finally, Patriot brigades were allocated to V Corps and the 1st Marine Expeditionary Force for protection of ground combat forces. The number of assets requiring protection, coupled with the theater's vast size, the availability of Patriot batteries—given the sealift transit time—and the fact 41 of the nation's 50 Patriot batteries were apportioned to Opera-



tion Iraqi Freedom, mandated a balance between strategic and tactical TAMM stances in the region. To rapidly generate a defensive capability in the area of responsibility, the 32nd AAMDC created the shortstop batteries. Shortstop batteries married Patriot crews, whose organic equipment was still in transit, with Patriot operational readiness float (ORF) equipment and by cross-leveling launchers from fully equipped batteries.*

The wisdom of this initiative was validated when D/5-52 ADA, a shortstop battery, engaged and destroyed the Iraqi missile that would have impacted the 101st Division's Aviation brigade. By the end of Operation Iraqi Freedom's Phase-3, shortstop batteries would shoot down a total of three Iraqi TBMs that were aimed at tactical assembly areas.

Despite the overall success of TAMM in Operation Iraqi Freedom, several challenges emerged. The first is coping with short-range ballistic missile threats and their reduced engagement timelines. Not only must the defense design consider this aspect of the threat, but the entire architecture (sense, warn, intercept) must be organized to deal with this threat, and air and missile defense Soldiers and leaders must be trained to make rapid, clear-headed decisions in a compressed engagement cycle. Those decisions, often complicated by incomplete situational awareness, must be rapid enough to enable TBM intercept and prevent TBM impact or effect on coalition forces, as well as ensuring no friendly aircraft operating in the battlespace is put at risk.

A second challenge experience in Operation Iraqi Freedom was the densely cluttered electro-magnetic spectrum. Never before have so many emitters been placed in operation in extremely close quarters. Patriot batteries, Sentinel radars, Field Artillery radars, U.S. Navy and Air Force airborne radars, and U.S. Marine Corps and U.S. Air Force ground-base radars all operated simultaneously in Operation Iraqi Freedom's battlespace. The number of types and quantities of emitters operating in a relatively constrained, noncontiguous and hostile battlespace greatly increased the potential for electro-magnetic interference issues and calls for greater synchronization of radar coverage and positioning planning in future operations.

The third challenge faced in Operation Iraqi Freedom was the cruise missile. While the Chinese-built, Iraqi-employed Seersucker missiles failed to hit a coalition asset or kill any coalition Soldiers, the ability of these older cruise missiles to penetrate friendly airspace and reach their targets serves as a warning the emerging cruise missile threat may be much closer than many believe. While Patriot can effectively engage and destroy cruise missiles, our Operation Iraq Freedom defense designs, for Patriot and short-range air defense assets, were not optimized to counter this threat.

The cruise missile is the emerging threat. The transformation of the air and missile defense force to compos-

ite battalions will provide an initial capability to counter this threat, but additional work is required to develop tactics, techniques and procedures to enable engagement of cruise missiles, while safeguarding friendly aircraft. Concrete coordination between air and missile defense batteries and controlling sector air defense centers and regional air defense centers will be essential. A concerted effort, along the lines of the post-Desert Storm Patriot PAC-3 effort, must be made by the joint force to defeat the cruise missile threat. Accelerated fielding of the Surface-Launched Advanced Medium Range Air-to-Air Missiles (SLAMRAAMs) and Medium Extended Air Defense Systems (MEADS), which provide a 360-degree cruise missile defense capability, is one such example of this effort.

The fourth challenge of Operation Iraqi Freedom was supporting the maneuver force's rapid advance on a non-contiguous and hostile battlefield with the Patriot system. Patriot is mobile, but it was designed for operations on the linear battlefields of Europe's Cold War, not for today's contemporary operational environment. V-Corps' and 1st Marine Expeditionary Force's rates of advance across Iraq's deserts and unimproved roads challenged Patriot's outsized equipment and Heavy Expanded Mobility Tactical Trucks. It was through sheer skill, energy, and tenacity that the Patriot batteries maintained pace with the maneuver forces and sustained air and missile defense coverage over critical assets on the march to Baghdad. The MEADS will bring improved mobility and an operational concept that will enhance our ability to maintain pace with rapidly advancing ground maneuver forces.

The key now is to continue to improve...

Operation Iraqi Freedom demonstrated that U.S. and coalition forces can successfully defend against TBM threats, that joint and coalition integration is the key to defeating missile threats, and that challenges such as cruise missiles continue to emerge. We saw this by the 11 TBM attacks against coalition forces during Operation Iraqi Freedom, all of which were either intercepted and destroyed by Patriot systems or allowed to land harmlessly in the Persian Gulf or open desert. Without air and missile defense, Iraq's ability to terrorize Kuwait, Saudi Arabia, Turkey and Israel would have significantly changed the pace and scale of the war. The key now is to continue to improve with the same drive and determination that characterized U.S. Patriot force modernization after Operation Desert Storm, so that in future campaigns every enemy missile can again be defeated. —Released by 32nd Army Air and Missile Defense Public Affairs.



*ORF equipment was pre-positioned in Kuwait to rapidly replace major components (radars, engagement control stations, electrical power plants, etc) lost to combat operations or out of action for extended periods due to maintenance issues.

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DO YOU HAVE A WAR STORY?

ADA Magazine Needs ADA War Stories!

ADA Magazine invites ADA Soldiers who deployed, or are still deployed, for Operation Iraqi Freedom and Operation Enduring Freedom to submit short narrative descriptions, or vignettes, describing a specific event, an ambush, a ballistic missile intercept, or humanitarian mission that for them define their combat experiences.

Vignettes chosen for publication appear in *Air Defense Artillery* magazine. They also may be incorporated into the ADA Museum's "A Day in the Life of an ADA Soldier at War" exhibit.

Email vignettes, along with any photos* you may want to submit, to adamag@bliss.army.mil.

* Photos should be Hi-Res at 300dpi or approximately 1914 X 1260 pixels (or larger) at 72dpi.





The USS Spearhead carried D/3-43 ADA from Qatar to Kuwait, the Patriot system's first deployment by the Army's emerging fleet of theater support vessels.

Spearhead: Patriot Battery Makes Epic Journey to Operation Iraqi Freedom Battlefields

New Theater Support Vessel Speeds D/3-43 ADA into Combat

During its Operation Iraqi Freedom deployment to three different countries, Delta Battery, 3rd Battalion, 43rd Air Defense Artillery, emplaced its Patriot launchers to defend GEN Tommy Frank's Central Command Headquarters in Qatar and the Combined Forces Land Component Command headquarters at Camp Doha, Kuwait. It then made an epic 100-mile convoy deep inside Iraq to defend Logistics Supply Area Cedar, a critical logistics base that fueled the 3rd Infantry Division's advance on Baghdad.

Delta Battery Soldiers endured the same desert hardships and surmounted the same obstacles that faced other Patriot Soldiers deployed for Operation Iraqi Freedom, but it was the easy part—a short sea voyage across the Persian Gulf from Qatar to Kuwait—that caught the attention of senior Army leaders. They were borne into battle aboard the *USS Spearhead*, a glimmering silver, wave-piercing catamaran that is the first of an emerging armada of Army theater support vessels (TSVs), called "fast boats," that may one day transport entire air and missile defense battalions or entire Stryker brigade combat teams to theaters of operation.

The Army leased the *Spearhead* from Australian fast ferry builder Incat in October 2002. Modifications included helicopter pads suitable for large military helicopters and a two-part, hydraulic vehicle ramp that allows rapid loading and discharge of vehicles from the stern or alongside. With its 1,250-ton capacity and shallow draft, the *Spearhead* is the first of what is expected to become a fleet of as many as 17 TSVs.

"A few days into the war, while our battery was still emplaced at Al Udeid Airbase in Qatar, we received orders to deploy via boat into Iraq," said CPT Derik Johnson,

the Delta Battery commander. "We road marched all our vehicles and equipment in three hours. We moved half of our equipment down to the Port of Um Qasr and loaded it onto an LSV [logistical support vessel]. Less than 24 hours later, we convoyed the remainder of our equipment down to the port and loaded our equipment and soldiers onto the *Spearhead*."

"We sailed across the Persian Gulf to Kuwait, overtaking the LSV carrying the other half of our equipment on the way," CPT Johnson continued. "We arrived at the Port of Shuaiba, Kuwait, and the LSV arrived a couple hours after our fast boat."

The speed of TSVs is phenomenal compared to the speed of LSVs, the long-time workhorse of the Army's sea-going fleet. The 98-meter-long *Spearhead*, can do more than 40 knots while the Army's LSVs only average about 12 knots. Theater Support Vehicles have more electronics, and computers run most onboard systems. One or two future-generation TSVs might be capable of carrying an entire Patriot battalion or an entire Stryker brigade into theaters of operation.

Theater Support Vehicles like the *Spearhead* can push troops and equipment into theatre about four times as fast as LSVs and will provide the Army a new and potent capability for rapidly responding to crisis situations anywhere in the world. They are a vital part of the Army's transformation plan, and Delta Battery's Patriot systems—the first ever deployed to Qatar—were the first ever transported by TSV.





At left, a 1-3 ADA Avenger assumes an overwatch position during operations in an urban area. At right, a 1-3 ADA Bradley Linebacker rumbles through the streets of Baghdad.

Divisional Air Defense Artillery Units Learn Keys to Survival and Victory in Iraq and Afghanistan

by LTC Rick Starkey

Divisional short-range air defense (SHORAD) battalions have been engaged in the Global War on Terrorism since the Army started putting boots on the ground in Afghanistan and Iraq. The deployments have been one year in duration or longer, and these units have clearly demonstrated to the entire combined arms team that ADA Soldiers are well trained, well lead, and a most lethal, disciplined, and versatile force; capable of performing many combat missions or tasks.

With Air and Missile Defense Transformation moving out at warp speed, many of these seasoned combat veterans are redeploying to case colors, transfer Linebackers and Bradleys to other units, and transform their units into composite Patriot-Avenger battalions. After executing some of the most challenging and dangerous missions in Iraq and Afghanistan, these Air Defenders carry numerous lessons learned that our current and future force can use to enhance lethality and improve survivability while protecting the force.

Each of Air Defense Artillery's 10 SHORAD battalions have deployed forces in support of operations in Iraq or Afghanistan. Soldiers in these units have bravely taken on some of the toughest missions: fixed-site security, running division tactical assembly areas, convoy security, raids, armored recon, counter-recon, cordon and search, establishing check points, and developing force protection measures at forward operating bases (FOBs). They've done so while working with local nationals and tribal leaders, improving schools, guarding infrastructure, providing medical aid, searching caves and mountains in Afghanistan, and training the new Iraqi Army (officially known as the Iraqi Civil Defense Corps. Our SHORAD

units have also been involved in providing an air picture to provide brigade combat teams and divisions third-dimension situational awareness.

All of the heroic acts and deeds have not gone without a cost. Soldiers in divisional ADA battalions have suffered numerous injuries and loss of life and have earned valorous awards alongside Infantry, Armor, Field Artillery and other combined arms Soldiers. Throughout the past few years, division and brigade commanders have learned that Air Defense Artillery is a trained and competent branch—a combat multiplier that they can rely upon to accomplish the toughest of missions. Our Soldiers have demonstrated the Warrior Ethos and the Soldier's Creed are not catch phrases, but a way of life. Reading after-action reports and stories from each of the returning battalions makes it clear our units and Soldiers are deservingly proud of the job they've done. As we cross the Transformational Line of Departure—ahead of most of the Army—we are leaving behind a legacy of competence and bravery, with mutual respect among our combined arms brothers and sisters.

Each of our divisional ADA battalions have learned how to effectively close with and destroy enemy forces, using our Bradleys and Avengers as a force protection combat multiplier. It was not uncommon for ADA battalions to share lessons learned while deploying, or while a unit was getting ready to deploy. These common lessons learned, based on missions conducted, include how to establish and improve fixed-site security, how to build barriers to provide stand-off distance to avoid suicide bombers and direct-fire ambushes, how to conduct cordon and search missions, how to plan and conduct raids, how to

search and detain prisoners, and the value of conducting rehearsals prior to conducting the simplest of missions.

While each battalion and battery has its unique story based on missions conducted in Iraq or Afghanistan, the common themes of pride, discipline, leadership, competence and safety seem to ring true time and time again. The selfless performance of our Bradley and Avenger Soldiers and noncommissioned officers has been impressive, with many serving 18-hour days for a year without a day off. They've done so professionally and without a gripe, going on countless dangerous missions while sustaining morale for extended periods.

It would take a book to capture the lessons learned for the many missions our units have conducted over the past two years, so this article will focus on the most common and tested methods that will serve any unit well in preparing Soldiers, leaders, and units for war—especially in a protracted asymmetric fight. These lessons came up over and over in each of the battalion's after-action reviews and they attack those critical issues that keep a unit together in the toughest of times. These lessons address the basic foundation of a unit's discipline and leadership. The enemy is relentless and patient, and efforts to counter their efforts require continuous offensive pressure by coalition forces to keep non-compliant forces off-balance. Leaders play a critical role in keeping the unit's head in the fight, continuously checking for suspicious activity,

enemy doesn't like to attack a unit ready to fight. **Recommendation:** Plan, rehearse, and provide adequate firepower to the simplest of military operations—and always plan that you will encounter enemy forces.

Weapons Discipline: With Soldiers continually carrying loaded weapons, there is a constant danger of accidental discharge. Nothing can decay morale faster than when a Soldier is injured or killed by a preventable accident. Leaders have to be responsible for training their Soldiers on muzzle awareness and training weapons expertise in their unit. Leaders must also play an active role at clearing barrels and stay continually on the lookout for correct weapons orientation. Leaders must build confidence in their Soldiers through training. Weapons ignorance comes in all ranks, and officers and senior NCOs must also follow adopted procedures. **Recommendation:** Incorporate weapons training into all forms of unit training.

Intelligence Preparation of the Battlefield and Predictive Analysis Works: Commanders, S2s, and S3s must continuously analyze the battlefield to determine where the next attack will occur. With ADA units continuously on the road and responsible for the defense of FOBs, it is important to know where and when the enemy has attacked in the past or where there are weaknesses in your defensive plan. There are never hard and fast rules; the enemy will always develop new trends and tactics, techniques



1-44 ADA Bradley Linebacker crews detain prisoners captured during raids on insurgent strongholds.

staying prepared for all contingencies, and avoiding complacency.

Plan Every Mission as if You Will Encounter Enemy Forces: In an asymmetric fight, there are no safe convoys or military operations. Plan every mission as if you will encounter enemy forces. Whether the mission is improving schools, traveling in convoys, conducting raids or counter-recon operations, or conducting searches of vehicles or personnel, continually be prepared for the worst. The enemy is always looking for vehicles vulnerable to attack or personnel who have become complacent and not prepared to fight. Always ensure you have enough weapons (ideally, crew-served weapons) to counter an attack. Everyone in a convoy should appear vigilant, as the en-

and procedures (TTPs). Educating the force on these trends is important to saving lives while developing counter-TTPs to defeat the threat. Knowing where and how the enemy has been launching mortars, attacking convoys, or setting up improvised-explosive devices (IEDs) allows leaders to establish methods to reduce the potential for future attacks. It also enables leaders to develop the best times to plan convoys. **Recommendation:** Leaders must actively seek out enemy trends and TTPs and educate Soldiers on methods to counter the next attack.

Conduct Rehearsals: Rehearsals have long been a point of discussion during after-action reviews at the National Training Center, Joint Readiness Training Center, and during divisional Warfighter Exercises. Rehearsals

proved to be more valuable in combat, with every Soldier understanding his or her role in the event of enemy contact. Going over actions on contact drills enable Soldiers to act instinctively when hit by an IED or enemy ambush. Identifying responsibilities before mission execution saves valuable time when you need it most. Covering items like who is responsible for laying down suppressive fires, conducting vehicle recovery, and identifying combat lifesavers, as examples, will continually pay off, if and when a unit is attacked. **Recommendation:** Train



3-4 ADA Soldiers perform checks on Avenger systems and a Sentinel radar prior to a mission.

subordinate leaders on how to conduct effective rehearsals. Develop checklists in unit standing operating procedures (SOPs) for the most routine missions.

Never Break Contact with the Enemy: The enemy most frequently operates in small numbers, and they are usually out-gunned, out-manned, and out-trained by coalition forces. Always planning convoys as combat operations, with adequate crew-served weapons, combat systems, and communications ensures this will be the case. Leaders must quickly assess the situation and orient fires. Common TTPs for many combat service support units was to break contact, move out of the enemy kill zone, and establish a rally point up the road. The problem with this TTP is that it gives the enemy the opportunity to come back tomorrow to kill more coalition forces. The enemy quickly learned this TTP and began planning follow-up ambushes or emplaced an IED at the established rally point. The enemy normally attempts to avoid direct contact, hitting unsuspecting units, then running away and blending into a nearby populace center. When the enemy does make themselves visible, kill them. It is after the initial assault that the enemy is at his weakest point. **Recommendation:** Only under overwhelming circumstances should a leader make the decision to break contact. Keep a clear head and direct forces until the enemy is destroyed.

Train All Soldiers on Crew-Served Weapons and as Combat Lifesavers: As the initial units deployed and combat operations transitioned to stability and support operations, tactical convoys and daily troop movements required strategic positioning of crew-served weapons and rotation of trained operators. Training all Soldiers on the use of all heavy weapons in your unit is critical. The M249 Squad Assault Weapon (SAW) is the most prolific weapon in our units, and it is critical to sustained combat operations. Obviously, any time weapons are changing hands,

accountability and leader checks are essential. The M249 is among the most dangerous weapons we employ and is frequently the cause of accidental discharges for the fol-

lowing reasons: untrained operators cannot easily determine if the weapon is on safe and a jar can cause the bolt to ride forward and the weapon to discharge when traveling. Also, the most common place for accidental discharge for all weapons was the weapons clearing pits prior to entering FOBs. All of these hazards can be avoided through training and Sol-

diers having confidence with their weapon. Combat lifesavers are an extremely valuable tool for any combat operation in the event a Soldier is wounded. Stocking-up on aid bags within a unit prior to any deployment is a smart thing to do. **Recommendation:** Train all Soldiers on how to action, maintain, shoot, clear, and make safe crew-served weapons. Also develop a combat lifesaver training program in your unit.

Maintenance, Training and Safety are a part of Combat: Great units do the basics well. Units can not sustain a high operational tempo for long if they are not conducting quality services and preventive maintenance on equipment. This may sound trivial, but it takes commitment to ensure it occurs when units are rotating on and off shift and performing for long periods each day. Conducting training is also important as it keeps expanding knowledge of current TTPs and does a lot to avoid complacency in a unit. It is a challenge to ask leaders to conduct training and maintenance when you know they are tired and being asked to contribute so much to the force protection burden.

Among the toughest tasks SHORAD units are being asked to do is fixed-site security. Staying vigilant at night or in 130-degree temperatures for 12-hour shifts for a year is difficult, especially for two-man Avenger crews. Establishing a method of active leader checks is critical to keeping crews vigilant. Safety too is an item that requires command emphasis and enforcement of often-communicated standards like placing only trained operators on equipment, wearing seat belts, accounting for sensitive items, maintaining muzzle awareness, and clearing/safing weapons. It was not uncommon for less disciplined units to get Soldiers hurt unnecessarily. **Recommendation:** Great units do the basics well and hold leaders responsible for communicating and checking standards. Estab-



Bradley Linebackers from the 1st Squadron, 3rd Armored Cavalry, left, and 1-44 ADA, right, carry the fight against insurgents into rural areas of Iraq.

lish a list of rules—perhaps a nonnegotiable "Top Ten"—that all leaders carry with them.

Strong Family Readiness Groups (FRGs) and Rear Detachments Greatly Assist Forward Deployed Leaders: Spouses have to carry a heavy load while Soldiers are deployed. Strong FRGs and high-quality rear detachments can make the deployment a much smoother operation and keep forward-deployed units from worrying about the home front.

Casualties are significant events...

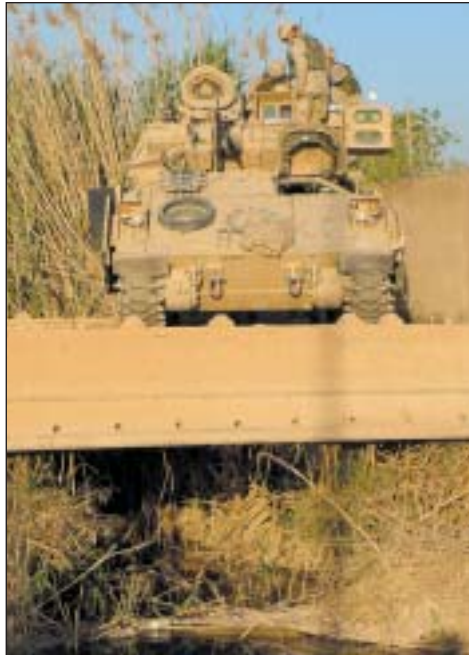
A great FRG and rear detachment also come in handy in the event of casualties in the organization. Casualties are significant events that can take the wind out of a unit. Amazingly enough, casualty notification is rarely discussed in unit tactical standing operating procedures, though it needs to be. Communicate the rule that no one makes contact with the family by phone or e-mail. Army policy clearly states that "the casualty assistance officer (CAO) has this responsibility, not the unit." Casualty notification is a very sensitive, organized, and controlled process to ensure proper execution. There were incidents when units entered the process early and the wrong family was notified, or incorrect information was disseminated. Access to all phones and e-mail should be controlled or shut-off, pending positive notification to the next of kin by the CAO, when a unit sustains a serious injury or death. Battalion commanders should notify the rear detachment commander and the FRG leader of casualties to prepare them in the event spouses of wounded or slain soldiers contact them for assistance or the CAO requests support during

the notification process. The CAO will contact the unit once notification is made.

Recommendation: Establish a strong FRG and rear detachment when deploying, coordinate with your local Casualty Assistance Office and become familiar with the notification process, and ensure the unit tactical standard operating procedures and rear detachment standing operating procedures spell out actions to be taken in the event of a casualty.

As we transform, it is critical that we share lessons learned to ensure future ADA units avoid the same mistakes and optimize past successes. It is also important that we focus on the ground fight, as well as the air fight. Our SHORAD Soldiers have performed in a truly heroic manner and many have earned the right to proudly wear the new Close Combat Badge. As they depart the divisions, they leave behind them a legacy of trust in our war fighting excellence. With transformation leaving the air defense and airspace management (ADAM) cells as the only representation of

ADA within our divisions, we should continue to seek out training opportunities with the maneuver force to hone and reaffirm our basic combat skills. Short-range air defense units are rightfully proud of the contributions they have made to the Global War on Terrorism, and we will continue to pray for all Soldiers deployed in harm's way.



A 1-3 ADA Bradley Linebacker takes up a position on a bridge spanning an Iraqi canal.



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Air Defense Artillery Magazine WRITER'S GUIDE

Air Defense Artillery magazine relies on ADA Soldiers of all ranks to fill its pages with photos and articles of specific interest to ADA Soldiers. You don't have to write only about ADA weapon systems, doctrine, tactics or deployments. We also are hungry for "human interest" stories, as long as they feature ADA Soldiers.



Query First, Write Second

Before starting work on a manuscript, call us at (915) 568-5603 or email us at adamag@bliss.army.mil and describe your story idea.

This gives us a chance to let you know if we've recently published an article on the same topic, or if another author is already at work on a similar project.

What's The Chances of Your Story Getting Published?

You'll improve your chances by writing short, concise articles that get straight to the heart of the story. The place to begin an article about a combat deployment is not the morning your unit received the warning order. Start at the instant the first tactical ballistic missiles appeared on your radar or the split second you noticed a rocket-propelled grenade streaking toward your Avenger or Bradley Linebacker. Air Defense Artillery is the only combat arm that has an entirely separate Internet magazine—*ADA Magazine Online*. If your article doesn't make the print magazine, it may be published in *ADA Magazine Online*. Articles should range from 500 to 1,200 words. We will seldom publish articles that exceed 1,500 words in the print version of the branch journal; however, *ADA Magazine Online* accepts even book-length manuscripts.

Clear Your Article Prior to Submission

Army regulations require Soldiers to clear articles through their public affairs officer or public affairs office before submitting them to periodicals. We feel a lot more comfortable about publishing articles when we see notes attached to manuscripts telling us that a public affairs officer has cleared the manuscript for publication.

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We can't process negatives or undeveloped film. If you're sending us digital images, set your camera on the largest image size and the highest quality resolution settings that your camera will allow. Shooting photos on a low-resolution setting allows you to take more photos, but we won't be able to publish any of them. If your camera gives you the option, shoot the photo as a TIFF file. We also accept JPEG files, but low-resolution JPEG files that work for Internet publications won't work in print publications. When downloading an image file from your camera or its removable storage card to another drive, save the image as raw data, or as it comes off the camera. The best way to get digital images to us is to burn them to a CD and mail them to us. As a general rule, image files that are easy to email in batches are too low resolution for print reproduction. Email very large image files one at a time over consecutive days to avoid crashing our email.

Provide complete caption information: full names and ranks of everyone who can be identified in the picture, their unit, location and a brief description of the action. Attach the captions to the photos, or number everything so captions and photos can be matched.

Submitting Your Article

Email your story to adamag@bliss.army.mil or send it on a 3.5-inch floppy disk as a Microsoft Word or ASCII file. If you don't have an Internet connection, mail a printout or typewritten manuscript to ADA Magazine, 2 Sheridan Road, Attn: ATSA-ADA, Fort Bliss, TX, 79916-3802.

Deadlines

Air Defense Artillery magazine is a quarterly publication. There's a January-March, April-June, July-September and October-December issue. The deadline for submissions is 45 days prior to the first day of the month in which the next issue is to appear.



Task Force 1-4

1-4 ADA Soldiers Defend Baghdad International Airport

by CPT Scott Dellinger

Operation Iraqi Freedom has not been a typical combat operation, and every branch in the Army has adapted to meet the mission. The 1st Battalion, 4th Air Defense Artillery, assigned to the 1st Armored Division in Baghdad, Iraq, was no exception. During peacetime, the 1-4 ADA Headquarters and Headquarters Battery, two Bradley Stinger Fighting Vehicle (BSFV) batteries, and an Avenger battery were stationed in Wiesbaden, Germany. A third BSFV battery was located at Fort Riley, Kansas, assigned to the 3rd Brigade, 1st Armored Division. The entire 1st Armored Division

deployed for Operation Iraqi Freedom and was consolidated in Kuwait to conduct combat operations in Iraq in April 2003.

The 1-4 ADA's mission was to conduct the ground defense of Baghdad International Airport and carry out offensive combat operations in a 160-square kilometer area adjacent to the airfield. The orders to defend the airport called for the battalion to consolidate as a maneuver unit and not "slice" the batteries to the brigades, as is the norm for a maneuver air defense battalion. In addition, the orders for this mission task organized 1-4 ADA to be a subordinate unit to the Division Artillery, which was acting as a brigade combat team. 1-4 ADA quickly transformed its battalion battle staff to support operations as a consolidated unit and report directly to a brigade combat team commander in lieu of the division commander.

As the deployment progressed, 1-4 ADA changed from a maneuver battalion into a maneuver task force. Increased mission requirements called for the attachment of a motorized cavalry troop, an airborne infantry company, a signal extension node, and tactical human intelligence teams. Throughout the deployment, other units, including Field



Task Force 1-4's Bradley Stinger Fighting Vehicles were an intimidating presence during raids in the vicinity of Baghdad International Airport.

Artillery, Army Aviation, Military Intelligence, Special Operations and Air Force units, were integrated into the battalion's scheme of maneuver to complete the task force. All of these units from the 1st Armored Division, 82nd Airborne Division, and 2nd Light Cavalry Regiment were attached to—or under the operational control of—1-4 ADA for no less than a month and operated as if they were habitual parts of the ADA battalion. That combination of combat and support units created Task Force 1-4, the first maneuver task force ever

commanded by an ADA headquarters.

Task Force 1-4's mission was more complex than protecting coalition forces on Baghdad International Airport and executing offensive operations in zones surrounding the airfield. Other combat missions assigned 1-4 ADA included: logistical convoy security, Combined Joint Task Force-7 personal security details, counter-indirect fire missions, suppression of enemy air defense, route clearance, improvised explosive device (IED) reconnaissance, cordon and search missions, and raids. The battalion also conducted humanitarian missions to rebuild and supply children's schools, provide medical care for civilians, establish medical clinics, support mosques, restore power and water supplies, improve sanitation, and establish the foundation for a local government.

In May 2003, 1-4 ADA relieved the 1st Battalion, 3rd Air Defense Artillery, 3rd Infantry Division. The 1-3 ADA had conducted offensive combat operations and maneuvered with their batteries sliced to 3rd Infantry brigades during the liberation of Iraq. The 1-3 ADA had consolidated as a battalion on the airport and established the first entry control points (ECPs) and observation posts (OPs)



Entry Control Points with only one lane of traffic and sufficient obstacles to deny high speed-access offered the best defense against vehicle-borne improvised explosive devices and suicide bombers.

around the perimeter of the airfield. The accomplishments of 1-3 ADA securing the airport, conducting reconnaissance in the local area and establishing relations with local community leaders laid the foundation for Task Force 1-4's successful combat and humanitarian operations.

Baghdad International Airport is not unlike most commercial airports in the United States. The 30-square kilometer facility consists of two parallel runways, each longer than 10,000 feet and capable of receiving C-5 or Boeing 747 aircraft. The ramp consists of a modern passenger terminal with 18 gates, a separate terminal for dignitaries, hangars large enough to service most large aircraft, and a military ramp that could simultaneously service dozens of aircraft. Within the perimeter of the airfield is the industrial, commercial, military, and residential infrastructure necessary to operate an international and military airfield. The airport is accessible on the ground by a six-lane highway that leads to downtown Baghdad, and several other multi-lane, paved entrances around the perimeter.

Securing the Perimeter

The defense of Baghdad International Airport required the establishment of OPs around the perimeter to ensure that it was not breached by the enemy and the construction of ECPs to control access along the roads. 1-4 ADA established OPs with interlocking fields of observation and fires. Soldiers manning them could all observe the terrain at least 300 meters away from the OP. Each OP also had dual means of communication with their headquarters. The OPs were overt; there was no attempt to hide the positions. This displayed overwhelming force and observation around the perimeter to deter the enemy from attempting to infiltrate the facility. Because the OPs were not concealed, they were hardened to absorb small arms fire, rocket propelled grenades (RPG), and mortar attacks. In most every case, 18 inches of sandbag cover on the sides and on top of the OP was more than adequate to protect Soldiers and equipment. Special care was taken to ensure that the overhead cover of each position was supported in a way that it would not collapse after being hit. The enemy engaged some of the OPs with small-arms fire,

which the fortifications withstood. However, none of the positions ever sustained a direct impact from explosive munitions, even though they did protect soldiers from blast effects.

The most challenging aspect of defending the airport was the construction and occupation of ECPs. Vehicle-borne improvised explosive devices (VBIEDs), or car bombs, are commonplace in Baghdad, and insurgents and terrorists use them to attack civilian, government, and coalition military assets. Suicide bombers conceal explosives in their clothing to attack coalition forces. The best method of defense against the VBIED or suicide bomber was to construct an ECP in depth with several layers of mutually supporting defense and only one lane of traffic with sufficient obstacles to deny any high-speed access through the ECP. 1-4 ADA constructed ECPs that were at least 200 meters in length to ensure depth and a serpentine to force vehicles to constantly change directions the entire way. The serpentine forced vehicles to travel through the ECP at a walking pace.

A vehicle or individual on foot approaching the ECP encountered a drop-arm gate that controlled the flow of traffic. Soldiers checked identification prior to allowing any vehicle into the ECP. If the vehicle occupants were authorized access, the drop-arm gate was lifted, and the vehicle entered the serpentine and proceeded towards a search bunker, where it was inspected for contraband and weapons. Once cleared, the vehicle was allowed to proceed through the serpentine until it encountered a second drop arm gate that controlled access. Once this gate was lifted, the vehicle continued in the serpentine past a Bradley Stinger Fighting Vehicle that kept its 25mm cannon trained on the vehicle throughout the entire journey. Soldiers in fortified bunkers along the serpentine also monitored the vehicle's trek through the checkpoint. If there was any indication of danger while a vehicle was in the serpentine or the search area, all of the drop arm gates were immediately closed, and the BSFV blocked the only lane entering the airfield. The drop arms also served as triggers for all the shooters on the ECPs. If the drop arm was ever breached, that would indicate that a vehicle en-



At left, a Task Force 1-4 Bradley guards an entry control point into Baghdad. At right, Task Force 1-4 Soldiers man a roadblock in the vicinity of Baghdad International Airport.



tering the checkpoint could be a threat; therefore, each drop-arm gate was covered by direct-fire automatic weapons.

Each ECP was constructed with bunkers well reinforced with Hesco-brand commercial bastions, because, unlike the OPs, many of the ECPs around the airport were engaged directly with small arms, RPGs or mortar fire. The Hesco bastion is a square basket from two- to 12-feet tall, made out of thick wire mesh with its sides covered in cloth. Soldiers placed empty bastions where ballistic protection was required and then filled them with dirt from a scoop loader. Almost every unit in Iraq uses the Hesco bastions as efficient substitutions for sandbags to construct bunkers, walls or other protection. These methods proved effective, as the bunkers on the airport perimeter were never destroyed or breached by enemy forces.

Reconnaissance in Zone: Offensive Operations in Support of a Defensive Mission

Another reason the airport perimeter was never breached was due in part to continuous reconnaissance patrols in the area that surrounded the airfield. Combinations of dismounted Soldiers, BSFVs and Humvees with mounted machine guns or grenade launchers cleared the terrain of enemy forces and developed actionable intelligence. Most of the Task Force 1-4 area of operations consisted of rural farmland on an arid desert plain with scattered groves of palm trees. Numerous irrigation ditches supplied water to the farmland, and these canals were typically as deep and wide as a standard tank ditch with meter-high berms on either side. The canals crisscrossed the countryside every 500 to 1,000 meters. Several large villages with dozens of two-story buildings and narrow alleyways were scattered throughout the zone.

The enemy was well versed at using the terrain to his advantage in countering the task force's reconnaissance patrols in zone. Enemy forces attacked the patrols in ambushes with IEDs, small arms, and RPGs from behind the cover of irrigation canals and from within built up villages. Patrols had difficulty maneuvering against the enemy because the ditches and villages were significant obstacles. However, the patrols became more effective when

they employed their combat system's technological advantages—mainly the BSFV thermal sights, Avenger forward-looking infrared (FLIR), the Long-Range Scout Surveillance System, and the FLIRs from OH-58D Kiowa Warriors and AH-64 Apaches. These "own-the-night" (OTN) technologies greatly enhanced the task force's target acquisition and surveillance capabilities.

In addition to OTN equipment, patrols developed a movement technique of bounding-envelopment. Whenever the patrols encountered terrain in the farmland that favored the enemy attacking in an ambush, a combat vehicle in the patrol with OTN technology established an attack-by-fire position as another vehicle in the patrol maneuvered on a secondary route, most likely on the far side of a canal, to envelope the suspected position of enemy forces. Once that combat vehicle was in a position to overwhelm the suspected enemy location, the remaining vehicles maneuvered through the area under the security of at least one combat vehicle with OTN equipment. Once those forces were in a dominating position, they covered the movement of other vehicles past the suspected enemy location. In densely populated villages, the same technique was applied, but the vehicle with OTN equipment maneuvered to a flanking position perpendicular to the movement of friendly forces and over-watched their maneuver through the congested area. In all cases, Kiowa Warriors or Apaches added to the commander's tactical situational awareness and weapons density.

SCANNING

Defense Science Board Task Force Rates Patriot a Substantial Success

The Patriot battalions operated reliably, and the two variants of the interceptor missile worked well against these Iraqi tactical ballistic missiles...In an overall sense, the Task Force assessed the Patriot missile defense in OIF to be a substantial success.

—Defense Science Board Task Force Report
Patriot System Performance, January 2005

Other methods used to defeat the enemy included the establishment of dismounted OPs in zone that could also serve as ambushes. Task Force 1-4 engaged terrorists rather than a standing army; the enemy did not wear uniforms or operate tactical combat vehicles. Insurgents looked like local villagers and drove sedans and pickup trucks that resembled the majority of civilian traffic. Therefore, after an attack occurred, the enemy could easily blend into the population or normal automobile traffic. Establishing covert OPs in zone around templated enemy positions allowed Task Force 1-4 to identify suspicious activities and defeat the terrorists by attacking them as they were establishing their own attacks. Quick reaction force patrols and attack aviation almost always assisted the OPs when they discovered suspicious behavior. Standing operating procedures that were clearly understood by patrol leaders ensured effective air-ground integration.

The Counter-Fire Fight

Using bounding envelopment and placing covert OPs allowed patrols to defeat the enemy on many occasions during offensive reconnaissance missions. Most of the reconnaissance missions were tasked with finding enemy forces in zone directly threatening the airport with shoulder-fired surface-to-air missiles, surface-to-surface rockets, or mortars. The most frequent threat to the airport was indirect fire. To defeat the indirect-fire threat, the division supplied Fire Finder Radars to observe the Task Force 1-4 area of operations. These radars were linked to a platoon of towed 105mm and 155mm howitzers that was ready to shoot immediate counter-fire or illumination. If the OPs, patrols, or aviation in zone identified an enemy point of origin (mortar or rocket launch point), they would observe the fires and adjust fires as necessary. As those patrols identified more suspected enemy indirect-fire points of origin, the Field Artillery shot harassing and interdiction (H&I) fires to deter and deny the enemy the ability to lay indirect fire systems against the airport. The H&I fires were very effective, and great care was taken to directly target the enemy and not to disturb any noncombatants.

Counter-fire and aggressive patrolling discouraged the enemy from consistently attacking the airport, and the enemy started using more desperate tactics. As Task Force 1-4 grew more successful against the indirect-fire threat, the enemy adapted by firing mortars hastily and without precise aiming. Most of the hasty mortar shots originated from vehicles stopping on high-speed avenues of approach. The insurgent mortar crews would quickly lay the mortars and shoot three or four rounds in the general vicinity of the airfield. Fire Finder Radars and crater analysis almost always identified the launch points of uncoordinated indirect fire attacks as being adjacent to improved hard-surfaced roads.

Insurgents launched surface-to-surface rockets against the airport even more hastily. The enemy would place individual rockets in canted slit trenches, lay rockets against the slopes of canals, slide rockets into irrigation pipes, or

place the rockets on a shoddy wooden platform pointed towards the airfield. The enemy would then use a timer to ignite the rockets' fuses, so that the rockets would launch after the assailants had left the point of origin. This method of shooting rockets resulted in a high misfire rate for the enemy. Civilians in the area were almost always eager to lead Task Force 1-4 to the point of origin to prevent H&I fires from targeting their farmland.

Suppression of Enemy Air Defense

Another important mission for Task Force 1-4's offensive reconnaissance patrols was denying the enemy the ability to engage aircraft landing or departing at the airport with shoulder-fired surface-to-air missiles. This mission was an ironic one for an ADA unit normally tasked with shooting down enemy aircraft. Indeed, had the enemy known that fact, he would not have been as bold as to encroach in Task Force 1-4's zone with shoulder-fired missiles. The battalion staff embarked on a reverse battlefield operating system analysis to determine how to thwart the enemy's activities in zone. Analysis of the threat surface-to-air missiles was conducted to determine their ranges, effectiveness, and methods of employment. As a result, the battalion learned the missiles were capable of being employed in similar ways as the Stinger, but the enemy's missiles had a shorter range and were less accurate. That analysis allowed the battalion to establish a boundary that included the area in the aircrafts arrival and departure flight paths where they would be in range of enemy surface-to-air missiles.

An exclusion zone was created in that boundary by blocking all routes into the area with obstacles or traffic control points in an effort to keep missiles out, or capture the responsible individuals after an engagement. Coordination was made with the Air Force to define the boundaries of the exclusion zone so aircraft would be protected while they were in the vicinity of the airfield. Whenever there were scheduled flights, Task Force 1-4 increased occupation of the exclusion zone and set up multiple OPs to scan the area for enemy activity. Once the exclusion zone was in place, no aircraft were ever again engaged with shoulder-fired surface-to-air missiles.

Improvised Explosive Devices

The continuous presence of Task Force 1-4 Soldiers conducting offensive operations presented a lucrative target for enemy forces targeting the patrols with IEDs. The enemy improved their IEDs over the task force's 12-month deployment to include more sophisticated methods of camouflaging the IED, using different kinds of explosives, detonating the IEDs in different ways, and coordinating IED attacks. Almost every unit in Task Force 1-4 encountered one or more IEDs while conducting operations. The first IEDs that the task force encountered were merely a single artillery shell or mortar round placed in a hole on the side of a road with a detonator connected to a wire that stretched out to a power source. Most of these IEDs were not successful because of the way that they were



Task Force 1-4 patrols relied heavily on their technological advantages, using the Bradley Stinger Fighting Vehicle's thermal sights and the Avenger's forward looking infrared system.

placed. Most were laid on the reverse slope of a shoulder along a road, or in a large hole to conceal the weapons. Therefore, the slope of the road or the hole would consume most of the blast effects, allowing the targeted vehicles to pass unharmed. To target vehicles on the road, the enemy had to place the IED in a spot where the blast effects would consume the victims. That meant that the IED would have to be closer to the road and within line-of-sight of the target.

To accomplish that, the terrorists concealed IEDs in creative ways. They disguised IEDs as roadside garbage or concealed them in sandbags or tires abandoned on the shoulder of roads. Some IEDs were even concealed in the carcasses of dead animals littering the highways. Some of the most complex methods of camouflage consisted of placing the explosives in concrete shaped like a curb along the side of the road, placing explosives in the supports of highway road signs, or placing explosives into highway guard rails. The methods of camouflage dictated what types of explosives could be used to attack coalition forces. Mortar rounds were typically concealed in trash, dead animals and in sandbags. Trash and sandbags were also used to conceal antitank mines placed in the middle of roads. Terrorists used large artillery shells, as big as the 70-pound 155mm round, fastened to the guardrails on the highway or stacked inside light poles or the supports to signs. They created other types of IEDs by packing metal containers, truck tire rims, or brake cylinders with PE4, C4, or other explosives that would create shrapnel by tearing apart the metal containers.

To detonate the IED, the enemy set a fuse or blasting cap in the munitions and stretched wire from the detonator to a power source. Some IEDs would not detonate because the power source did not have enough capacity to trigger the weapon, or the lead wire was too long, or was the wrong gauge for the current to pass through. The direct-wire method also required the assailant to be close to the IED and left him vulnerable to counter-attack. In an effort not to be in the same vicinity of the IED, the enemy utilized many different means of triggering their devices.

Power sources were made smaller and integrated into the IED, creating more shrapnel, and the detonator was triggered from a remote source. Some examples of the remote detonators discovered by Task Force 1-4 included remote doorbells, car alarm remote controls, remote control toy receivers, garage door openers, or cellular phones.

The most dangerous IEDs were set in series or were detonated in a coordinated attack using several different IEDs. It was not uncommon to find a row of two to 10 artillery shells spaced apart along a road and connected in series with detonation cord. The engagement zone of an IED in series could be longer than 100 meters and could effectively target two or more vehicles, depending on the distance between the explosives. IEDs were also often set in a coordinated attack. For example, insurgents would place an IED in an obvious spot where it was likely to be found, and once the site was secured and explosive ordnance disposal teams were there, the insurgents would trigger other IEDs close to the spot where forces were overwatching the first suspected IED. Insurgents would also trigger one IED, disabling one vehicle, and then set off a second IED when others came to the aid of the wounded or attempted to recover the first vehicle.

The best ways to avoid the complex IEDs was to be vigilant, constantly aware of the environment, and maneuver against the enemy instead of merely driving around the zone. Task Force 1-4 Soldiers usually patrolled the same areas and were able to recognize when something was out of the ordinary. It was also important to develop a positive relationship with the local people, so they could identify hazards or individuals not from their village. In all cases, it was best to err on the side of caution and stand off from suspicious items on the side of the road.

Cordon and Search Operations and Raids

Other offensive operations in zone consisted of conducting cordon and searches and raids. These missions were the best example of the air defense battalion operating as a task force. Most of the targets for raids and cordon and search missions were developed through human

intelligence gained by the patrols interacting with and appealing to local community leaders, or by exploiting intelligence collected on previous operations. Other targets were developed by the Tactical Human Intelligence Team attached to the task force, Army Special Forces, or Air Force Office of Special Investigation officers. Regardless of who gathered the information, it was always important to establish two independent sources against one target to ensure that it was a viable objective.

Most of the operations were cordon and search missions to identify weapons caches or find physical evidence of anti-coalition activities. These missions started by segregating the target with an outer cordon that blocked roads and other avenues of approach leading into the objective area. An inner cordon was established to isolate the objective and keep anyone from leaving the area. Once the cordon was set, search teams cleared and then explored the buildings, using metal detectors to search for buried weapons in haystacks, compost piles, or in underground septic pits.

The task force conducted raids when there was specific intelligence to secure a known target or when the enemy was expected to resist and fight. Raids were different than a cordon and search because the assault team did not necessarily wait for an inner or outer cordon to set prior to execution on the objective. Cordon and searches could last hours, whereas in most cases a raid was completed very quickly. Task Force 1-4 was able to expertly execute both missions as a result of combined arms coordination. For example, in a cordon and search or raid, the cavalry troopers would conduct the initial reconnaissance and ensure that the conditions were set on the objective for the mission to be executed. Bradley Stinger Fighting Vehicles established inner cordons, breached walls or entrances, and securely delivered Soldiers onto the objectives. The BSFV was a very intimidating tool to use during a raid or cordon and search. On most missions when a BSFV was used as a part of the inner cordon or to insert a building clearing team, there was no resistance on the objective.

During these operations, Kiowa Warriors or Apaches

over-watched the objective, looking for any signs of resistance or individuals fleeing the objective. Also, the Field Artillery was on call to deliver illumination or to suppress an enemy counterattack. On other occasions, the Air Force delivered close air support, Security Forces' sniper teams were a part of combat operations, or intelligence officers

from Special Forces or the Office of Special Investigation participated in operations to conduct sensitive site exploitation of the objectives.

Convoy Security

Task Force 1-4 Avengers also protected logistical convoys, making daily trips on military supply routes through hostile territory. Convoy security well suited the Avengers, which were able to use their FLIR and M3P .50-caliber machine gun to defend convoys while on the move. The Avengers FLIR enabled them to identify enemy positions at long range and engage the insurgents with the M3Ps before convoys entered ambush kill zones. The enemy feared the menacing looking Avengers with its rotating turret, intimidating Stinger pods and deadly accurate machine gun. Air Defense Artillery Soldiers became so proficient at identifying enemy positions and IEDs with the

FLIR that ADA vehicles were sent ahead of convoys to clear routes and identify IEDs or other threats along routes throughout the entire 1st Armored Division zone. Once the route was cleared, other Avengers and Military Police linked up with the convoys and protected them on their way. Avengers were also used in personal security details for dignitaries and other high-ranking officials in the Baghdad area. For months, the Avengers successfully protected convoys and also safeguarded important officials.

Task Force 1-4 was tremendously successful conducting combat operations in the Baghdad area as a result of combined arms and joint service cooperation. The air defense, cavalry, and infantry Soldiers ensured the perimeter of Baghdad was never breached, and coalition forces living and operating on the airfield remained secure. Soldiers in the task force conducted offensive operations resulting in the capture of dozens of former regime loyalists and terrorists; they seized thousands of pounds of ammu-



Civilians were almost always eager to lead Task Force 1-4 to "ghetto rocket" launch sites.



The most dangerous improvised explosive devices were expertly camouflaged and set in series or detonated in coordinated attacks using several devices.

dition and explosives, large numbers of small arms weapons, machine guns, RPGs, mortars, and rockets; and they denied the enemy the ability to target aircraft with missiles.

Air Defense Mission

In addition to the variety of missions the task force conducted, 1-4 ADA still had an air defense mission to accomplish in Iraq. The battalion established an air surveillance radar picture and planned for contingency operations. From the very first day 1-4 ADA arrived in Baghdad, the battalion established Sentinel radar coverage of the local area. The radar was then integrated, as it should have been in a combat zone, with the Air Force Airborne Warning and Control System, Control and Reporting Center radar and Airfield Approach Control radar to provide a comprehensive and consolidated air picture for the theater commander extending from the center of Baghdad International Airport out to 250 nautical miles.

The Sentinel was also used to maintain situational awareness for the rotary wing assets supporting the division. Close air support, combat air patrols, and rotary wing reconnaissance were all monitored on the Air and Missile Defense Workstation in the division and battalion tactical operations center. The air defense Soldiers in the task force also enjoyed radar connectivity because they always had a digital air picture available to them on their Handheld Terminal Units around the airport perimeter or out in zone on missions. Patrols had the opportunity to observe air traffic patterns in and out of the exclusion zone, and the patrols were always aware of the nearest air support assets in the area.

Air defense plans were validated by conducting digital rehearsals and tactical exercises...

Air surveillance for situational awareness was a vital part of the task force's contingency planning. The task force staff planned operations that protected several coalition high-value targets from air attack, namely the deliberate collision of an aircraft into a building or structure. Planning and coordination extending from the fire-unit level to Central Command mitigated the risks presented by a terrorist attack of this nature on coalition assets around the Baghdad area. Joint coordination between the Air Force and Marine Corps incorporated Task Force 1-4 air defense assets into existing force-protection measures. Communications and operations links disseminated early warning information from the radars and ground observers to the joint team protecting high-value targets. Air defense plans were validated by conducting digital rehearsals and tactical exercises involving fire units occupying preplanned positions and using a mix of air defense systems. All of the plans involved using several systems, each

firing multiple missiles and taking advantage of early engagement envelopes to destroy the threat well before it reached its intended target.

Ensuring Iraqi Freedom

The Soldiers of Task Force 1-4 accomplished many things during their 12-month deployment in support of Operation Iraqi Freedom. The air defense battalion received attachments of other combat arms and operated as a true maneuver task force in a combat environment, and it sustained those operations for an entire year. The task force successfully protected Baghdad International Airport from enemy infiltration or ground assault and conducted offensive operations against terrorists and former regime loyalists. Task Force 1-4 Soldiers also protected convoys, dignitaries, and aircraft using the airfield. Task Force 1-4 demonstrated its versatility and operational utility by adapting to the needs and realities of the current operational environment, providing core air defense capabilities, while simultaneously executing maneuver task force missions, in an effort to bring stability to Iraq and ensuring Iraqi freedom became a reality.



CPT Scott Dellinger commanded Bravo Battery, 1st Battalion, 4th Air Defense Artillery, 1st Armored Division, in Iraq. He is now a small-group instructor at the U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

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On the alert for insurgent attacks, 4-5 ADA Soldiers of Task Force Renegade patrol Baghdad's treacherous military supply routes.

Task Force Renegade

4-5 ADA Soldiers See National Elections Fulfill Promise of Operation Iraqi Freedom

by MAJ Mark Krzczowski & MAJ Jamie Fischer

Since 9/11, the 4th Battalion, 5th Air Defense Artillery, 1st Cavalry Division, Fort Hood, Texas, has deployed at home and abroad to fight the Global War on Terror. Beginning in August 2002, a large portion of the battalion spent most of the next year protecting the National Capital Region from terrorist attack as part of Operation Noble Eagle.

Replaced by the 263rd Air Defense Artillery, Mississippi Army National Guard, the Renegades immediately switched gears to prepare for Operation Iraqi Freedom II. A few trips to the ranges and the National Training Center were all the Soldiers needed to hone their already sharpened skills. As their mission evolved, they learned that the bulk of the battalion would deploy as motorized infantry and that Delta Battery would be detached to provide convoy security for the Division Support Command. They also were informed that Foxtrot Battery, 202nd Air Defense Artillery, Illinois Army National Guard, would be attached to secure a large portion of terrain west of Baghdad.

The deployment went off without a hitch. Linking up with Foxtrot, the command learned that they would receive one more battery, Delta (Dakota), 216th ADA, Minnesota Army National Guard, once they arrived in Iraq to prevent or counter surface-to-air missile attacks against aircraft arriving at or departing Baghdad International Airport. Now designated Task Force Renegade, the largest motorized infantry battalion in the 1st Cavalry Division, the Renegades were attached to 2nd Brigade Combat Team Blackjack, 1st Cavalry Division.

Battle of Holy Week

All units in combat sooner or later receive their baptism by fire.

The Renegades received theirs even as they were completing the relief in place with their sister battalion, 1st Battalion, 4th Air Defense Artillery, 1st Armored Division. In April 2004, in the midst of an Islamic holy week, forces led by radical cleric Muqtada al-Sadr initiated combat operations against the 1st Cavalry Division. Over the next several days, every platoon in Task Force Renegade received enemy fire. The heaviest fighting occurred in the town of Abu Ghraib where soldiers from Alpha Battery used their Bradley's to engage masses of armed insurgents and rocket-propelled grenade (RPG) teams. Patrols from Foxtrot fought through ambushes and rescued fuel convoys. Dakota fought off attacks on key bridges. Charlie battery defended the perimeter from repeated small arms attacks, and Bravo battery, securing the main entrance to the camp, endured smallarms fire and mortars. As the dust settled and the firing died down, several Renegades were wounded, but the battalion had proven its flexibility and capability in combat.

Patrolling the Countryside

In the following months, the Soldiers of Task Force Renegade made significant progress in the effort to bring peace and the chance for prosperity to the people in the area. Constant patrolling drove away most insurgents. Twenty-four hours each day, seven days of every week, there were Renegades operating throughout the 250-square-kilometer area of operations. The number of improvised explosive devices (IEDs), ambushes and rocket attacks in the zone dropped. Diligent work by the task force's mechanics allowed the vehicles to keep up high mileage in ever-increasing heat.

Daily interaction with local citizens improved trust



A left, a 4-5 ADA Soldier stands guard at the scene of a vehicle-borne improvised explosive device attack. At right, medics treat a wounded 4-5 ADA Soldier.

and cooperation. With assigned interpreters, task force leaders practiced constructive engagement with local leaders. Those who helped keep insurgents out received help in return in the form of improved irrigation, drinking water and electricity. Those who favored insurgents earned frequent visits from patrols. Medical personnel made visits to small communities to provide care in areas that had been long neglected by Saddam.

The security situation continued to improve until terrorists based in nearby Fallujah counterattacked to regain control, launching rockets and attempting to cut off a critical supply route. The number of IEDs emplaced multiplied greatly in August, with more soldiers receiving wounds. At this stage, it was clear that few if any of the local citizens supported these "outsiders." The battalion captured some insurgents, but was involved in a seesaw struggle. In the south of the sector, Dakota maintained its record of success, preventing any surface-to-air missile attacks on coalition aircraft and helping keep Baghdad International Airport open.

Perimeter and Convoy Security

As most of the task force patrolled the countryside, three batteries performed a far less glamorous, but equally essential task. Bravo Battery Soldiers controlled the two most important access points to Baghdad International. Hundreds of vehicles and people passed under their watchful eyes every day. All were subjected to extensive searches to ensure no unauthorized weapons or explosives entered the perimeter. Charlie Battery manned the walls and the western entry point with Bradleys and Avengers to back them up. Headquarters Battery controlled a second line of defense at several gates inside the sprawling camp. Subject to the searing heat and occasional attacks, Task Force Renegade Soldiers maintained their vigilance.

Members of the battalion headquarters turned their attention to other projects. The airport, having been forsaken by Saddam and needing dedicated leadership to assist the nascent Iraqi Ministry of Transportation, was not at standards necessary to receive commercial traffic. Soldiers developed and managed millions of dollars in projects

to bring the facility up to standard. A small team from Headquarters and Headquarters Battery trained and served as advisors to a company of the Iraqi National Guard.

Meanwhile, Delta, 4-5 used its Avengers to protect support convoys all across the division area of operations. Delta Battery Soldiers traveled thousands of miles along hazardous routes. Every convoy made it through. Occasionally, IEDs would strike, but they did little, if any, damage.

Airport Road

In September, Task Force Renegade received a change of mission. It turned over the western zones of Baghdad and the airport perimeter and took responsibility for the highway that runs between the airport and the International (Green) Zone. The batteries took turns patrolling the nine-kilometer stretch of road and surrounding neighborhoods, looking for IEDs, securing overpasses and denying the enemy positions from which to attack with RPGs and small-arms fire.

Constant patrolling was once again the name of the game. The never-ending presence of the Renegades drove off most of attackers. Those who managed to fire a shot, did so wildly; rarely, if ever, hitting their target. Those who wished to emplace IEDs simply did not have the time to do so effectively. As our Soldiers' success made the road safer to travel, the enemy increasingly turned to vehicle-borne improvised explosive devices (VBIEDs), trying desperately to wrest control of this essential route from the task force.

The enemy's attacks caused great damage, and for the first time, Task Force Renegade Soldiers were killed in action. In one attack on 18 September 2004, two VBIEDs killed two and wounded 12. Another was so powerful that, while the crew only received minor injuries, the hull of their Bradley was warped by the blast. But the Renegades kept coming, stubbornly holding on to the road and defying the terrorists. In November, two changes occurred: Task Force Renegade was attached to 2nd Brigade, 10th Mountain Division, and, sadly, lost Foxtrot Battery to another mission.

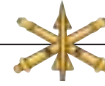
The insurgents persisted, trying ambushes with different types of IEDs and using snipers, but taking casualties only made our Soldiers more determined to honor the sacrifice of their comrades by winning. At the end of November, the insurgents were using VBIEDs to lash out at supply convoys and civilians that used the road. By December, new tactics developed by the Renegades and shared with coalition units had reduced the success of VBIEDs. The enemy began to look elsewhere to try to intimidate the people of Baghdad.

Iraqi National Elections

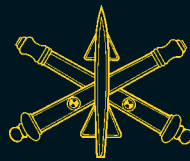
As the situation settled along the airport road, Task Force Renegade was able to devote more attention to the surrounding neighborhoods. With the same persistence they had shown throughout the previous months, the Renegades ensured a secure environment for the people of Baghdad to cast their first free votes in more than 50 years.

Members of the task force spent election day, 30 January 2005, at their posts on the highway and in surrounding communities watching for insurgents attacks. They were rewarded with the sight of hundreds of Iraqi citizens walking to and from the polls. Many gave the soldiers a "thumbs up" or proudly showed them an index finger dyed dark blue, evidence they had cast a ballot.

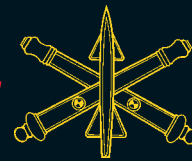
In mid-February, Task Force Renegade completed its mission and returned home. They will never forget the difference they made or the friends they lost.



MAJ Mark Krzeczowski is the operations officer and MAJ Jamie Fischer is the executive officer of the 4th Battalion, 5th Air Defense Artillery, 1st Cavalry Division.



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- ADA Officer Recruiting Brochure
- ADA Enlisted Soldier Recruiting Brochure
- Cadet Corner



1-62 Air Defense Artillery Writes Final Chapter of Its History

A Maneuver Air and Missile Defense Battalion Deploys to Iraq and Afghanistan

Bagram Air Base, Afghanistan, January 2005—As Air and Missile Defense (AMD) Transformation gathers momentum, the 1st Battalion, 62nd Air Defense Artillery, 25th Infantry Division, Schofield Barracks, Hawaii, will inactivate and, along with other maneuver air and missile defense battalions, will merge with Patriot batteries to form composite AMD battalions. As the inactivation date approaches, Soldiers of the "Aim High" battalion are writing the final chapter of 1-62 ADA's history with simultaneous deployments in support of Operation Iraqi Freedom and Operation Enduring Freedom.



An Avenger from 1st Platoon, A/1-62 ADA, provides security at a patrol base guarding the route to Tarin Kowt, Afghanistan. Photo by 1LT Jeff Hazard.

commanded by LTC Stephen M. Christian, would be an integral member of the division's combined arms team as it conducted full-spectrum operations in Afghanistan and Iran.

The battalion staff began planning for separate operational deployments, training and preparing Soldiers for two different theaters of war. Soon, 1-62 ADA Soldiers were fully engaged in the Global War on Terror, combating Taliban rebels in Afghanistan and, at the same time, battling insurgents in Iraq.

This was the first time the entire division had deployed since Vietnam...

In July 2003, the Tropic Lightning Division was notified to prepare for a year-long deployment to Afghanistan. Initially, each of the division's two brigades were scheduled to conduct six-month rotations in Afghanistan for Operation Enduring Freedom, but in early August, 2003, the division was alerted to send a brigade combat team to Iraq. This would be the first time the entire division had deployed since the Vietnam War, and 1-62 ADA,

Bravo Battery in Iraq

After a stopover in Kuwait for intensive training in force-protection, rules of engagement, and convoy security, Bravo Battery, commanded by CPT Winston Matthew Marbella, quickly established itself at Forward Operating Base Warrior. Until its redeployment in February 2005, Bravo Battery's Avengers, reconfigured Stinger humvees, and Stinger trucks roved military supply routes throughout Iraq, conducting combat patrols with their maneuver brethren. Bravo Battery's headquarters platoon spearheaded Forward Operating Base Warrior's third country national escort mission, providing access gate security, screening third country nationals reporting for work, and escorting the foreign nationals to job sites.

1-62 ADA Operation Iraqi Freedom and Enduring Freedom Deployments

18 January 2004

Bravo Battery and a detachment from Headquarters and Headquarters Battery deploy with the 25th Infantry Division's 2nd Brigade Combat Team, first to Kuwait and then to Kirkuk, Iraq, to relieve the 173rd Airborne Brigade.

12 February 2004

A detachment consisting of 14 members from the 1-62 ADA battalion staff, augmented by 36 non-ADA Soldiers from across the division and 45th Corps Support Group, deploys to Kabul, Afghanistan. The detachment's mission is to enhance the small Combat Forces Command-Afghanistan staff.

April 2004

Alpha Battery and Headquarters and Headquarters Battery deploy to Afghanistan with the 25th Infantry's Division 3rd Brigade Combat Team.

During their extended tour of duty in Iraq, Bravo Battery Soldiers met every challenge mounted by Iraqi insurgents and a harsh desert environment. Creating and refining tactics, techniques, and procedures, they left behind a legacy of lessons learned for the Soldiers who took their places in the Global War on Terrorism. (See "A Maneuver Air and Missile Defense Battery Adjusts to Ground Combat in Iraq," page 31)

1-62 ADA in Afghanistan

The arrival and integration of the headquarters detachment commanded by LTC Christian doubled the size of the small Combat Forces Command-Afghanistan (CFC-A) staff in Kabul. The Soldiers assigned to the detachment immersed themselves into their new roles as members of an operational-level headquarters, a dramatic change of pace for ADA Soldiers accustomed to working in a tactical headquarters in charge of three air defense batteries. They quickly grasped their new responsibilities and began to make a difference in the coalition's planning and execution of operations across the Combined Joint Operational Area-Afghanistan. The job requires daily interaction with the Afghan government and its ministries; planning and coordination with subordinate commands, including Combined Joint Task Force 76; and constant interface and coordination with U.S. Central Command and the Department of Defense.

Alpha Battery arrived in Kandahar while elements of Headquarters and Headquarters Battery landed at Bagram and Kandahar as the 25th Infantry Division's 3rd Brigade Combat Team replaced the 10th Mountain Division. Alpha Battery quickly established itself with platoons in Orgun-e, Qalat, and Ghazn, providing convoy security and perimeter defense, and sending out Soldiers on mounted and dismounted patrols.

Lieutenant Colonel Christian and the battalion staff at CFC-A in Kabul remain intimately involved in every aspect of operations in Afghanistan. Aim High Soldiers have become integral members of an expanded CFC-A staff, assuming enormous responsibilities for planning, coordinating and directing various command and control functions. Working directly with senior Afghan leaders, the U.S. Embassy and Central Command, the staff helped develop strategic plans for a free and democratic Afghanistan. Once the groundwork for democracy had been laid, staff members worked with NATO and the UN to coordinate a national election. Given a chance to cast ballots in

a fair election, Afghan voters turned out in numbers that exceeded even optimistic projections and placed a truly representative government in power in Kabul.

ADA Soldiers Operating Out of the Box

Alpha Battery Soldiers quickly grew accustomed to executing non-traditional ADA missions in support of stability operations. In Afghanistan, where the air threat was negligible, operating out of your mission profile was the rule, not the exception, and ADA Soldiers like Alpha Battery's Specialist Antonio Arciga rose to the challenge.

SPC Arciga is an expert rifleman and one of three ADA Soldiers issued M-14 sniper rifles and missioned to serve as snipers in support of their Infantry task force. On one mission, as SPC Arciga's platoon moved along its exfiltration route, it came under enemy fire. The platoon leader immediately initiated a react to contact drill, directing a flanking movement to close with and destroy the enemy forces, which by then were in full retreat.

As SPC Arciga listened to the reports on the radio and followed the directions of his section sergeant, he found a comfortable position on the ground and began to track fleeing Taliban rebels at a range of about 1,000 meters. He was ordered to fire a warning shot. The shot landed near the fleeing Taliban, spraying them with rocks and dust as they continued to run. Specialist Arciga was ordered to fire another shot; this shot dropped one of the enemy to the ground. This engagement by a skilled ADA Soldier set a record in the 3rd Brigade Combat Team for the longest engagement with an M14 sniper rifle.

Today, Alpha Battery's Soldiers are engaged daily in a variety of different missions, including liaison work with French Special Forces and the UN Assistance Mission-Afghanistan. They serve as battle captains and battle NCOs in the forward command posts of maneuver task forces and execute specialized security details.

Disguised as Afghan civilians and mounted in sport utility vehicles, Alpha Battery Soldiers also provide security for tactical human intelligence teams (THTs). "Our day starts like it does for most of 1-62 ADA Soldiers," said one Soldier assigned to guard a THT. "We wake up about 0600, have breakfast, do some quick maintenance on our SUVs, and that's where the similarities end. After we comb our beards and put on our T-shirts and jeans, we



1-62 ADA Soldiers dress in Afghan clothing to guard tactical human intelligence teams in Afghanistan. Photo by CPT Todd Schmidt.

strap on our lightweight bulletproof vests and hip holsters and get ready to roll into the local community.

"In unmarked, unarmored and—we hope—unrecognized trucks, we act as guards while the THTs meet with local government officials, tribal leaders, town elders, army generals, and even warlords—whoever is willing to provide information," he continued. "We are always on our toes. No one knows when the next suicide bomber or Taliban spy will appear. We have to make decisions on possible threats that range from small children—who run up to us wanting candy—to locals watching us from the corner. We keep doing it because risking our lives is a small price to pay for all the lives that can be saved with the information that's gathered."

Another, uniquely Afghan experience for Aim High Soldiers in Headquarters and Headquarters Battery was manning the Rapid Aerostat Initial Deployment (RAID) systems. The

aerostats was a rapid fielding initiative developed by the Program Manager-Joint Land Attack Cruise Missile Elevated Netted Sensor (JLENS) to provide coalition bases an around-the-clock, long-endurance, long-range, surveillance capability to counter Taliban infiltration and harassment operations. Under the direction of CW3 Todd Piret and SFC Jeff James, Headquarters and Headquarters Battery personnel manned RAID systems throughout Afghanistan.



A Rapid Aerostat Initial Deployment aerostat floats over Afghanistan. The aerostats provide commanders a "persistent stare" capability over their areas of operation.

Avenger Operations

Alpha Battery's Avengers also proved to be highly effective in performing convoy security missions in the Uruzgan Province. While the Stinger missile is normally its primary weapon in air defense, the Avenger's secondary weapon—the M3P .50-caliber machine gun—is its bread and butter in Afghanistan. The M3P's longer barrel gives it increased range and the Avenger's ability to traverse, elevate, and depress its lethal fires have proven to be invaluable in Afghanistan where dry streambeds, winding through deep canyons, sometime serve as roads. A forward-looking infrared (FLIR) system coupled with a laser range finder greatly enhances the Avenger's target

acquisition capabilities, which are far superior to other convoy escort vehicles. Additionally, the FLIR has proven to be of great use during inclement weather, especially during the frequent dust storms that mask other optics.

"Since day one we have been providing security and maneuvering with the infantry," said 1LT. Tim

Bible, an Alpha Battery Avenger platoon leader. "But this was no surprise to us. The M3P has many advantages over not only the M-2 .50-caliber machine gun, but over many of the crew-served weapons mounted on top of vehicles. The primary use for the Avenger has been perimeter security, and we use it in blocking procedures during cordon and search operations. With the Avenger, we make sure nobody enters an area of operations and nobody leaves."

According to CPT Todd Schmidt, the Alpha Battery commander, the Avenger's fearsome appearance also has a psychological effect on the enemy. "The psychological



Sergeant Kinney San Nicholas, with his B/1-62 ADA Avenger section, defends a traffic control point at Kirkuk, Iraq.

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impact of seeing a weapon like the Avenger is enough to deter some attacks," CPT Schmidt said.

In a defining incident, SSG Jon Shafer, SPC Daryll Thornton, and SPC Paul Meith of Alpha Battery were pulling rear security in their Avenger as the convoy they escorted moved through a steep valley in the vicinity of Tarin Kowt. Reports of Taliban forces operating in the area required all elements of the convoy to stay fully alert for explosives and ambushes. As the convoy rounded a bend in a dry riverbed that served as a road, enemy forces engaged SPC Meith's Avenger. The team chief and section sergeant, SSG Jon Shafer, immediately ordered SPC



At center, CPT Todd Schmidt, A/1-62 ADA commander, and members of his staff confer with village elders.

Meith to engage the enemy, while simultaneously reporting the contact to the convoy commander. SPC Meith acquired targets with his Avenger's M3P Machine Gun and engaged, devastating the enemy while the convoy executed a react to contact drill. All elements of the convoy began to return fire and push through the kill zone. Close air support was called in and destroyed the remaining enemy elements. If not for the vigilance of SPC Meith, the convoy may never have escaped from the kill zone.

Airspace Management — Sentinel Operations

As the brigade combat team expanded its reach in southern Afghanistan, Sentinel radar teams repositioned to provide air surveillance at a remote airfield built in July of 2004. The Sentinel's high reliability and accurate air picture provided the 2-5 Infantry commander a clear picture of operations in the battlefield's third dimension.

The battalion also deployed two separate Sentinel sections to support the division's Aviation task forces in Iraq and Afghanistan. "The Sentinel radar teams are being deployed to bases that have an increased amount of air traffic, but don't have a control tower," said CPT Schmidt. "It is an invaluable tool for unit commanders to effect local airspace command and control."

In a final note of innovation or "transformation-on-the-fly," Headquarters and Headquarters Battery embedded pseudo air defense and airspace management (ADAM) cells with 1-25 Aviation in Iraq and with Task Force Wings (the Aviation Brigade) in Afghanistan, to enhance their clarity of the air picture and assist in airspace command and control. Personnel in these cells were responsible for airspace management and airspace deconfliction, as well as serving as battle captains and battle NCOs. They also participated in the planning and execution of Task Force Wings' many humanitarian assistance missions. Their contributions greatly enhanced the effectiveness, efficiency

and safety of aviation operations in both AORs.

Aim High Soldiers have made significant contributions to mission accomplishment during Operation Iraqi Freedom and Operation Enduring Freedom. Soldiers and leaders have performed remarkably well under adverse conditions, achieving amazing results for the benefit of Iraqis and Afghans alike. The Operation Iraqi Freedom and Operation Enduring Freedom deployments have been a learning experience that can't be duplicated at any training center. They demonstrate how U.S. military forces, working with coalition partners, can fight the Global War on Terrorism while laying the foundations for nation

building. They also have demonstrated the resourcefulness, flexibility, and versatility of the ADA Soldiers. Each Aim High Soldier continues to contribute to these missions and make a difference through their incredible efforts. It has been an exciting time for our unit, and there are many things still to accomplish.

...we will leave a little bit of ourselves...

We have been apart of history and have demonstrated U.S. resolve in the Global War on Terrorism. Upon our redeployment to Schofield Barracks, we will leave a little bit of ourselves and a little bit of America behind in Iraq's deserts and Afghanistan's mountains.



MAJ Mike Stevens, MAJ Mark Emmer, MAJ Edward O'Neill, CPT Bob Gambrell, CPT Winston Marbella and CPT Todd Schmidt of 1-62 ADA contributed to this article, as did SGT. Frank Magni of the U.S. Army 17th Public Affairs Detachment.

SCANNING

Hero's Welcome Home

"My little boys were there with signs, waiting for me. When we left, everybody was so amazed to see all the townspeople out there. Coming back, we didn't think there'd be anybody out there with all the snow. And there were all kinds of people and signs. It was great," he added. —SGT Dan Jackson, Battery G, 202nd ADA, Morris Daily Herald, 22 January 2005



From left to right, Soldiers of B/1-62 ADA provide overwatch during a raid against Iraqi insurgents, defend a Forward Operating Base Warrior gate following a rocket-propelled grenade attack, and provide security for a military supply convoy.

A Maneuver Air and Missile Defense Battery Adapts to Ground Combat in Iraq

Tropic Lightning Air Defenders Learn to Fight, Survive and Win in the Contemporary Operational Environment

By CPT Winston M. Marbella and CW2 Benjamin Quesada

Forward Operating Base Warrior, Iraq, January 2005—With Army Transformation reshaping our air and missile defense (AMD) force, some might argue lessons learned in Iraq and Afghanistan by divisional units are meaningless. However, this couldn't be farther from the truth. We don't know what the future holds for any unit in today's Army and what missions our transformed AMD force may be called upon to execute in the future. The 31st Air Defense Artillery Brigade's Patriot battalions executed a ground security mission at sensitive, national sites in October and November of 2001. Who is to say a composite AMD battalion may not deploy as a ground combat force next year? It is important to capture and share Operation Iraqi Freedom and Operation Enduring Freedom lessons learned from the perspective of an Avenger or a Bradley turret, or at the stocks of a heavy weapon. Our story and lessons learned follow.

Bravo Battery, 1st Battalion, 62nd Air Defense Artillery, 2nd Brigade, 25th Infantry Division, deployed from Schofield Barracks, Hawaii, to Iraq on 18 January 2004. Without an air threat, we were uncertain what role we would play in the fight. However, after crossing into Iraq and arriving at Forward Operating Base (FOB) Warrior in February 2004, it became evident that our battery would be employed predominately as a force-protection combat multiplier. The battery enabled the Tropic Lightning Division's 2nd Brigade Combat Team (2BCT) to focus its combat power on more offensive tasks, rather than depleting combat power to protect brigade assets.

For more than a year, Bravo Battery has been conducting nontraditional air defense missions and has proven to be an incredible combat force multiplier. Collectively, the battery's three Avenger platoons, 10 Avengers and eight Stinger trucks, have traveled thousands of miles while conducting hundreds of convoy security and route clearance missions. In addition, the headquarters platoon spearheads the third country national (TCN) escort mission on FOB Warrior and, along with Air Force Security Forces, defends the only TCN access gate.

The Battery Headquarters element falls directly under the 2BCT "Warrior Brigade," an infantry brigade, while its three line platoons are attached to three infantry battalion task forces. Upon arrival in Northern Iraq the battalion task forces occupied separate FOBs. Battle tracking line platoons located at four separate FOBs was a challenge during the initial stages of the operation, while voice connectivity was still being established. As a commander, I never thought that I would be commanding and controlling platoons via Army Knowledge Online, the Army's secure Internet interface.

Convoy Security and Combat Patrols

Convoy security operations and combat patrols are an integral part of 2BCT's ground operations and these types of missions became a mainstay for Bravo Battery. The Avengers' M3P .50-caliber machine gun, forward-looking infrared (FLIR) night capability, and free-spin-

ning turret on a mobile humvee made the Avenger a likely candidate for convoy security missions. It became fairly common to see Avengers running the main supply routes, defending combat support units that required force protection to maneuver on the battlefield. For example, the Avenger platoon attached to the 225th Forward Support Battalion was the only combat arms platoon in that entire battalion. Avengers protected all logistic package convoys (LOGPACs) departing FOB Warrior.

Prior to departing our home-station, we removed the Stinger racks from our Stinger humvees, and upon arriving in theater, we outfitted them with gun mounts for .50-caliber machine guns and MK-19 Grenade Launchers. A typical air defense LOGPAC security team is composed of one Avenger, one Stinger gun-truck, and a command and control humvee. If the convoy is larger than 10 vehicles, we add a second Avenger.

An Avenger habitually provides convoy rear security due to its limited ability to fire to its front. The Stinger gun-truck is often the lead vehicle while the command and control vehicle moves in front of the Avenger. Avengers must be manned with three Soldiers. The team chief drives while another Soldier covers the Avenger's right flank, watching for improvised explosive devices (IEDs) that might be on the passenger side of the road.

While on the road we live by the conviction that speed is security and interval is safety. Speed throws off the timing of an insurgent controlling a remotely detonated IED while large intervals, preferably 100 meters, keeps the IED blast from damaging more than one vehicle. Proper interval must be maintained especially through choke points, like a police checkpoint, that force convoys to move slowly. Vehicles that are bunched together present themselves as a lucrative target to the enemy. Undoubtedly, the enemy desires to get the most kills with one IED explosion. When moving through an urban environment, our Avenger gunners aggressively search and scan, keeping the turret moving in an aggressive manner. It's impressive how fast traffic clears when people notice the turret moving deliberately. It sends a clear message that the convoy is alert and will fight if provoked. To protect the Avenger gunner, we have installed civilian bulletproof vests inside the turret, attaching it with Velcro.

We position the command vehicle in front of the rear Avenger. In case the Avenger gunner is injured, the platoon leader's driver can assume the job as the Avenger's driver or gunner. On night combat patrols, the Avenger is primarily assigned in the overwatch or support-by-fire role. With its enhanced FLIR, it's the best night vision available to a light infantry task force.

We educate task force leaders on the incredible capability the Avenger's M3P .50-caliber machine gun—when combined with the FLIR and Avenger's 360-degree turret—brings to the fight. The M3P's longer barrel gives it increased range, and Soldiers can fire the M3P mounted on the Avenger platform from a remote position. With its advanced target acquisition system, the M3P machine gun's combined capabilities are superior to the infantry's

M-2 .50-caliber machine gun. Highlighting the Avenger's capability to the task force leadership greatly enhanced our platoons' contribution to the task force's success.

Avenger Maintenance

Bravo Battery is fortunate to have a top-notch maintenance team headed by CW2 Benjamin Quesada. Due to his maintenance team's proactive and responsive maintenance operations, we've resolved every maintenance issue, including overweight Avengers and soaring temperatures that turned Avenger canopies into saunas.

Avengers modified with up-armor kits and fully combat-loaded are extremely heavy. The front wheels cant outwards from the bottom, causing tires to wear unevenly on the inside. The additional weight also adversely affected the Avenger's suspension, posing a safety concern. We fixed this problem by replacing front springs and shocks. A few of our Avengers still had their original factory-installed suspension springs, which were more than 15 years old. We replaced all standard springs and shocks. These fixes resolved the issue; however, we were poised to replace all the support arms had the problem persisted.

After the Avengers were outfitted with up-armor kits, the temperature in the cabs reached 140 degrees Fahrenheit during the hottest months of July and August. We discovered the standard Red Dot air conditioning unit that was part of the up-armor modification kit did not fit the Avenger's cab. Red Dot developed a special ceiling unit that worked well in Avengers. The U.S. Army Tank Automotive and Armament Command is working to purchase the ceiling units from Red Dot to modify the rest of our Avengers. As for the Avenger's turret, we minimized the heat by installing a 35-percent tint film on the canopy. It worked superbly; however, a tint darker than 35 percent is not recommended, for it would severely degrade nighttime visibility.

We also rescinded the low usage program as the annual service intervals for our motors and systems were too far apart and operating in Iraq's harsh environment with modified equipment caused maintenance issues. We performed complete services on our vehicles at the sixth month or 3,000-mile interval, whichever came first, and we reduced our Avenger system service interval to every three months instead of semiannually. This accelerated maintenance program prevented major maintenance issues.

Third Country Nationals Escort Mission

Everyday, hundreds of third TCNs and their vehicles enter FOB Warrior. A large number of TCNs work on base construction projects while the rest are employed as linguists, launderers, barbers, tailors and similar positions. Due to the current force protection stance, it is necessary to search every TCN and vehicle that enters the FOB. In addition, all TCNs must be escorted throughout the FOB. Bravo Battery Soldiers assigned to the manning-intensive TCN escort mission were augmented with other 2BCT soldiers.

It is imperative that Soldiers escorting TCNs be rotated. If not, familiarity and closeness between Soldiers and TCNs can develop, which can be dangerous. The enemy can use TCNs as an intelligence-gathering tool. For example, a TCN may ask about a rocket attack last night on the FOB and may show genuine concern. The unsuspecting escort, due to his familiarity with the TCN, may pass on critical information, such as impact location, casualties, etc. Unknowingly, the Soldier just gave the TCN an accurate damage assessment. If this information is passed to the insurgents, they can fire or adjust fire from the same firing position, since they have been made aware of their firing effectiveness from the previous night. The friendliest TCNs are the ones wanting information and these individuals merit scrutiny and a report to the S-2. However, it is important that escorts be reminded to treat all TCNs with respect and dignity. The TCNs—who work on base and live off—also serve as an important resource for our information operations. Treat them accordingly, and they will spread the good word about coalition forces.

Closely related to the TCN escort mission is the defense of the only TCN access gate onto FOB Warrior. Although the FOB is primarily defended by the Air Force Security Forces, Bravo Battery's headquarters platoon has taken "ownership" of this gate. On any given morning, close to 600 TCNs and 200 vehicles enter the FOB through the TCN access gate. The presences of an Iraqi National Guard compound just down the road made this gate an even more lucrative target.

The most dangerous threat faced at the gate is a possible vehicle-borne improvised explosive device (VBIED) attack. Hundreds of TCNs, Soldiers, and Airmen congregate at the gate each morning, making it a high value target. To counter the VBIED threat we installed a second drop arm separate from the main gate. This provided us with a 200-meter blast stand off. In addition, we built a 30-foot guard tower to overwatch gate operations and avenues of approach. To prevent a VBIED attack, we organized a dedicated gate quick reaction force, which is composed of our six-man search pit crew. As a show of force, our quick reaction force's humvee, with its .50-caliber machine gun, was parked on an elevated dirt mound so it was clearly visible to everyone outside the gate.

I cannot overemphasize the importance of conducting multiple battle drills for a VBIED attack. The drill must integrate Soldiers with all first response elements: other security forces, medical personnel, explosive ordnance disposal, and the fire department. Understandably, one cannot conduct a dry run on all possible scenarios with these other elements. However, simply talking over all possible scenarios with your Soldiers establishes a basis for appropriate immediate actions.

Conclusion

The primary lesson learned during Bravo's Operation Iraq Freedom rotation is a lesson reaffirmed: properly-led ADA Soldiers can accomplish any mission set before them. When Defense Secretary Donald H. Rumsfeld extended

the tour of duty for some units deployed to Iraq, including Bravo Battery, I emailed the following message home to the B/1-62 ADA Family Readiness Group:

As you might have heard by now, Defense Secretary Donald Rumsfeld announced that several units in Iraq will have their tour of duty extended due to ongoing combat operations. This announcement extended our battery—B/1-62 ADA—two months past the scheduled one-year redeployment mark, extending us to March 2005.

I gathered the battery and personally told Bravo Battery's brave, young warriors our new redeployment date. As expected, a few heads hung low. I told them, "Our Nation is calling upon us to fight beyond our scheduled redeployment date. The Army is not for the weak and faint-hearted. If 28 February 05, is the road to home, let's attack it head-on with renewed vigor and not fail the American people whom we swore to support and defend."

Afterwards I told them, "You have 10 seconds to scream, whine and complain at the top of your lungs." They let off a loud and thunderous war cry that echoed across the entire camp. To my amazement, a few yelled, "Too easy!" When the 10 seconds were over, those selfless warriors picked up their rifles, put their war faces back-on and went back to the business of defending everything we cherish as Americans.

I told them to call home and let their loved ones know. I'm certain tears were shed as their spouses, parents, and children heard the news over the phone. Nevertheless, I'm comforted by the fact that, just like us Soldiers, our Army families are just as resilient. Army wives are a special breed. They are one of a kind.

Team, the true measure of a man (or an Army family) is taken not during times of comfort and convenience, but rather during times of challenge and difficulty. Your service to our nation has exceeded all measures of dedication and selfless service.

America is grateful for the sacrifices its troops and their families make while our Nation is at war. You're an embodiment of everything that is good and noble as Americans. Thank you for your patriotism and love for our country. God bless all of you and God bless America.

Bravo Battery has adapted well to nontraditional ADA missions. Its role in force protection has enabled 2BCT to focus combat power towards offensive operations. This is Bravo Battery's primary contribution and a testament to its relevance, even in the absence of an air threat, as a true combat multiplier.



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During their Operation Enduring Freedom deployment, 3-62 ADA Sentinel Soldiers provided ground commanders a third-dimension picture of the Afghan battlefield.

How ADA Sentinel Teams Helped Restore Democracy to Afghanistan

by CPT Rick Johnston

The Constitutional Loya Jirga was the political process through which the people of Afghanistan adopted a national constitution. It was the Afghan equivalent of America's Constitutional Assembly of 1789 and the prelude to highly successful national elections that put a representative government in power in Kabul.

More than 500 delegates, representing all of the provinces as well as displaced groups and nomadic tribes, gathered in Kabul, the capital of Afghanistan, from 8 December 2003 through 5 January 2004. The government of Afghanistan had been operating under an emergency constitution, and the goal of the assembly was to create a national constitution that would be acceptable to all of Afghanistan's diverse and factional ethnic groups. Air Defense Artillery Soldiers were an integral part of the assembly's security plan.

The constitutional convention took place on the grounds of the Kabul Polytechnic Institute, located in a

sector controlled by the International Security Assistance Force, which assumed responsibility for the convention's security requirements. A Canadian air defense element ran the force's Airspace Coordination Center, but because of the lack of air threat in the theater, it had not deployed with its organic Sentinel radars.

At the time, the primary mission of the 3rd Battalion, 62nd Air Defense Artillery, 10th Mountain Division, was providing convoy security and base security at the numerous coalition bases throughout Afghanistan. The battalion's fire units were task-organized at the platoon level in support of light infantry battalion task forces. Sentinel radars provided airspace surveillance at the two main coalition airfields and at one forward operating base. Air Defense Artillery Soldiers also manned the Joint Land-Attack Cruise Missile Elevated Netted Sensor (JLENS) Rapid Aerostat Initiative Deployment (RAID) site at one coalition airfield, while infantry soldiers manned RAIDS sites

at two of the forward operating bases.

Because of the sensitivity surrounding the constitutional assembly, the Airspace Coordination Center determined the convention site was a high-value target for a potential air attack by anti-coalition militia elements. To preclude such an air attack, the center planned to implement a five-mile restricted operations zone centered on the assembly site, but it lacked a radar system to monitor the zone. To meet the mission needs, the center requested, through the ISAF, that 3-62 ADA provide Sentinel support to the constitutional convention force protection mission.

The rugged Afghan terrain interspersed with towering mountain ranges prevented a single Sentinel from providing adequate 360-degree surveillance. After conducting a mission analysis, the coalition planning element concluded the mission could be successfully conducted with two Sentinel radars located at two sites in the city: one of the Sentinels was to be located at the Kabul Airport in the city's northeastern outskirts while the second was to be positioned at a Canadian base in another part of the city. The fragmentary order for Sentinel support was issued 8 December 2003, and both 3-62 ADA Sentinel radars were in position the next day.

The initial plan was for the Sentinel at the Canadian base to push tracks via the INTRA-FAAD (Forward Area Air Defense) net to the Sentinel at the airport, which would correlate the tracks and send a consolidated air picture via FAAD broadcast to the Canadian Air Defense System Integrator at the Airspace Coordination Center. If an aerial threat to the convention site appeared, the Airspace Coordination Center would inform the International Security Assistance Force security officer in charge at the site. The security officer would activate the ground quick reaction force to intercept the incoming aircraft, as well as direct assembly delegates to hardened shelters. Therefore, the plan relied mainly on passive air defense rather than active air defense.

Several issues related to the disclosure of classified air track information had to be resolved for the mission to be successful. Since the Sentinels would broadcast track information to the Canadian Airspace Coordination Center, there were questions about the release of classified air track information. Although the Canadians are members of the coalition, in this case they were operating as a part of the International Security Assistance Force. To resolve this, the coalition air defense planning element drafted a memorandum of understanding, stating all classified track information would remain within the Canadian Airspace Coordination Center and would not be released to any other International Security Assistance Force element.

Due to technical problems with the Canadian Air Defense System Integrator, the Airspace Coordination Center was unable to receive track information via FM as originally planned. To remedy this, they planned to set up a Tactical Data Information Link-B via secure telephone from the Kabul Airport Sentinel to the Airspace Coordination Center. This would have required laying telephone

line at the Kabul Airport site, a task that ultimately proved impossible to accomplish before the assembly convened. Therefore, all information was passed via FM voice from the Kabul Airport Sentinel to the Airspace Coordination Center.

Initially, the Sentinel at the Kabul Airport had some challenges. First, to improve its line of sight, it was emplaced on a connex near the airport tower but this site raised concerns with the ISAF forces about a perceived radiation hazard to tower personnel. This was resolved by relocating the radar to the rooftop of a generator building and actually improved the radar's coverage. Another issue was the poor quality of diesel fuel the German ISAF forces provided. The fuel tended to gel in cold weather, causing problems with the Sentinel team's 10KW generator. Numerous fuel filter changes alleviated this issue. Once these issues were resolved and the Sentinels assumed mission, the sections and radars performed superbly, providing continuous air surveillance over the convention site from 9 December 2004 to 8 January 2005.

Less than a month later, Afghan President Hamid Karza recognized the 3-62 ADA Sentinel radar section for their support to the Constitutional Loya Jirga. Once again, 3-62 ADA soldiers had proven their versatility, professionalism, and technical and tactical prowess; switching on a moments notice from force-protection missions back to a "bread and butter" ADA mission—providing surveillance of the battlefield's third dimension.



SCANNING

First ADAM Cell in Combat Zone

Soldiers of the 10th Mountain Division in Iraq are working in the first deployed air defense and air management, or ADAM, cell. The ADAM cell in Baghdad will be responsible for assuring that fire support and aviation don't conflict with each other in the 2nd Brigade Combat Team's area of responsibility.

"We are the first ADAM cell in a combat zone in the Army," said SGT Ryan Hignight, ADAM cell noncommissioned officer in charge. "We're the middle-man; ground control. We coordinate fire support and aviation so we're not firing into air corridors where aircraft fly through. Anything that flies through our area of responsibility goes through us. If an aircraft goes through our area of responsibility, we get advanced notice so firing won't conflict with them."—PFC Matthew McLaughlin, Army News Service, 11 August 2004

4-3 ADA ADADO Section Answers a Burning Question:

How Could 4-3 ADA Cover the 1st Infantry Division's Battlespace In Iraq With Only Six Sentinel Radars?

by 1LT Alex Sherman

For the 4th Battalion, 3rd Air Defense Artillery, 1st Infantry Division; the journey to Tikrit, Iraq, began in the freezing temperatures of Kitzingen, Germany. While most 4-3 ADA Soldiers were preparing to undertake an infantry mission for Operation Iraqi Freedom, the Assistant Division Air Defense Officer (ADADO) section was busy formulating a radar plan to cover the division battlespace.

As the 4-3 ADA's Avenger and Bradley Linebacker crewmembers conducted convoy live-fire exercises during the 1st Infantry Division's Warfighter Exercise, the air defense tactical operations center operators in the division's ADADO section searched for an answer to a single burning question, "How would 4-3 ADA cover the division battlespace in Iraq with Single Channel Ground-Air Radio Systems (SINCGARSS) and only six Sentinel radars?"

Staff Sergeant Anthony Jones and CW2 Marcus Hicks, the battalion's command and control system technician, devised a possible solution. The radars would have to be linked by a Secret Internet Protocol Router Net (SIPRNET) and Central Processing Unit (CPU) to broadcast a common picture. However, in the early stages it was only a theory. Staff Sergeant Jones and CW2 Hicks made several trips to the 69th Air Defense Artillery Brigade in Giebelstadt, Germany, to test their theory.

"With Iraq being so large, we knew we were going to need a reliable system to transfer data over wide spaces," SSG Jones said. "The 1st Infantry Division does not possess EPLRS [Enhanced Position Location Reporting System] radios, and SINCGARS just doesn't have the range we needed."



SSG Anthony Jones and CW2 Marcus Hicks used a Secret Internet Protocol Router and Central Processing Unit to link 1-62 ADA Sentinel Radars.

The 4-3 ADA had used a technique called "sensor chaining" during its deployments to Kosovo. Sensor chaining uses SINCGARS radios to pass data from radar to radar. The drawback with sensor chaining is data can only travel in one direction and a consolidated air picture is not produced. According to SSG Jones, it was not the ideal method to use in Iraq. "If we used sensor chaining," he said, "we would not have a combined operational air picture, and we wouldn't be able to see all the radars at one time."

So, the duo came up with a plan to broadcast the air picture over the SIPRNET. The technique, known as radio elimination mode, was something they had never seen work. "I first learned about radio elimination from Dan Bobitz, a Northrop Grumman contractor. He told me the 10th Mountain had been successful with radio elimination mode in Afghanistan," said SSG Jones. "10th Mountain faced similar challenges linking Sentinels that were positioned great distances apart, and they did it very successfully with radio elimination mode."

The first tests of radio elimination mode took place January 2004, at the 69th ADA Brigade motor pool. "We just wanted to test our theory, and the results were very positive," said Hicks. These tests were extremely important because the next time these radars were emplaced would be in a combat situation. The ADADO section teamed up with CW2 Richard Velez, the 69th ADA Brigade command and control technician, to test their theory. This was a very important rehearsal for 4-3 ADA's radar plan, which would be put to an even harder test in the deserts of Iraq.

Two months later 4-3 ADA was deployed at Forward

Operating Base Danger in Tikrit, Iraq, and was working its way through the first month of a 12-month deployment in support of Operation Iraqi Freedom. After a deliberate relief in place with the 4th Infantry Division, it was now time to test radio elimination mode in the desert.

"At first there was some doubt as to whether or not radio elimination mode would work," said CW2 Hicks. The 4th Infantry Division had been equipped with EPLRS radios; therefore, they never had the need to find an alternate way to pass data. Some were skeptical about the 4-3 ADA approach, but the ADADO section drove on with their original plan. Once again, the first test would be to link the radars in the Forward Operating Base Danger motor pool.

"All the Sentinel sections were trained on the procedures to enter the proper IP [Internet protocol] addresses and standing operating procedures for radio elimination mode," CW2 Hicks said.

Along with the training, an operator standing operating procedure (SOP) containing basic operations and trouble shooting procedures was developed and issued to all the Sentinel sections. This SOP was important because it would allow the operators at remote locations to fix minor problems by themselves. The test was conducted and once again was successful. Now the ADADO section knew their plan would work, and the 4-3 ADA chain of command agreed to put it into action.

The next step was for the radars to move into positions across the 1st Infantry Division battle-space. Once this was complete, the radar sections again followed their SOPs and entered their designated Internet protocols. The result was just what the ADADO section had hoped for: a consolidated air picture that could be displayed inside the division and brigade tactical operation centers. The system was also very reliable, and as long as the SIPRNET was working, the radars' tracks were passed.

According to SSG Jones, "pushing data over the SIPRNET is preferable to SINCGARS for several reasons. When you are deployed for over a year, the harsh environment puts a beating on the equipment. Also, the G-6 element has better resources for troubleshooting the equipment and keeping the SIPR running."

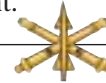
In other words, you don't have to worry about your signal going down every time a windstorm blows over your OE-254 antenna retransmission site. Fewer problems also mean fewer trips out for repairs and less exposure on the roads to ambush and deadly roadside explosives. This is not only a common sense approach; it is an approach that puts a significant emphasis on safety.

"Radio elimination should be the new standard for providing a consolidated air picture," CW2 Hicks added. "SINCGARS radios are very susceptible to external conditions, and when they go down you have to worry about providing maintenance. With radio elimination mode, when the SIPR is up, you know that you are going to be good."

Last fall the ADADO shop was given the mission of providing a consolidated air picture of the 1st Infantry

Division battle-space. They knew covering a widely dispersed division sector, in a hostile environment would be a challenge. They worked through every aspect of the problem and came up with a solution they believed would meet the challenge. They tested it and re-tested it, and met the mission requirements when it mattered most—in the deserts of Iraq and during combat operations.

"In the future, pushing data through the SIPR needs to be the mainstay," SSG Jones said. "It is easier to maintain, and more efficient."



1LT Alex Sherman (alexander.sherman@us.army.mil) is the 1st Infantry Division's Assistant Division Air Defense Officer.

SCANNING

1-3 ADA at Al Kifi

On 24 March 2003, SFC Matthew Gruidl, 28, received orders to take his platoon to the town of Al Kifi and guard a bridge. Army commanders believed Iraqi fighters were crossing the bridge en route to ambushing U.S. soldiers camped further south in the desert. "We wanted to stop it so no traffic comes across the bridge," Gruidl said. Gruidl led his 10 Bradley Linebackers to the city. When the convoy got halfway down the main street through the center of town, rocket-propelled grenades and rifle fire started flying at them. It was an ambush. "We weren't able to fight through it because civilian vehicles were coming at us with RPGs," Gruidl said. "We couldn't tell what we might run into up ahead." Gruidl and his platoon leader pulled the convoy out. They assessed the damage and realized no one was hurt and no Linebackers were destroyed. They called in artillery fire for backup.

For the next four and a half days, Gruidl's platoon fought. They rarely slept because attacks came constantly. Iraqis fought by driving civilian trucks and vans toward the Linebackers. "I'd light up a truck with a .50-caliber and stop it, and another would come right behind it," Gruidl said. SPC Ron Liner remembered a sandstorm that made it hard to see the enemy. Because of the constant barrage of enemy attacks, they didn't sleep, he said. "With all of the adrenaline going, you stay awake," Liner said. The Linebacker platoon finally got reinforcements on the fifth day. Tanks and Bradley Fighting Vehicles and U.S. Air Force jets helped take control of the town. However, there was little time to rest. Missions kept coming. When Gruidl and his soldiers talked about the Al Kifi battle over the weekend, circles ringed their eyes. They said they've gotten little more than four or five hours of sleep at a time since the war began. Now, they're spending time escorting supply convoys to and from Baghdad International Airport. Most of those vehicles—fuel trucks, cargo trucks and Humvees—have little protection, so they need the firepower of the Linebacker crews.

The air defense crewmembers believe they adapted well to their new role in the war. "I think we did it above and beyond," SPC Sherman Barto said. "We were finally given a mission, which is what we always wanted."

—Noelle Phillips, Savannah Morning News, 9 April 2003

ADA School Creates New Office to Speed AMD Lessons Learned to Warfighters

Lessons Learned and Support Branch will collect, analyze and disseminate lessons learned in the Global War on Terrorism

by David Barron

How can an air and missile (AMD) defense Soldier contribute to and gain from the lessons learned process? Are we really getting after lessons learned?

Sharing observations, insights and experiences from the Global War on Terrorism can create a valuable resource for current and future air and missile defenders. Lessons learned that apply to the force as a whole have been available through the Center for Army Lessons Learned (CALL), but this resource does not analyze lessons from an AMD Soldier's perspective. To answer the questions and provide an effective and efficient mechanism for the analysis and timely dissemination of practical lessons learned, the U.S. Army Air Defense Artillery School's Directorate of Training, Doctrine and Leader Development (DOTD-LD) recently created the Lessons Learned and Support Branch.

Prior to the office's creation, the collecting and analyzing of lessons learned data was done in a variety of formats by various organizations. Since a lessons-learned solution generally traverses the doctrine, organization, training, material, leadership and education, personnel and facilities (DOTMLPF) domains, the Lessons Learned and Support Branch organized a Tiger Team with action officers representing each of the DOTMLPF stakeholders. A 32nd Army Air and Missile Defense Command action officer was included to represent U.S. Army Forces Command units. The team's present goal is to consolidate the various lessons learned activities and develop and maintain a flexible action plan. The Tiger Team will determine the scope of a field observation or problem, assign an appropriate DOTMLPF action agency, formulate a recommended solution, and schedule a date of completion or implementation for the solution.

This plan is to be briefed for approval to the Fort Bliss Council of Colonels, whose creation was authorized by the deputy commanding general of the U.S. Army Air Defense Artillery Center, Fort Bliss, Texas. Recognizing the long-term nature of some of the issues, the Council of Colonels, chaired by the Director of DOTD-LD, will meet quarterly to assess AMD lessons learned progress.

Initially charged to assess an assortment of AMD Operation Iraqi Freedom after action reports and glean lessons learned from them, the Tiger Team has met and culled many issues from the reports. Those issues that were

determined to be unit-level procedures or unit level training have been disseminated to battalion and brigade commanders via e-mail. The team is continuing to work on issues that relate to institutional training, materiel, or the other DOTMLPF domains.

For the worldwide AMD community, the Lessons Learned and Support Branch has established automated mechanisms for direct field input. A unit or individual may submit an unclassified observation, insight, or after action review via e-mail to ada.lessonslearned@us.army.mil. Classified material may be securely e-mailed to ada.lessonslearned@us.army.smil.mil.

By accessing the Air Defense Artillery Lessons Learned Secret Internet Protocol Router Net (SPIRNET) website at <http://adalessonslearned.bliss.army.smil.mil> or the Non-Classified Internet Protocol Router Network (NIPRNET) website at <https://airdefense.bliss.army.mil/secure/adall>, one can fill out and submit an electronic input form. If electronic means fail or are unavailable, the mailing address is Commandant, U.S. Army Air Defense Artillery School, ATTN: ATSA-DT-DTR, Lessons Learned, Fort Bliss, TX 79916-3802. Telephone numbers for contacting the Lessons Learned & Support Branch are (915) 568-5006/1882 or DSN 978-5006/1882.

When submitting an observation or insight, contributors should include three basic paragraphs of information: issue, discussion and a recommendation. A contributor should also provide his or her name, e-mail address and telephone number in case additional detail or clarification is needed.

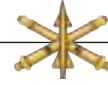
Additional sources of input into the lessons learned process are being examined and refined for inclusion over time. Soldiers returning to Fort Bliss from Operation Iraqi Freedom or other assignments possess first-hand experiences and are being interviewed by Lessons Learned and Support Branch action officers. Their observations are being captured in a memorandum for record format and appear on the ADA Lessons Learned website. Lessons Learned and Support Branch action officers review the CALL website for topics of interest to AMD Soldiers and leaders and will establish links to CALL documents on the ADA Lessons Learned website. Links to Joint and other Army branch lessons learned sites are being added to the website. Many lessons learned webmasters are recipro-

cating by linking our ADA Lessons Learned website address to their websites.

The road ahead for the Lessons Learned and Support Branch is to accommodate several changes while continuing to provide effective, efficient and meaningful service. The classified website is now operational. It mirrors the unclassified website in appearance, but contains only classified material. A classified topic listing is on the unclassified website. Classified topics are listed on the unclassified website to alert users to their presence on the secure site. A relational database to archive lessons learned and generate a follow-up mechanism is forecast for late fiscal 2005. Action officers will regularly visit field units to observe exercises and experiments, gather information and capture observations and insights for lessons learned. They will link with CALL embeds in divisional units to capture

AMD issues.

In carrying out this mission and to provide the maximum benefit to our AMD community, action officers will need input from our field-experienced and knowledgeable air and missile defenders to identify issues, recommend solutions and share information. The Lessons Learned and Support Branch requests your support in this endeavor.



David Barron is the Chief of the Lessons Learned and Support Branch, Directorate of Training, Doctrine, and Leader Development, U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

Center for Army Lessons Learned: 20 Years of Transformation

by MAJ Stephen C. Goff

The Center for Army Lessons Learned (CALL) is celebrating 20 years of service as it continues its transformation along with other Army organizations. The center was founded in 1985 in response to the recognized need to capture lessons from combat training centers and major exercises. What began as an organization consisting of five officers and one civilian has now grown to more than 140 Soldiers, Department of the Army civilians and contractors. After 20 years of transformation, CALL has become a highly responsive, user-driven agency focused on providing emerging insights, observations, and analysis to authorized users across the joint, interagency, and select multinational team members with the goal of increasing warfighting capabilities across the force. Additionally, CALL serves as the clearing-house for collected, emerging insights; observations; tactics, techniques and procedures; and lessons learned.

The Center for Army Lessons Learned uses a passive and active process to collect lessons learned. The passive process is an informal process of soliciting lessons learned from units in the field. Those comments are then reviewed, edited and published by CALL. The active process is a formal process of using focused collection plans. The center forms, trains, and deploys collection and analysis teams made up of multi-service subject-matter experts. These teams deploy to theaters of operations to capture lessons learned at the source. The lessons learned are then analyzed and disseminated to the rest of the Army. In addition,

CALL deploys Soldiers who embed with units on the ground to facilitate "getting lessons learned today to the rest of the Army—today."

The Center for Army Lessons Learned has also improved the process of "getting lessons learned today to the rest of the Army—today" by using its website, which features a user-friendly "Request for Information" menu. The center currently manages both SIPRNET (classified) and NIPRNET (unclassified) websites. By placing all publications, lessons learned, and observations on these websites, CALL ensures everyone in the Army, regardless of rank, has access to current information. Anyone with an Army Knowledge Online account can use the Request for Information menu to request information and receive an answer from a subject-matter expert within 24 hours.

For more information, visit our websites: NIPRNET (<https://call.army.mil>) or SIPRNET: <http://call.army.smil.mil>



MAJ Stephen C. Goff is an ADA officer assigned to the Center for Army Lessons Learned. He formerly served as the S3 (operations officer) for the 1st Battalion, 346th Air Defense Artillery, Camp Shelby, Miss, and commanded a Bradley Linebacker battery in the 1st Battalion, 3rd Air Defense Artillery, 3rd Infantry Division. He can be reached at DSN 552-9592 or COMM (913) 684-9592.

KASSERINE PASS

North Africa Campaign Pits Inexperienced Antiaircraft Artillery Units Against Rommel's Vaunted Afrika Corps

by John Hamilton

In the winter of 1943, U.S. Army Antiaircraft Artillery (AAA) units experienced their baptism of fire against the German Army in the North African desert. They discovered, as Patriot battalions were to rediscover six decades later in the deserts of Iraq, weapon system expertise isn't enough to succeed on a modern battlefield—you must train with maneuver forces to master the art of maneuver warfare. A lack of experience in maneuver warfare and combined arms training cost the Army's AAA units dearly at Kasserine Pass in 1943.

The series of engagements around Kasserine Pass in Tunisia, pitting the U.S. Army II Corps against a blooded, experienced, and well-trained Axis force, would provide the first wartime test of Army organization and tactical training. The German and Italian forces were also very well led by the Desert Fox himself, Field Marshal Erwin Rommel. All of the training and preparation of II Corps would be sorely tested in this battle, including forces of the Antiaircraft Command. Well after the battle, Kasserine Pass would form the basis for future studies in lack of preparedness of U.S. forces for battle.

The U.S. Army landed its first expeditionary force on North African soil in 1943 in Operation Torch. Under the command of GEN Dwight D. Eisenhower, the Western Task Force landed at three different points in French Morocco. An American and British task force landed at Oran and Algiers in Algeria. Despite some resistance by French troops loyal to the Vichy government in France, the invasion forces established their beachheads and moved inland to their objectives. The victory was somewhat hollow, however, as the opposing forces were poorly armed and equipped as a result of the French treaty with the Germans in 1940. This limited the French on what weapons and equipment they could possess. The invasion could be termed a walkover.

The AAA units participated in this assault with the intent of establishing air defense of fixed installations, such as ports, supply depots, and airfields. To backtrack, the AAA had undergone rapid expansion as part of the mobilization for war. In 1939, the Army had only nine AAA regiments, falling under the Coast Artillery. A regiment was composed of two battalions organized to provide protection from both low- and high-altitude threats. Despite the success of German close air support in Germany's recent conquest of the European continent, the chief of Army Ground Forces, GEN

Leslie J. McNair, termed the antiaircraft gun a defensive weapon. As such, placing the antiaircraft gun in the division ran counter to GEN McNair's desire to encourage aggressiveness and offensive spirit in the division. He felt the appropriate place for antiaircraft battalions were in regiments or groups under corps-level control. That way, they could be concentrated on the battlefield where they were needed and focused on the massed air threat that was perceived to exist.

The Antiaircraft Command established a training structure in accordance with the directions from the Army Ground Forces Command. It had its own officer candidate school and training camps in Illinois, North Carolina, Massachusetts, Texas (including Fort Bliss), and California. These camps trained battalions. The command trained its officers in the technical aspects of the branch, with almost no tactical or maneuver training.

The major antiaircraft weapon systems were the 37mm gun; the 40mm gun, which was derived from a Swedish Bofors design; and the 90mm gun. These were towed weapons for the most part. Units also had .50-caliber machineguns for close-in defense. The 37mm gun was mounted on a half-track vehicle, combined with two .50-caliber machineguns on either side of the gun. The Army also experimented with mounting two and four .50-caliber machine guns on half-tracks, which would make a difference at Kasserine. With the rapid mobilization of the Army, there were shortages of all manner of equipment and ammunition. With the focus on the technical rather than the tactical, there was no maneuver training, little attention to aircraft identification skills, and no real doctrine for integrating antiaircraft fires with maneuver forces at the line of contact or with friendly close air support. The 105th Coast Artillery (AA) Battalion, trained at Camp Hulen, Texas, with only four 37mm guns for the entire battalion and used boxes mounted on trailers with sticks to simulate antiaircraft guns for training basic drills. Training ammunition was short, and they did not have the M5 Gun Director until they arrived in England in 1942. The battalion went to the field by itself, conducting no combined arms training. In fact, the 105th trained in the desert at Camp Young, Calif., (now part of Fort Irwin) within sight of units of the 2nd Armored Division, but without ever participating as part of the combined arms team.



A U.S. 40mm Bofors gun crew "covers all bets" outside the Municipal Casino in Algiers.

To set the stage for the battle, we should look at the terrain. The area in southern Tunisia is characterized by two dorsal mountain ranges, the Eastern Dorsal and the Western Dorsal. They overlook broad flat areas, and travel between the open areas is canalized through ravines and canyons. At the time there were several dirt roads, but these were subject to flooding during the winter's rainy season. Three critical defiles, which facilitated movement, were at Sbiba, Dernaia, and Kasserine.

The German command was subordinate to the Italian Commando Supremo in Rome, in deference to Italy's colonial interests in North Africa. In northern Tunisia, the 5th Panzer Army was under the command of Field Marshal Juergen Von Arnim. In southern Tunisia, the Afrika Corps, commanded by Field Marshal Erwin Rommel, had established a defensive line south of Mareth to confront the British Eighth Army, commanded by GEN Bernard L. Montgomery. Both Von Arnim and Rommel fell under the command of Field Marshal Albert Kesselring in Rome. Their line of communication stretched across the Mediterranean Sea to Italy. After being forced out of Libya, Rommel saw an opportunity to regain the offensive. He proposed attacking through the passes of the Eastern Dorsal to the

northwest, with the intent of breaking up the American forces confronting him, seizing airfields and supply dumps, and ultimately enveloping the Allied First Army before having to turn and face Montgomery moving in from the east.

Arrayed against Rommel in the south was the II-Corps, commanded by LTG Lloyd Fredendall, and part of the French XIX Corps. Under the II Corps were the 1st Armored Division, the 34th Infantry Division, the 1st Infantry Division, and the 9th Infantry Division. The intent of the Allied command was to press the Axis forces against the Mediterranean and force their surrender. The II Corps had moved east very quickly, outrunning its lines of supply. Only the 1st Armored Division and the 34th Division were in a position to confront Rommel, and no division possessed antiaircraft units to provide air defense. Only the 105th Coast Artillery (AA) Automatic Weapons Battalion, part of the 106th Coast Artillery (AA) Automatic Weapons Battalion, the 443rd CA (AA) AW (SP) Battalion, and part of the 213th CA (AA) Regiment, were available to provide air defense.

Rommel would not sit still and wait for developments. In February 1943, elements of the Afrika Corps attempted to seize Kasserine Pass by a sudden, swift attack. Arrayed against them was Task Force Stark, composed of the 1st Battalion, 26th Infantry; the 33rd Field Artillery; and the 19th

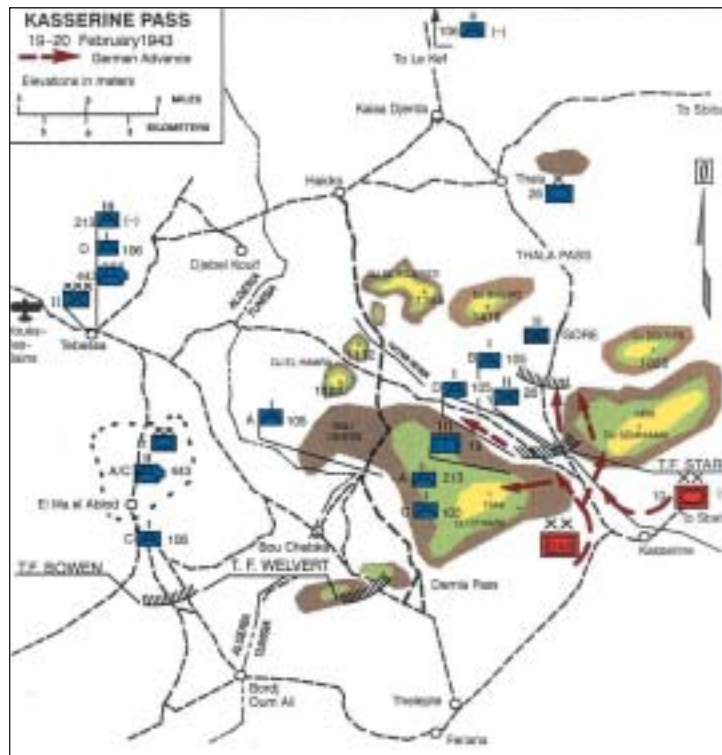
Engineers. The engineers had the mission to sow land mines at the entrance to the pass, which was about 700 yards from the south side to the north. They were then to defend the pass as infantry. Assigned to provide air defense was the 105th Antiaircraft Artillery Battalion, composed of 90mm and 40mm Bofors guns. Battery D, with eight Bofors guns, moved into the pass to provide support. Commanding two guns was 1LT Kenneth Madden, with the remaining six guns under CPT George Zorini covering the Tebessa Road two miles to the southwest.

Lieutenant Madden supported a hodge-podge of units in the pass. On the evening of 18 February, 1st battalion, 26th Infantry; the 19th Engineer Regiment; two batteries of the 33rd Field Artillery Battalion; one battery of French 75mm howitzers; and the 805th Tank Destroyer Battalion were arrayed forward of the pass. There was no reserve for this organization. Zorini and Madden were not attached to anyone. They were to provide direct antiaircraft support for the force defending the pass but the commander of the task force issued no orders to Zorini and Madden. Captain Zorini decided to defend the field artillery, as they were most likely to be attacked by air. Madden sited his guns in the pass to engage the Luftwaffe, but the engineers around him thought he was there

to cover the minefields. Madden posted observers around the gun positions, but the battery had to round up radios and binoculars from the gun crews to equip them.

Friday morning, 19 February saw an attempt by the Afrika Corps to assault the pass. German artillery fire struck the engineers and infantry covering the pass, and German infantry infiltrated around the defenders by climbing the heights on either side of the pass. Checking on his other gun position, 1LT Madden found them frightened by the closeness of the artillery fire and prepared to move to the rear. Madden put them back into position and returned to his gun. As the fires and enemy movement increased, COL Alexander Stark, the task force commander, placed two more infantry battalions along the Thala road. That afternoon, despite Stark's preparations, German infiltrators managed to machine-gun his headquarters. As the Germans closed in and enemy artillery intensified, the Americans began to abandon their positions and stream toward the rear. At the same time one of the battalion headquarters was overrun, and the confusion continued to mount. During the night of the 19th, Madden watched many soldiers move past his position, each group saying they were the last. Madden decided to stand fast.

The next morning, the Germans fired a heavy artillery



At Kasserine Pass, U.S. antiaircraft artillery units went into battle against Field Marshal Erwin Rommel's vaunted Afrika Corps with little or no tactical or maneuver training.

concentration into the pass, the rounds impacting around Madden's position. Madden requested to move to the rear, and was ordered to stand fast. Soon the commander of the 805th Tank Destroyer Battalion passed Madden, telling him that his last tank destroyer had been destroyed. Enough was enough; Madden picked up his other gun crew and shifted to the rear. He soon joined Zorini, who ordered him to set up behind the artillery. At noon on the 20th, 200 Germans wearing captured American uniforms assaulted them. Working to within hand grenade range, the Germans put pressure on Madden and his crews. Under cover of their anti-aircraft machine guns, the anti-aircraft artillery crews were again forced to withdraw.

The Kasserine Pass defenses were falling to pieces, the withdrawal turning into a disorganized rout. Seeking to plug the rapidly widening hole, Fredendall pushed Combat Command B of the 1st Armored Division into the breach. The British shoved their 26th Armored Brigade into position to cover Thala. As the weather cleared, Rommel continued to attack. Stuka dive-bombers, escorted by Messerschmitt Me-109 fighters, appeared to strike the American artillery. The 105th AAA and the 443rd AAA responded to the attacks and shot down a number of Stukas. In fact, this event represented the death knell for the Stuka, which could not stand up to .50-caliber fire when it executed its classic attack dive. As the German airplanes departed, two flights of American aircraft appeared. The AAA gunners, in the heat of battle, engaged them, too. Seven friendly aircraft were damaged beyond repair. The commander of CCB was furious, and henceforth forbade any anti-aircraft fire on any aircraft unless the unit was under direct attack.

The German attack up the Thala road rapidly became a melee. Using a captured British tank to get close, the German armor penetrated the British and Americans and began to kill friendly tanks. Madden, watching from a high ground position, was horrified to see that 37mm guns had absolutely no effect on German tanks. As the Germans continued their effort to push the Americans back on the morning of 22 February, they ran into concentrated artillery fire from the 9th Division artillery, rushed forward during the night. This held up the 10th Panzer Division. Despite furious Luftwaffe air attacks, the Bofors and .50-caliber gunners kept the attackers at bay. And, despite the distinctive twin tail of the American P-38 fighter, friendly gunners shot down several. These fires reportedly came from infantry gunners, however, as the AAA gunners had complied with their orders not to fire unless directly attacked. That afternoon, the 1st Infantry Division counterattacked, recapturing three Bofors guns abandoned by D/105th AAA as well as howitzers left behind by the 33rd Field Artillery. Among the missing from Madden's platoon was his platoon sergeant, who would march into a German prisoner of war cage and remain there for the rest of the war. On 23 February, the Americans cautiously advanced to discover the Germans had withdrawn and the battle was over.

The Army Ground Forces quickly published a pamphlet on lessons learned in October 1943. They learned that air attack on maneuver elements had to be countered and in one division alone, 95 percent of all air attacks were on the field artillery. Units had to prepare effective camouflage of their positions, and friendly air reconnaissance should be used to assess its effectiveness. Hostile aircraft were to be engaged only when the aircraft's hostile intent was clear or it attacked, and when the aircraft were in range. Anti-aircraft weapons had to be manned at all times. Road convoys had to be well dispersed, covered with air lookouts, and the .50 caliber

machinegun had to be positioned throughout the defense, as this weapon had proven to be most effective against hostile aircraft.

We examine history through a lens of current doctrine and experience. Our Army and the threat today are much different than it was in 1943. We are undergoing a significant transformation in order to cope with the threat we face now. As maneuver air defense moves out of the division structure, we should bear in mind the need for combined arms training does not go away. Enemies can still employ air attacks in various forms on maneuver forces, so we should continue to participate in joint and combined arms training operations whenever we have the opportunity. Soldiers require tough, realistic training under conditions as tough as or tougher than actual combat. We must be prepared for combat on short notice. Air defenders must all be trained infantrymen as well as highly specialized Soldiers. We owe that to them, and we owe it to the Soldiers who fought at Kasserine Pass.



John Hamilton is the Air Defense Artillery Historian, U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

To learn more about the U.S. Army's baptism of fire in the North African Campaign read *An Army At Dawn: The War in North Africa, 1942-1943* by Rick Atkinson.

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Air Defense Artillery School/Fort Bliss UPDATES

Office, Chief of Air Defense Artillery

Engagement Operations

Air Defense Artillery continues to contribute to the Global War on Terrorism and other expeditionary requirements, with 5,300 ADA Soldiers deployed in the past 12 months, 1,900 ADA Soldiers currently deployed and an additional 350 ADA Soldiers preparing to deploy within the next six months. Our thoughts and prayers go out to all Soldiers deployed away from their families and in harm's way in Iraq, Afghanistan, Korea, or other remote locations around the globe. Our thoughts and prayers also go out to those Soldiers who have lost their lives or been injured during the Global War on Terrorism and to their families. Our Soldiers and leaders continue to press the fight and represent the "First to Fire" branch to all members of the combined arms team. Hats off to our ADA heroes!

Air Defense Artillery Soldiers Eligible for Close Combat Badge

Air Defense Artillery Soldiers who meet the criteria will be eligible for the new Close Combat Badge. The Close Combat Badge will recognize Soldiers—colonels and below—who served in an infantry capacity in units purposefully reorganized to routinely conduct infantry-unique close combat missions and were personally present and under fire while conducting those types of missions. The Close Combat Badge debuted in March 2005. It should be available in clothing sales stores by autumn.

The Army expects to release an administrative message outlining exact Close Combat Badge rules and regulations. The Office, Chief of Air Defense Artillery, will follow up by forwarding the message to ADA commanders, along with guidance on preparing and submitting recommendations. Commanders should make the most of this unprecedented opportunity to recognize ADA Soldiers who have gone, or will go, in harm's way.

Defining Units of Action and Units of Employment

The Army is creating three new echelons (unit of action (UA), unit of employment-x (UE_x) and unit of employment-y (UE_y). These three new echelons will replace the four echelons (brigade, division, corps, and army) that have been in place since World War II. The UA is roughly analogous to the current brigade, but it will have more organic support structure to allow it to deploy independently of a division. The UE_x will consist of a headquarters staff along with operational support structure such as base security, liaison officers, and network support. The UE_y will be a regionally based theater-level support headquarters.

Do not be overly concerned if you find the new Army Transformation terminology for echelons confusing. The new echelon terminology is only temporary. The Army is working to develop more descriptive names for the new echelons once it resolves the emotionally charged issues associated with Army Transformation's impact on Army lineages and traditions. The most recent issue of *Army Magazine* has an article that offers a new naming and patching construct for the transformed Army.

ROTC Visits by ADA Alumni

We encourage ADA officers, whenever possible, to stop at their university and tell ROTC cadets about ADA transformation and the opportunities available to those who select Air Defense Artillery as their branch of choice. The Office, Chief of Air Defense Artillery will serve as your "front man," scheduling the visit for you and supplying you with ADA videos and branch marketing items. Contact Ms. Lisa Henry at lisa.henry@bliss.army.mil, DSN: 978-4133 or (915) 568-4133.

Current Air Defense Artillery Military Areas of Concentration and Occupational Specialties (MOSs)

14A	Air Defense Officer - General	14E	Patriot Fire Control Enhanced Operator/Maintainer
14B	Air Defense SHORAD Officer	14J	Air Defense Tactical Operations Center Operator
14E	Air Defense Patriot Officer	14R	Bradley Linebacker Crewmember
140A	Command & Control System Technician	14S	Avenger Crewmember
140E	Patriot System Technician		

New Policy Enables Automatic Promotion to Sergeant for 14J Soldiers

A shortage of sergeants in some MOSs, including 14J, has prompted a new Army policy in which corporals and specialists could be automatically promoted without a board. Commanders will have the ability to remove a Soldier from the Sergeant Recommended List if a Soldier is not trained, or otherwise unqualified. There will be a 15-day window after the automatic promotion list is generated for commanders to remove names.



Air Defense and Airspace Management Cell Personnel

The ADA Branch is well on its way to filling air defense and airspace management (ADAM) cell personnel slots in outtransforming divisions (Units of Employment-x). We have already filled ADAM cell slots in the 3rd Infantry Division and our Stryker brigade combat teams. The 10th Mountain Division and 101st Airborne Division (Air Assault) are well on their way to staffing their ADAM cells at 100 percent. The next priority is the 4th Infantry Division. The shortage of warrant officers in MOS 140A, Command and Control System Technician, remains an impediment, but the branch is aggressively working to resolve all personnel, training, and equipment issues to ensure these cells are capable of performing their mission. To make better use of our current 140A warrant officer population, we will synchronize their assignments with the Army's ADAM cell equipment fielding plan. Like the rest of the Army, we are making high-velocity transformational changes while fighting a war. Soldiers accepting challenging ADAM cells assignments are our first line of defense. They represent Air Defense Artillery to the combined arms team. Staffing ADAM cells with our best and brightest will remain a top priority.

ADA Warrant Officer Opportunities (140A and 140E)

The Office, Chief of Air Defense Artillery (OCADA), has had a very positive response from Soldiers asking about warrant officer opportunities. During unit visits, OCADA representatives provide information on growing opportunities within the branch for Soldiers who want to become ADA warrant officers. They encourage our best and most experienced NCOs to put in application packets.

Air Defense Artillery plans to grow its warrant officer population through increased accessions. Currently, there is a programmed growth of 50 positions for MOS 140A warrants beginning in fiscal 2005 with a target fill completion in fiscal 2007. Likewise, a programmed growth of 98 positions for MOS 140E warrants will begin in fiscal 2005 with an expected completion fill in fiscal 2009. Contact CW4 Robert Reed (robert.reed@emh10.bliss.army.mil) or CW5 Esteban Fernandez Lopez (esteban.fernandezlopez@emh10.bliss.army.mil) at DSN: 978-6157/1300 or (915) 568-6157/1300 for help in preparing accession packets.

14J, 14E and 14T Opportunities

As Army Transformation removes the Bradley Linebacker and downsizes our Avenger force, Air Defense Artillery is working to convince 14Rs and 14Ss to remain in an ADA MOS. Transformation is actually increasing Air Defense Artillery's size. In the future, the ADA force will require more air defense tactical operation center operators than it has now. This makes MOS 14J a fast growing career field with a long-term life expectancy and healthy promotion potential. The reclassification of MOS 14R and 14S Soldiers into MOS 14J has been so successful that—for the moment—the branch needs only 14J staff sergeants and sergeants (promotable). Another option for 14R and 14S Soldiers who choose to stay within the branch is to reclassify or reenlist for MOS 14E or 14T. Warrant Officer opportunities also exist for MOS 14R and 14S Soldiers. The Counter-Rocket, Artillery and Mortar (C-RAM) mission may open up a new ADA MOS if tests scheduled for the next several months are successful.

Directorate of Combat Developments

C-RAM Task Force

Insurgents are employing indirect-fire tactics of quick-attack, low-trajectory, urban-terrain-masked rocket, artillery and mortar (RAM) strikes against U.S. forward operating bases in Iraq. Air Defense Artillery is spearheading the effort to provide the warfighter with an integrated solution of capabilities to intercept RAM threats. The branch is synchronizing with other proponents and services to ensure a holistic approach to the Counter-RAM, or C-RAM, mission. Horizontal integration/command and control across the core functions—deny, sense, warn, intercept, attack and protect—will provide an integrated modular and scalable capability. Demonstrations and analysis are underway to provide an initial capability followed by initial deployment and spiral development of emerging technologies to provide the objective capability.

Integrated Air and Missile Defense Capabilities Based Assessment

The Army is the lead agent for the conduct of an Integrated Air and Missile Defense (IAMD) Capabilities Based Assessment (CBA), which includes the conduct of a Joint Force Functional Area Analysis (FAA), a Functional Needs Analysis (FNA), and a Functional Solutions Analysis (FSA). These analyses comprise the front end of the Chairman of the Joint Chiefs of Staff Joint Capabilities Integration Development System. The IAMD CBA's objective is to develop a FAA, FNA, and FSA for the 2015 timeframe, using the 1-4-2-1 force sizing construct. The study will identify key joint, agency and combat command IAMD capability gaps and recommend doctrine, organization, training, materiel, leadership and education, personnel and facilities (DOTMLPF) transformation actions over time as supporting inputs to Program Objective Memorandum (POM) 08-13. The CBA analysis may also be used as a baseline for an Initial Capabilities Document (ICD). The document is envisioned to fulfill time-phased IAMD needs across the range of military operations.

Future Analysis: Integrated AMD System of Systems

Air Defense Artillery is transforming from its current separate systems architecture to a component-based, network-centric, Integrated Air and Missile Defense (IAMD) System of Systems (SoS). The IAMD SoS program focus is on systems integration, common battle command and control, joint enabling networking, and logistics and training to ensure operational requirements, such as force protection, lethality, survivability, transportability and maneuverability, are achieved. The IAMD SoS program will employ an evolutionary acquisition strategy consisting of a series of increments leading to the objective capability. Technology insertions to the IAMD SoS will continue throughout each increment as high-payoff technologies mature and are ready for integration. Incremental development of the IAMD SoS allows the Army to field new or improved capabilities to warfighters faster by producing and deploying systems and components as their technologies mature. When initially fielded, the first increment of IAMD SoS capability will meet many, but not all, SoS desired objective capabilities.

To achieve transformation, a series of joint capabilities integration documents must be developed, staffed and approved. The first document is the Initial Capabilities Document (ICD). The ICD is the baseline document for SoS approaches. The ICD describes the operational concept and environment, functional solutions analysis, capability gaps, required capabilities and final materiel recommendations. The IAMD SoS ICD is being staffed through the Army and joint command structures. The next document is the Capabilities Development Document (CDD). It provides the operational performance attributes, including supportability, necessary for the acquisition community to design the IAMD SoS, including key performance parameters and other parameters that will guide the development, demonstration and testing. The CDD outlines the first increment capability and future increments of the acquisition program to deliver the full operational capability. The CDD for Increment 1 is scheduled to be submitted for staffing by May 2005



Training & Doctrine Command System Manager -Upper Tier

Terminal High Altitude Area Air Defense System (THAAD)

The THAAD system, now in the design, development and acquisition phase, will provide theater missile defense and homeland defense against short-, medium- and intermediate -range ballistic missiles. The THAAD system will provide the terminal defense of the integrated Ballistic Missile Defense System, providing near leakproof protection. The THAAD Program Office manages the THAAD program under the auspices of the Missile Defense Agency.

Planning is underway to transfer the first two THAAD fire units to the Army. An Integrated Product Team (IPT) composed of members from the Army Staff, Army Evaluation Command, Missile Defense Agency, Space and Missile Defense Command and U.S. Army Air Defense Artillery School, is developing the transition plan. The IPT will establish responsibilities, actions, processes and schedules required to support the development, fielding and sustainment of these first THAAD fire units. The Missile Defense Agency will procure the two fire units with deliveries in fiscal 2009 and fiscal 2011. These first fire units will consist of one radar, one Command and Control Battle Manager and Communications system, three launchers with missile round pallets, and 24 missiles. Under this teaming approach, the Missile Defense Agency would retain programmatic authority and responsibility for incremental developments and fielding advanced THAAD capabilities while the Army would man, operate and sustain the fire units.

The first flight test for THAAD will take place during the third quarter of fiscal 2005. Currently the THAAD radar is at White Sands Missile Range (WSMR), N.M. Having participated in several live fire missions, it continues to meet operational expectations. The THAAD Battle Manager is currently populated with equipment and undergoing testing in Sunnyvale, Calif. It will be moved to WSMR during the second quarter of fiscal 2005 to begin integration with the THAAD radar. The THAAD launcher is also undergoing testing and is located at WSMR. The flight test missile is being assembled in Troy, Ala., in preparation for the first flight test. Soldiers have begun training, preparing to operate the system beginning with Flight Test No. 3.

Medium Extended Air Defense System (MEADS)

The MEADS is an international co-development program between the United States, Germany, and Italy that represents the future of air and missile defense. The Army expects MEADS to replace the legacy Patriot system. MEADS will provide many advantages over existing air and missile defense systems. Such advantages include greater transportability and mobility with CH-130 roll-on/roll-off capabilities, CH-47/CH-53 transport capabilities, and continuous coverage capabilities for maneuvering elements. Others include a robust 360-degree battery defended radius, net-ready interoperability and greater reliability with improved diagnostics and prognostics. The program received approval in 2004, after a successful Defense Acquisition Board review, and is now in the design and development phase. A memorandum of understanding was signed by Italy and the United States. Germany is expected to sign the memorandum in the very near future.

Training and Doctrine Command Systems Manager-Lower Tier

Air and Missile Defense Battalions.

As part of Army Transformation, we are rapidly inactivating divisional ADA battalions, stripping them of their Bradley Linebackers, and merging their Avengers and Sentinel radars with Patriot batteries to create composite air and missile defense (AMD) battalions. The creation of AMD battalions addresses capability gaps, permitting us to defeat cruise missiles and unmanned aerial vehicles while maintaining our capability to defend critical assets from the ballistic missile threat. Deploying with



units of employment and units of action, the AMD battalions will capitalize on the synergies of two previously separate disciplines: short-range air defense and high- to medium-altitude air defense. The AMD battalion's Avenger and Patriot systems will operate in a netted sensor environment that permits them to share critical information about the joint air picture.

The recent Total Army Analysis states we require 16 or more AMD battalions to counter the current threat, but we are only structured to man 14 battalions. The current plan is to organize eight battalions as Patriot pure units; organize four battalions as AMD battalions; and organize the 5th Battalion, 5th Air Defense Artillery, in Korea as an Avenger pure or maneuver air and missile defense battalion. This transformation is underway. On 21 January 05, the 1st Battalion, 44th Air and Missile Defense Battalion (Provisional), unfurled its colors at Fort Bliss, Texas.

Air and missile defense transformation will expand career opportunities within the branch beyond the traditional weapon-centric focus, producing AMD officers capable of uniting multiple weapon systems into a coherent defense with maximum effect. Concurrently with the creation of AMD battalions, we are developing and fielding air defense airspace management (ADAM) cells throughout the foundation forces. Within units of employment-y, units of employment-x levels and brigade combat teams (units of action), ADAM cells will perform four ADA missions: plan AMD coverage, contribute to third-dimension situation awareness and understanding, provide airspace management, and integrate operational protection. With an emphasis on receiving and sharing the joint air picture from multiple sources and assets through the battle command network, ADAM cells will provide commanders situational awareness as well as the traditional threat air picture, enabling commanders to effectively manage their aerial assets.

Air and Missile Defense Transformation is keeping step with Army Transformation. It will enable ADA Soldiers to provide maximum support to commanders in the field while protecting critical assets throughout the world from the growing air and missile threat in all its manifestations.

Surface Launched Advanced Medium Range Air-to-Air Missile (SLAMRAAM)

The Army and the Marine Corps have combined their requirements for the Army's SLAMRAAM and the Marine Corps' Complementary Low-Altitude Air Weapons System. The Marine Corps variant will use the Army's Integrated Fire Control Station. The program is currently in the system demonstration and development phase. A limited user test is scheduled for the fourth quarter of fiscal 2007 with low-rate initial production scheduled to begin during the first quarter of fiscal 2008. During 2008, the Army expects to equip one ADA battalion with 24 SLAMRAAM fire units.

Joint Land Attack Cruise Missile Defense Elevated Netted Sensor System (JLENS)

The JLENS is a joint program that will provide wide-area surveillance and precision tracking of the low-altitude cruise missile threat using advanced sensor and networking technologies mounted on elevated platforms. The JLENS program is in the concept and technology development phase of acquisition and is in the process of finalizing and staffing documentation required for a Defense Acquisition Board decision scheduled for the third quarter of fiscal 2005. An emergency operational capability is planned to be available in fiscal 2008. Spiral-1 of this development program is flying at McGregor Range and will participate in Exercise Roving Sands 05.

Directorate of Training and Doctrine and Leader Development

Air and Missile Defense Captain's Career Course Awarded Master's Degree Credit.

After nearly a year of revamping lesson plans, exercises, and examinations, the Air and Missile Defense Captain's Career Course (AMDC³) has become the first Army officer education course to be accredited by the American Council of Education to award graduate-level credit hours to its graduates. In addition to completing the AMDC³, students seeking a master's degree will have to complete seven University of Texas-El Paso courses: Essentials of Leadership, Organizational Theory and Behavior, Research Methods, Leadership and Management, Communication, Comprehensive Integration, and Statistics. These courses are taught two nights per week and on Saturdays throughout the course.

Operational Needs Drive Increase in Functional Courses

The U.S. Army Air Defense Artillery Schools has responded to lessons learned during Operation Iraqi Freedom and Operation Enduring Freedom by creating or redesigning training courses. These courses will enable ADA leaders and Soldiers to operate more effectively in the contemporary operational environment. Present operational needs require that leaders and Soldiers are fully trained and ready to deploy for combat operations within 30 days of arrival to their unit. Upon completion of any of the following "functional courses," ADA leaders and Soldiers should excel in helping their unit to fulfill its AMD mission.

Avenger Master Gunner Course. The Avenger's combat role in the Global War on Terrorism ensures it will continue to be a combat multiplier in the future. Senior noncommissioned officers attending this course will acquire the skills and knowledge needed to perform critical combat tasks required to prepare and fire the weapon system in both static and maneuver environments, as well as in traditional and non-traditional ADA combat roles. Units, in turn, will use graduates as master trainer-evaluators.

Air Defense and Airspace Management (ADAM) Cell Course. The ADAM Cell is also now resident at the Unit of Employment/Unit of Action level. Presently, the Air Defense Artillery School is developing a course specifically designed for noncommissioned officers and commissioned officers on orders for ADAM cell duty. The course focuses on: airspace manage-

ment; providing third dimensional situational awareness and understanding; coordinating Army airspace command and control requirements, and planning for the integration of AMD units into a UA/UE. The course will also focus on employment of the Air Defense System Integrator, the Air and Missile Defense Workstation, the Tactical Airspace Integrated System, Forward Area Air Defense Engagement Operation Workstation and assorted communication equipment.



Patriot Master Gunner Course. Noncommissioned officers completing this course will possess the technical and tactical skills necessary to perform Patriot defense design analysis, develop and conduct training plans in accordance with Patriot Gunnery tables, and serve as observer/controllers and evaluators of Patriot Gunnery operations. The course is designed to ensure units have noncommissioned officers assigned with the expert-level skills required to develop and provide a comprehensive understanding of operations, planning and airspace management and to bring standardization to gunnery tables execution.

Patriot Top Gun Course. Officers—both commissioned and warrants—selected for this course will gain Patriot system expertise in plans and operations. The Top Gun course objective is to increase significantly the knowledge of highly qualified Patriot system operators and planners from battery to brigade level. Designed for Soldiers who already possess high levels of expertise, this course immerses the student in an intensive series of learning situations centered on the art and science of threat analysis, mission definition, defense design and engagement operations.

Joint Theater Air and Missile Defense (JTAMD) Course. Active and Reserve Component officers, warrant officers, DoD civilians, and enlisted personnel from all services en route to a joint or combined arms theater defense assignment are eligible to attend the JTAMD course. The objective of this Joint Forces Command certified course is to train leaders from all services on the complexities of JTAMD planning processes. The course is designed to produce planners capable of developing joint defense design and synchronizing all four services' weapon systems based on capabilities and limitations. Other focus areas include joint operations, joint combat identification evaluation team and Operation Iraqi Freedom lessons learned, air and missile threat sets, and the joint operational planning process for Army airspace command and control operations.

ADA Fire Control Officer (ADAFCO) Course. Active and Reserve Component ADA officers en route to a joint or combined arms theater defense assignment can attend the ADAFCO course. The course is still in the development phase; however, the initial pilot is scheduled for the fourth quarter of fiscal 2005. The intent of the course is to train ADA officers on critical ADAFCO and liaison officer duties and planning processes. Since these officers could be assigned duties in a variety of locations, including joint or combined operations centers, the scope of this course focuses on fire direction coordination and integrations of AMD systems within the joint integrated air defense system.

6th Air Defense Artillery Brigade

Warrior Transition Course Moves From Fort Knox to Fort Bliss

The Warrior Transition Course provides transition training for active and prior service Navy and Air Force enlisted personnel entering the Army. This four-week course will move to Fort Bliss and be executed by the New Mexico National Guard's 1/515th Regional Training Institute, under the oversight of the 6th ADA Brigade. The course focuses on troop leading procedures, land navigation, weapons training, and the 39/9 Warrior Tasks and Drills. The first course is scheduled to begin in June 05.

Motor Vehicle Operator Course Expansion

The Fort Bliss driver's training load will increase from 850 to more than 1,200 students per year, starting in March 2005. Facilities on main Fort Bliss have been renovated to support the expanded training, including a larger facility to support driving simulators and a fenced area for controlled driving.

SCANNING

Team Bliss Gears Up for Population Explosion

Since 9/11, Fort Bliss, Texas, has become one of the Army's premier power-projection platforms, mobilizing, training, deploying and demobilizing more than 56,000 Soldiers in support of the Global War on Terrorism. Now the Army has earmarked \$261 million to for pre-construction site preparations for incoming modular brigades at Fort Bliss and four other installations. Within the next few months, 3,800 troops from the 1st Cavalry Division will call Fort Bliss home. The Home of Air Defense Artillery has made tremendous strides toward reaching its vast potential as one of the Army's premier installations. Look for "Every Mission Starts Here," a major feature article on Fort Bliss expansion and transformation in the next issue of Air Defense Artillery Magazine.

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When at Fort Bliss, visit the shop inside the Air Defense Artillery Museum. We're open Monday through Saturday, 10:00am to 4:00pm MST, except Thanksgiving, Christmas and New Year's Day.

SCANNING

Patriot Missile Defense

All nine enemy tactical ballistic missiles that threatened areas designated for Patriot defense were engaged. Eight of these engagements were observed by enough other sensors to conservatively declare them successes; the ninth engagement is judged to be a probable success. None of the attacking tactical ballistic missiles caused any damage or loss of life to the coalition forces.

The Patriot battalions operated reliably, and the two variants of the interceptor missile worked well against these Iraqi tactical ballistic missiles. One can argue that these relatively slow missiles, which did not break up in flight like the Scuds of Desert Storm, were not stressing targets; however, their short range and the coalition's goal of large defended footprints and high-altitude intercepts due to chemical warhead concerns made them somewhat stressing targets for the Patriot and their crews.

In an overall sense, the Task Force assessed the Patriot missile defense in OIF to be a substantial success —Report of the Defense Science Board Task Force on Patriot System Performance, March 2005

The Air Defense Artillery Association

The Air Defense Artillery Association is a private, non-profit organization whose mission is to benefit active and retired Air Defense Artillery soldiers.

The goals of the Association are:

- **Foster** a spirit of unity and *esprit de corps* among members of the branch;
- **Support** to the Air Defense Artillery Museum and the Fort Bliss Museum and Study Center and other programs of the Museums Division.

Visit our website (firsttofire.com) and use our secure Online Membership Form to join the ADA Association.

For More Information on the ADA Association:
Call 915-568-2711, email us at fanninge@bliss.army.mil,
or write to the ADA Association at P.O. Box 6101,
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