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32nd AADCOR Furls Its Colors





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FEATURES

32nd AADCOTM Inactivation 2

As the inactivation of the 32nd Army Air Defense Command brings down the curtain on the Cold War, former commanders salute soldiers who wore the command's "Swift and Sure" insignia.

German Air Defense 25

Following reunification, the German Air Force restructures its air defense forces to meet the growing demands of an expanded post-Cold War mission.

Integrated Diagnostics 30

Thanks to the Patriot Integrated Diagnostics Support Demonstration, future system maintainers may be able to call "911" for help.

Guantanamo 34

Air defenders deployed to Guantanamo Bay's crowded migrant camps serve as protectors, providers, arbitrators and detention camp custodians for Cuban migrants.

DEPARTMENTS

Intercept Point 1

The Chief of Air Defense Artillery pays tribute to the thousands of 32nd U.S. Army Air Defense Command soldiers who served as warriors on the Cold War's front line.

Column Write 17

Air Defense Artillery's top NCO says the inactivation of the 32nd Army Air Defense Command ends not only an era but a way of life for air defenders.

ADA Digest 18

Tracking recent ADA developments from the Army's combat training centers and the world of Air Defense Artillery.

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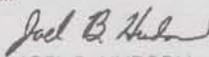
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Fellow Air Defenders:

My tenure as Chief of ADA will come to a close on 1 August 1995 as I transfer the Branch leadership to Major General Jack Costello. Our Branch could not be in better hands with him at the helm.

Thanks to all you great soldiers, NCOs, officers, and civilians that have worked so hard for the Branch during my tenure. There is no better group of dedicated professionals in our Army.

I've been privileged to serve with all of you. I've gained strength and confidence watching you tackle the tough issues and always producing top quality results.

Our mission is force protection. Because of your competence, that's exactly what we'll provide as we remain prepared to be...

FIRST TO FIRE!

A handwritten signature in black ink, reading "James J. Cravens, Jr." The signature is stylized and cursive.

James J. Cravens, Jr.
Major General, U.S. Army
Chief of Air Defense

Intercept Point



The U.S. Army Air Defense Command (ARADCOM) and the 32nd Army Air Defense Command (AADCOM) were once virtually synonymous with Air Defense Artillery. Both were created in response to top priority threats, and both were inactivated as those threats evaporated, only to be superseded by new threats. Today, both are history, but their past continues to illuminate the future of Air Defense Artillery.

The ARADCOM inactivation, described in the previous issue of *ADA* magazine, was the largest, and in many ways the most traumatic, inactivation in ADA history. The command vanished when U.S. strategists decided “mutually assured destruction” offered insurance enough against a nuclear surprise attack. But a new threat arose, as it always seems to, to refocus our air defense priorities. The enormous buildup of conventional Soviet air and ground power exposed NATO to a massive armored attack, preceded by swarms of threat aircraft.

The U.S. response was the forward deployment of forces and the creation of 32nd AADCOM. At a time when greatly outnumbered American soldiers faced the Red Army across a few strands of barbed wire, 32nd AADCOM air defenders were very much front-line soldiers. So, for that matter, were their spouses, who, if war came, were assigned the task of guiding the chil-

dren to safety. When the children of ADA soldiers were asked the name of their hometown, as likely as not, they answered “K-Town,” or Kaiserslautern, where 32nd AADCOM’s headquarters was located for most of the command’s existence.

When the Cold War ended, 32nd AADCOM, its mission accomplished, furled its banner. The inactivation, described in this issue of *ADA* magazine, symbolizes the end of Air Defense Artillery’s forward deployment era and the beginning of its power projection era.

Now that the national security defense policy embraces force projection, the continued need for a continental-based air defense command that can command, control and manage theater air and missile defense forces in contingency theaters of operations seems obvious to air defenders, but at the moment, there is no approved plan to replace 32nd AADCOM with a continental-based air defense command. Instead, doctrine assigns the task of coordinating theater air and missile defense to the highest-echelon ADA commander in theater.

Will advanced warfighting experiments demonstrate the requirement for the rebirth of an air defense command, or an organization capable of functioning much like an air defense command? That question will be answered as we make the transition to Force XXI. Meanwhile, we must prepare to meet the new threat posed by the global proliferation of third-dimension threat technology that has replaced the old. In the tradition of ARADCOM and 32nd AADCOM, we will adjust our priorities to ensure Air Defense Artillery remains —

First to Fire!

A handwritten signature in black ink, reading "James J. Cravens Jr." in a cursive style.

Maj. Gen. James J. Cravens Jr.
Chief of Air Defense Artillery

Change of Command

Brig. Gen.(P) John Costello has been selected to replace Maj. Gen. James J. Cravens Jr. as Chief of Air Defense Artillery and Commander, U.S. Army Air Defense Artillery Center and Fort Bliss, Texas. The change of command is expected to take place in late July.

In another move scheduled for this summer, Brig. Gen. Gregory Rountree will replace Fort Bliss Deputy Commander Brig. Gen. Joseph M. Cosumano Jr. Cosumano doubles as the Assistant Commandant of the U.S. Army Air Defense Artillery School.

Upon learning of his reassignment, Cravens, who will become U.S. Army Training and Doctrine Command’s Deputy Chief of Staff for Combat Developments, drafted the following message to ADA soldiers and civilians:

As my watch comes to a close, I would like to express my gratitude for the support and excellent work you have provided throughout my tenure as Chief of Air Defense Artillery. Never faltering, always maintaining the highest standards of professionalism, air defenders performed traditional and nontraditional roles in a manner that has greatly enhanced the branch and its image.

We are a dynamic branch armed with a clear vision and equipped with an expanded role to play on the battlefields of the future. ADA is the vanguard of the Army’s journey to Force XXI. We are and will remain a key player.

It is with confidence in you, the quality leaders, soldiers and civilians, that I depart. I know you will lend your institutional knowledge and expertise to my successor, Brig. Gen. John Costello, with the same vigor and excellence you provided to me. General Costello will be called upon to carry the burdens and will experience the joys of guiding Air Defense Artillery on the next leg of the journey to Force XXI. We, as a branch, will arrive at the end of the journey fully prepared to accomplish our mission — ready as always to be First to Fire!

JJC



**32ND AADCOM
INACTIVATES**





MY THOUGHTS ON THE INACTIVATION

by Brig. Gen. Joseph G. Garrett III and Maj. Stephen M. Beatty

The 32nd Army Air Defense Command (AADCOM) will officially inactivate on July 15, 1995. An Honors Ceremony held March 21 in Darmstadt, Germany, honored all of those soldiers who so faithfully served 32nd AADCOM throughout the years.

As the final commander of 32nd AADCOM, I have mixed feelings as the inactivation process evolves. My pragmatic side realizes the Cold War has been won and that the inactivation of this headquarters signifies a victory for all Americans. However, it was with a great deal of emotion that we formally marked the inactivation of the unit during the Honors Ceremony. The primary reason the ceremony was so poignant was that a significant piece of our branch—a piece of American military history—was being retired. From meager beginnings, the unit evolved during the Cold War into a command that represented the first line of defense for NATO in the event of an air attack by the Warsaw Pact forces, and since the fall of communism, evolved into a unit that has prepared itself for any possible contingency operation. It also represented the U.S. Army's only theater-level air defense command.

The 32nd AADCOM was activated for service in World War I, when it was created as the 32nd Artillery Brigade, Coast Artillery Corps. The command has come a long way from those humble beginnings to demonstrate its flexibility in updating both weapon systems and tactics. The command mission expanded to include the mission to defeat all types of airborne targets. At the same time, 32nd AADCOM grew from an element of NATO's "defense in depth" to a force that has demonstrated its ability to quickly

deploy and fight in any type of theater.

In its largest form, 32nd AADCOM boasted four air defense brigades (a total of 16 battalions), the largest signal battalion in the U.S. Army (the 11th Air Defense Signal Battalion had units stretched more than 200 miles from Nuremberg to Donnersberg) and its own support command. Equipped with weapons from the shoulder-fired Stinger weapon system to Hawk to the nuclear-capable Nike Hercules multistage missile, 32nd AADCOM soldiers served throughout the Federal Republic of Germany. From just outside the Luxembourg border to Regensburg (near the Czech border), 32nd AADCOM units comprised a major portion of the NATO "Hawk belt," which provided ADA coverage from the North Sea to the Austrian border. 32nd AADCOM maintained the prestige of a major subordinate command and possessed equal "billing" with any maneuver division in either V or VII Corps. 32nd AADCOM was also supported by the only pre-configured Hawk battalion (2-55 ADA), which was stationed at Fort Bliss, Texas, and was designated as the only U.S. missile unit of any kind to be scheduled for deployment to Europe by air.

Despite all of 32nd AADCOM's accomplishments during the Cold War, what followed demonstrated to me just how capable the AADCOM really was. During a time when most other NATO surface-to-air missile units remained permanently deployed around stationary airbases, 32nd AADCOM embraced U.S. Army Europe's new concept of being offensive-minded and deployable. In the early 1990s, 32nd AADCOM began to improve the ways it could protect maneuver forces against

attack from enemy air-breathing threats and possible tactical ballistic missile attacks. 32nd AADCOM Patriot units embraced these new concepts and prepared to deploy wherever needed.

During my tenure as commander of the 32nd AADCOM (since July 1993), the unit continued to achieve outstanding results. Here are just a few of those accomplishments:

- August-October 1993. 5-7 ADA (A and C Batteries) became the first Patriot unit to participate in a combat maneuver training center rotation.

- November 1993. 32nd AADCOM hosted and participated in Central Shield '93, the largest air defense exercise ever conducted. Also participating were all active echelon above corps ADA brigades, the 69th ADA Brigade and three National Guard ADA brigades.

- February 1994. 1-7 ADA became the first U.S. ADA unit to be administered a NATO tactical evaluation in three-and-a-half years. The unit's outstanding performance demonstrated 32nd AADCOM's commitment to training excellence.

- February-August 1994. 5-7 ADA conducted an efficient move from Bitburg to Hanau with no reduction in combat readiness.

- May-December 1994. 32nd AADCOM resourced and executed the Joint Visitor's Bureau for four World War II 50th Anniversary commemorative celebrations: Normandy (June 1994), Southern France (August 1994), Market Garden (October 1994) and the Battle of the Bulge (December 1994).

- June-September 1994. Assisted 69th ADA Brigade and 6-43 ADA in their training to participate—and excel—in national, multinational and NATO tactical evaluations.



The reviewing party for Headquarters and Headquarters Battery, 32nd AADCOM Honors Ceremony (from left to right): Gen. William Crouch, Commander in Chief, U.S. Army and 7th Army; Brig. Gen. Joseph G. Garrett III, Commanding General, 32nd AADCOM; Honorable Peter Benz, Lord Mayor of Darmstadt; and Maj. Gen. Michael Vollstedt, 2nd German Air Division.

- October-November 1994. During Atlantic Resolve '94, 32nd AADCOM became the multinational joint task force commander's ADA element, controlling all aspects of air defense operations for the joint task force.

- November-December 1994. 32nd AADCOM used the Counter Guard '94 exercise to successfully integrate into NATO's Air and Land Central Command liaison operations.

- January-present. 5-7 ADA successfully deployed to Saudi Arabia to meet a national contingency requirement. Even though the drawdown of the 32nd AADCOM headquarters was well underway, the command supported the deployment to the fullest.

- January-present. The drawdown of the headquarters, the Headquarters and Headquarters Battery, 32nd AADCOM and the 611th Ordnance Company has been going very well, even though it has been conducted simultaneously with a relocation of both the HHB, 94th ADA Brigade and the 413th Signal Company from Kaiserslautern to Darmstadt. The professionalism displayed by the soldiers of this command has remained of the highest caliber.

As I delivered the final address to the command during the honors ceremony, my thoughts centered on the unit's accomplishments and the many soldiers, family members and civilian workers who made its accomplishments possible. As an air defender, it just didn't

seem fair that the Army would inactivate such a proud unit. In fact, within NATO (especially within the Central Region), 32nd AADCOM was still a leader in both training and operations. This professionalism became apparent during each deployment, tactical evaluation and exercise. The history of 32nd AADCOM parallels the evolution of the American military during the 20th century; its history is one of which we should all be proud.

As I stood on the field watching the last 32nd AADCOM pass in review, I was confronted with the unfortunate realization that a proud era of ADA history has come to an end. But though the unit will inactivate, its spirit and strength live on. It lives on in the six

Patriot battalions that came out of the AADCOM (those six battalions represent two-thirds of the Army's Patriot force), it lives on in the standards of excellence that our soldiers will carry with them to their new units, it lives on in the hearts and minds of thousands of veterans who served the AADCOM with pride, and it lives on in the heritage and traditions of our branch.

In writing this article, my objective was to honor our command, but we also must honor a special relationship: the bonds we share with our German allies, both military and civilian. 32nd AADCOM would not have been as successful without those all-important mili-

tary and civilian partnerships formed at the unit level. The officers, NCOs and soldiers of the past and present are responsible for that success. Germans and Americans have trained, lived and worked together, and, in turn, have learned so much about each other.

32nd AADCOM and Darmstadt set a standard for community partnership that I believe is unmatched by any other location in Germany. The partnership was founded 50 years ago when the first American soldiers arrived in Darmstadt. They came as warriors, but they are remembered today as friends.

All of those who served in 32nd AADCOM worked hard to make our

community the best possible place to live and work. We succeeded, and we continue to work to maintain a strong relationship between the U.S. and German military and civilian communities. Our partnership emphasizes the fact that whatever we do and whatever victories we achieve, we do it together. We are partners. We are a team. We are allies in the truest sense of the word.

As the 32nd AADCOM's final commander, it is my pleasure to lead off this tribute to a great command. To all the soldiers who have ever served with the 32nd AADCOM, thanks for a job well done.

First to Fire!



32ND AADCOM UNIT HISTORY

32nd AADCOM was formed in January 1918 as Headquarters and Headquarters Company, 32nd Artillery Brigade, Coast Artillery Corps, at Key West Barracks, Fla., under the command of Brig. Gen. William C. Davis. Nine months later the brigade sailed for France, where it joined the American Expeditionary Force (AEF) during World War I.

The 32nd arrived in Europe without its own equipment and had to borrow French 75mm artillery before it could take part in combat. As a field artillery organization, the unit participated in the battle for the St. Mihiel Salient, the first operation for the AEF as an independent army. The 32nd also gave support fire during the final offensive of World War I, the advance from the Meuse River to the Argonne Forest, and is credited for the Meuse-Argonne Campaign. After a short period of occupation duty in France, the unit returned to the United States, where it was demobilized at Camp Hill, Va., in January 1919.

In October 1927, the 32nd was reconstituted in the Regular Army as an inactive unit and assigned to the Second Corps Area.

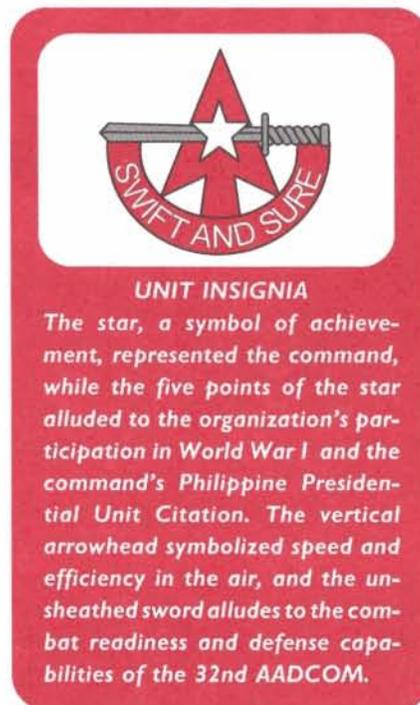
After the United States entered World War II, in 1942, the 32nd Coast Artillery Brigade was reactivated as a Regular Army unit at Fort Bliss, Texas. In August 1943 it moved to the San

Francisco port of embarkation for transfer to the Pacific theater of operations. In the interim, the unit was redesignated the 32nd Antiaircraft Artillery Brigade. It arrived in Australia aboard the *President Johnson*.

Initially assigned to the 14th Antiaircraft Artillery Command, the 32nd later became part of the Seventh U.S. Army, which fought against the Japanese in New Guinea. The brigade also took part in the landing on Leyte in the Philippines in October 1944, going ashore only an hour after the first assault wave.

During the Philippine Campaign, the 32nd was credited with shooting down 249 Japanese planes, in addition to 111 probably destroyed and 129 damaged. The brigade was also credited with holding off 425 Japanese paratroopers who tried to take the Leyte airfield by airborne assault.

For its part in the Leyte Campaign, the 32nd Brigade was awarded the Philippine Presidential Unit Citation. During the occupation of the Philippines after the war and before it was inactivated in May 1947, the 32nd was given the mission of training Filipino scouts.



UNIT INSIGNIA

The star, a symbol of achievement, represented the command, while the five points of the star alluded to the organization's participation in World War I and the command's Philippine Presidential Unit Citation. The vertical arrowhead symbolized speed and efficiency in the air, and the unsheathed sword alludes to the combat readiness and defense capabilities of the 32nd AADCOM.

In February 1951, the 32nd was reactivated at Mildenhall, England, to protect U.S. Air Force bases from air attack. As part of the NATO forces, the unit became a subordinate command of U.S. Army, Europe (USAREUR).

In June 1957, the brigade deployed from England and established its new headquarters in Kaiserslautern, Republic of Germany. The following year, the unit was redesignated as Headquarters and Headquarters Battery, 32nd Artillery Brigade. Before the brigade switched over to air defense missiles, such as the Nike Ajax, it was equipped with 75mm and 90mm antiaircraft guns. The brigade acquired the Hawk and Nike Hercules missile systems in 1964.

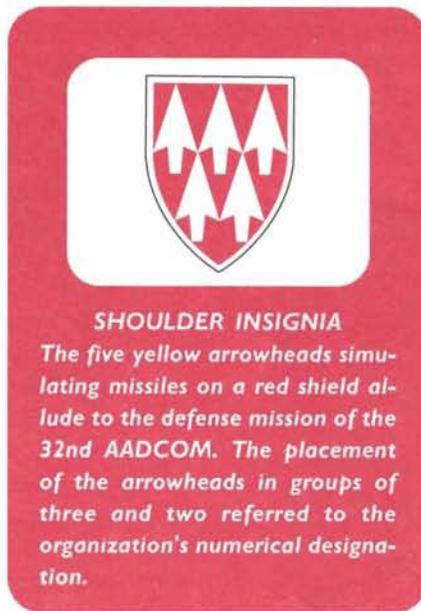
In May 1966 the 32nd was redesignated as the 32nd Army Air Defense Command. Under the 32nd were the 10th, 69th, 94th and 108th ADA Brigades, making it the largest air defense unit in the U.S. Army. As part of USAREUR and U.S. Seventh Army, it maintained a constant watch over West Germany in support of NATO.

In November 1975, Headquarters Battery, 32nd AADC, moved from Kapun Barracks in Kaiserslautern to Cabrai-Fritsch Kaserne in Darmstadt, where it was stationed until the command's inactivation in 1995.

In 1984, the last Nike Hercules battalion, 3-71st ADA, inactivated. The subsequent withdrawal of several Hawk battalions from Europe paved the way for the arrival of the first Patriot battalion, 4-3 ADA, in January 1984.

In 1985, as the Army formulated AirLand Battle Doctrine and prepared for what seemed an inevitable clash with Warsaw Pact forces, 32nd AADC commander Maj. Gen. Victor J. Hugo assayed the status of the gair air defense command.

"Air defenders have seen remarkable improvements in their working conditions and in the quality of equipment provided for their use," wrote Hugo, remembering the primitive conditions that once characterized the command. "But, perhaps our greatest ac-



complishment as a branch has been the quantum increase experienced by families and single soldiers concerning quality of life issues.

"Even though we are experiencing funding reductions, the quality of life of all air defense soldiers and their families continues to improve," he continued. "For the single soldier, barracks modernization programs and more than \$2 million in new barracks furniture have produced a standard of living unknown to air defenders in Eu-

rope just a few short years ago. Families are also benefitting from a new Army concern for their welfare. Family centers, one-stop civilian personnel office job centers, greater child-care facilities and spouse support groups are all initiatives that are now beginning to pay big dividends. I am pleased to report that, here in Europe, Air Defense Artillery is the vanguard of this important effort."

Hugo also looked forward half a decade. "The end result of all these doctrinal and hardware improvements [Patriot and Hawk modifications]," he said, "will be a theater Army air defense command that is leaner, prouder, more skilled and more capable to face the threat of 1990 and beyond."

No air defender who defended NATO's frontiers of freedom at a time when Warsaw Pact commanders openly boasted of their confidence in the Red Army's numerical superiority could have foreseen the crumbling of the Berlin Wall, German reunification or the sudden collapse of the Soviet Union. And few would have predicted that 32nd AADC's Cold War mission would culminate with a simple inactivation ceremony rather than the thunder and roll of missiles headed toward intercept points.

A TIME OF TURMOIL

by Brig. Gen. John Costello



It was my honor to serve with the soldiers of the 32nd Army Air Defense Command from December 1990 to July 1993 as both the chief of staff and later as the commanding general. This was indeed a time of turmoil and change for the AADC as it faced a new world order and challenges to peace in South-west Asia.

As the chief of staff to Major General Jerry Putman, I witnessed the evolution of the AADC from a mainstay in NATO's Cold War defense of the Central

Region to a command focused on restructuring, modernization and training to meet the demands of a new Army. More closely linked to the forward-deployed corps and support of maneuver warfare than ever before, the command's training program, as personified in weapon system training tables with gates and standards of performance, spearheaded training in

USAREUR and was fundamental to the success of AADCOM soldiers deployed during Operation Desert Storm.

I have vivid memories of late nights and emotional moments as I observed Major General Putman send his soldiers off to war in Saudi Arabia, Turkey and Israel. Despite the uncertainty of war, we were all confident that the training and the discipline of AADCOM soldiers would prevail — and it did.

Amid the challenges of deploying and supporting soldiers, and in the case of Israel and Turkey, playing a key role in the U.S. European Command command link, the AADCOM was in the throes of downsizing and its inherent turmoil. A key effort in reorganization was the formation of the corps ADA brigade in support of V Corps. This was not an easy task. We had to overcome NATO and Air Force Cold War views of the battlefield. Once again we prevailed, and today the 69th ADA Brigade is a key and essential member of the “Victory Corps” team.

It was my good fortune to assume command from Major General Putman in January 1992. The AADCOM had just deployed the 10th ADA Brigade under the command of Colonel Paul Semmens to replace Colonel Jim Madora’s 94th ADA Brigade as part of Southern Watch in Saudi Arabia. The 108th ADA Brigade, under the command of Colonel Joe Cosumano, was recovering equipment from Turkey and leading the effort to reconsolidate units post-Desert Storm and redeploy to the United States. The 11th Signal Battalion, the Army’s largest, had come off the hills and was conducting the

largest fielding of mobile subscriber equipment with AADCOM- and Army-designed improvements to support specific air defense communications requirements. 3-52 ADA and 4-1 ADA

(Hawk) battalions were completing Hawk Phase III modernization training and the AADCOM staff was fully engaged in the endless “end state” organizational drills. We would soon inactivate the great 10th ADA Brigade, send the 108th ADA Brigade back home to join the XVIII Airborne Corps, inactivate the last two Hawk battalions, return Patriot stateside and reorganize in Europe.

All this could not have been accomplished without great soldiers and leaders, particularly our outstanding NCOs who, despite numerous deployments and the turmoil of downsizing, held it all together. And the families: the families were great in their strength, understanding, care and compassion — they were the key to a great team.

My most memorable moments occurred during the summer of 1992, when the AADCOM deployed Patriot to Kuwait and Bahrain with absolutely no notice. This truly magnificent effort set an enduring standard for the rest of the Army in Europe — an Army now faced with the challenge of contingency deployments. I vividly recall General [Timothy] Maddox’s (then commander in chief of USAREUR) account of his phone conversation with General [Colin] Powell, then the chairman of the Joint Chiefs of Staff, concerning Patriot deployment. The chairman said, “We need Patriot to Kuwait now.” Maddox said,

I will never forget, nor could I ever express my appreciation and admiration of, the more than 17,000 men and women and their families for their dedication, loyalty and professionalism. It would be unfair and even impossible to single out many great people and their great contributions.

— Maj. Gen. (Ret.)
Charles F. Means

“Now?” The chairman said, “Now,” and Maddox said, “You mean now, now?” General Maddox called me around 0100 on Sunday morning and our great soldiers from 1-7 ADA in Kaiserslautern, under the leadership of Lieutenant Colonel Tim Lund, were waiting at Rhein Main by 1500 in the afternoon all packed and ready to go — we had learned our lessons from Desert Storm and we had begun a new era.

AADCOM soldiers would become all too familiar with the sands of Southwest Asia, but in every instance would acquit themselves with dignity and professionalism. The Award of the Army Superior Unit Award to the headquarters and numerous unit awards attest to the professionalism of the AADCOM soldiers, men and women.

As usual, the tempo of operations — always high in the AADCOM — did not subside. Deployments and redeployments, unit moves, reorganizations and keeping pace with a changing European Army in a changing world kept everyone busy. A culminating event was the AADCOM’s participation in Reforger ’92 and NATO’s Exercise Cactus Juggler in December 1992. For the first time, the AADCOM acted in the capacity of a theater Army command, with direct command links to the USAREUR and CENTAG [Central Army Group, Central Europe] commander. 32nd AADCOM Patriots supported the air defense brigades of III and V Corps and set the standard for mobile, maneuver-oriented theater air defense. We all recall the after action review comment by the British-led enemy air force who said that he (the enemy) failed because he could not gain air superiority and Patriot was the biggest killer on the battlefield. Again, the AADCOM was on the cutting edge of doctrine and its application.

As I recall with fine memories my service with the AADCOM, I reflect on the words of General [Gordon] Sullivan, Chief of Staff, in March 1993:

“The most recent Patriot missile battery deployments to Kuwait and Bahrain were singularly outstanding. The synchronization of the arrival of battery personnel from Europe with the equipment that was redirected

while on the high seas was certainly a combat multiplier. Our soldiers and leaders on the ground demonstrated an extra measure of competence and professionalism as they worked to achieve an operational capability in

each of the batteries within 35 hours after the download of equipment. All should be commended.”

Then, as now, the 32nd AADCOM and its soldiers served their nation proudly.

A VERY BUSY PERIOD

by Maj. Gen. (Ret.) Robert W. Fye



I served with the 32nd AADCOM from mid-1975 to mid-1978, the first commander to have more than two years in that coveted position. It was a very busy period for U.S. Army air defense in the NATO environment. New equipment was integrated into the force structure, greater emphasis was placed on air defense aspects of the annual U.S. Reforger exercises, and NATO began evaluating much more rigorously the readiness, training and logistical capabilities of member-nation air defense units (tactical evaluations). And significantly, the Warsaw Pact air threat was increasing in both numbers and sophistication.

During my tenure the 32nd consisted of five major elements, the 94th ADA Group (four Nike Hercules battalions), the 10th and 69th ADA Groups (four Hawk battalions each), the 108th ADA Group (three Chaparral/Vulcan battalions)

and the 11th (AD) Signal Battalion (the largest in the U.S. Army at the time).

In September 1975, soon after my arrival, the headquarters moved from Kaiserslautern, Federal Republic of Germany, to Darmstadt. The benefits of this relocation were several, particularly a more central location with respect to the far-flung units, and a smaller U.S. military community, lessening the distractions of community commander responsibilities.

In the mid-1970s, U.S. Army air defense systems long in development began to arrive, significantly increasing the 32nd's capabilities to accommodate the advancing air threat. The Improved Hawk modifications increased the reliability and capability of that weapon, although its integration into the system was not without its headaches. Deployment of the AN/TSQ-73 command and control system gave the groups and battal-

ions a marked enhancement to the effective and efficient utilization of available weapons. And while Patriot did not arrive during my tour, I worked to help the 32nd plan for its later fielding. I was particularly concerned that its batteries and battalions would merely occupy existing Hawk sites, not fully capitalizing on their greatly increased capabilities and perpetuating the isolation of battery fire units scattered across rural Central Germany. With the aid of a very capable 32nd AADCOM headquarters staff, I was able to convince the USAREUR commander in chief of the advisability of using Patriot fire unit ready sites, rotating manning crews from the nearest U.S. military community. Patriot deployment planning went forward based on this premise.

Operationally, I attempted to overcome the mindset then existent in NATO of essentially static fire unit deployment. Little could be done with respect to Hercules, but I was concerned that units in the so-called Hawk Belt would be destroyed early in hostilities unless they were prepared to move quickly — and often. This “staticness” had developed largely from NATO's emphasis on repelling the initial waves of attacking aircraft in the forward area at all costs. But a “dead” fire unit is of no value to anyone; likewise, U.S. division forces

The 32nd AADCOM's inactivation is the better-served result of a victory in the Cold War, to which this country and its allies dedicated themselves. All members, past and present, can take justifiable pride in their contributions to that victory through their professionalism, competence and devotion to duty. I was privileged to have served among them.
— Maj. Gen. (Ret.) Kenneth H. Bayer, 32nd AADCOM commander, September 1967 - October 1969

needed more protection than could be provided by their organic Chaparral/Vulcan units. Thus was born a program to improve Hawk unit mobility by exercising rapid displacements to likely wartime positions and more utilization of Hawk units in annual Reforger maneuvers. Of course, there were obstacles to overcome: NATO

alert requirements had to be met regardless of exercises; there was reluctance on the part of NATO commanders to even consider a role for 32nd AADCOR units to that of corps air defense units; and increased movement of units resulted in additional operation and maintenance costs. Nevertheless, we persevered, learned

a lot, and convinced others that such tactics were feasible and practicable.

My three years went very quickly. It was stimulating, satisfying and obviously the highlight of my command tours. I served with a great many intelligent, innovative air defenders who continually impressed me with their capabilities and dedication.



THREE YEARS OF CHANGE

by Maj. Gen. (Ret.) Charles F. Means

Just 30 days after I assumed command of 32nd AADCOR, we were involved in a major NATO exercise. The following major issues became apparent and were major influences on the command's activities for the next three years.

Communications was a major problem. The 11th Signal Battalion did a great job with what they had, but the facts were clear. 4ATAF's (4th Allied Tactical Air Force) rules of engagement and USAFE's [U.S. Air Force, Europe] war plans were based on very tight centralized command and control over the 32nd AADCOR and 2d German Air Division's ground-based air defense systems (as well as the U.S. corps air defense systems). We simply did not have the necessary communications capabilities to satisfy the command and control requirements over the whole 4ATAF area. We therefore changed our training emphasis to stress battalion and battery autonomous operations.

The 4ATAF procedures and USAFE war plans, based on tight centralized command and control and emphasis on offensive air operations, imposed excessive restrictions that basically shut down the ground-based air defense systems. We worked very closely with both

4ATAF and USAFE commanders and staffs to better understand the serious impact on us.

In coordination with the USAFE and 4ATAF staffs, we developed a comprehensive presentation of "how we fight." This presentation was made by 32nd AADCOR and USAFE personnel to USAFE, USAREUR, 5th Corps, 7th Corps, 4ATAF as well as to all U.S. division commanders and their staffs. Major changes resulted that significantly improved the NATO air offensive and defensive operations. Some important examples include the following:

- A reduction in the number of low-level transit routes in each corps area.
- Altitude engagement caps that simplified return of offensive air across the FEBA and ground and air defense engagements in common airspaces.

- USAFE and 4ATAF agreement to assign control of airspace at low altitudes to corps commanders for corps helicopter operations, and

- better and more effective procedures for the return of offensive air to air bases defended by ground-based air defense systems.

Headquarters, Seventh Army called on the 32nd. . . . If we could do it with complicated Hercules and Hawk systems and nuclear-capable weapons, Seventh Army felt that we could help a combat division with its rifles, machine guns, field artillery weapons and ADMs — and we did..

*— Lt. Gen. (Ret.)
Richard T. Cassidy*

Firepower

We never had the needed ground air defense firepower needed to counter the expected Red air attack scenarios. The enemy had excellent radar detection and location capabilities, and 32nd AADCOR systems were high priority targets. The NATO

political environment and the complications for releasing the fires of Nike, coupled with no mobility, almost assured that Nike would make virtually little to no contributions to the ground-based air defense operations.

While Hawk was mobile and had more firepower than Nike, our Hawk capability was no match for the expected Red air attacks. This is not to say that Hawk would not be a contributor—it would—but it would not be enough. The bottom line was we needed more firepower. We needed Patriot.

But Patriot presented another problem. How could we realize the tremendous firepower of Patriot in the very tight centralized command and control environment of 4ATAF and USAFE?

Desert Storm clearly proved the point. Fortunately, the commanders realized the need for decentralized control of Patriot fires to gain the benefits of the basic and embedded design of the system. While Desert Storm differed from a European scenario since there were no enemy offensive air to contend with, it does serve as the model for future ground-based air defense command and control. Nonetheless, the command and control of high firepower systems, such as Patriot, will present a significant challenge in the future for joint air offensive and air- and ground-based air defense systems. Ballistic missile defense adds another complicating element to the mission.

Tactical Mission

The mission of the 32nd AADCOM and group headquarters under 4ATAF was limited to training, logistics support and administrative functions. The tactical mission belonged to the battalions and batteries operationally assigned to 4ATAF in war.

We did not agree with this philosophy. Again, we worked very closely with 4ATAF and USAFE commanders and staffs to become involved and active in war planning and mission execution. We were successful and the command became the only “green suit” participant in the 4ATAF and USAFE air operations plans. The tactical mission performance of the command improved significantly.

Concurrently, the USAREUR commanding general designated the 32nd

AADCOM commander as the theater air defense officer for U.S. forces. Under this order, the 32nd AADCOM commander assumed responsibility for coordination of all U.S. air defense forces, operations and activities, including those divisional air defense forces in the V and VII U.S. Corps. This mission was carried out by 32nd AADCOM group and battalion commanders and staffs working with the U.S. corps and division commanders and staffs. The 32nd AADCOM commander and staff concentrated on 4ATAF, USAFE, USAEUR and CENTAG commands.

Readiness, Training and Logistics

The command’s 17 battalions were deployed over the total 4ATAF area of operations. Many batteries and communications sites were in remote locations, far from support bases. While 32nd AADCOM had dedicated logistic support responsibilities and capabilities for the peculiar air defense equipment, we had to rely on area support for our common equipment, such as vehicles, communications and engineer equipment. It was a very complicated support system.

We had to increase our mission-peculiar support budget from \$19 million in 1978 to more than \$45 million in 1981. We established a series of readiness centers at all levels to better manage the status and overall readiness of the command. We got approval for a deputy commanding general for logistics and readiness, making us equal to other division-size units. We also initiated major training programs in supply and maintenance operations and procedures. The result was an incredible im-

provement in the command’s readiness posture.

Fielding of Patriot

I inherited a small but very effective Force Modernization Office on the 32nd AADCOM staff. Their mission was to do all the planning necessary to bring Patriot into Europe. Concurrently, we were determined to rectify the poor training, maintenance and living conditions and facilities of many of the units in the command.

Working closely with the USAREUR corps of engineer staff and with NATO, we designed and fought for outstanding facilities to support Patriot units when they arrived. Because of the superior planning efforts of the command’s Force Modernization Office, we

won USAREUR support and got the necessary NATO infrastructure funding as well as the necessary U.S. funding for Patriot sites in Europe. NATO and USAREUR funding was especially critical in view of very competitive requirements for other new systems planning for European deployment.

An extremely critical tactical decision was made at that time. We decided to field Patriot battalions as half battalions (three-battery battalions initially) and to backfill the remaining three batteries later. We realized there was some danger of later decisions to cancel the backfill units, but the advantages were overwhelming.

First and foremost, we brought the incredible tactical capabilities and firepower of Patriot to all of the 4ATAF area of operations in a fraction of the time needed for a six-battery battalion field-

In the mid-1970s, U.S. Army air defense systems long in development began to arrive, significantly increasing the 32nd's capabilities to accommodate the advancing air threat. The Improved Hawk modifications increased the reliability and capability of that weapon.

*— Maj. Gen. (Ret.)
Robert W. Fye*

ing plan. We also locked up the NATO and U.S. funding to support the full Patriot deployment for peacetime sites.

The three-battery battalion deployment plan greatly simplified training, logistics and administrative support. It was much simpler and faster to integrate and phase Patriot into USAFE and 4ATAF operations and plans.

Command and Allied Relationships

We worked very hard and enjoyed very close relationships with the allied air defense forces. We established sister units at all levels from the 32nd AADCOM and the 2nd German Air Division to battalion-level units deployed in areas of common airspace. We trained together, exchanged soldiers and equipment, and developed common tactics and operations. We also worked closely in all phases and aspects of Patriot fielding to gain NATO support for infrastructure funding and to develop acceptable Patriot tactics and operations, deployment and common facilities. The cooperative Patriot fielding efforts with Germany, the Netherlands, Belgium and SHAPE [Supreme Headquarters Allied Powers Europe] Headquarters were particularly noteworthy.

Men and Women of the Command

The soldiers of the command faced a difficult and demanding 24-hour-a-day, seven-day-a-week, year-round mission under NATO command. More often than not, they were stationed at remote sites and had to provide their own security. They also took on the formidable task of creating an environment for healthy morale and welfare of the soldiers and their families.

It is unfair, perhaps even impossible, to single out one person from so many great people. However, I would be remiss if I did not recognize a truly outstanding soldier — Command Sergeant Major Jim Hair. He is a soldier's soldier. We were together during my entire command tenure. His advice and counsel were invaluable to me. I cannot thank him enough.



A PLAN COMES TOGETHER

by Maj. Gen. (Ret.) Victor J. Hugo Jr.

A popular TV series of the 1980s invariably included a comment by one of the principals, when all seemed to be going right, that essentially said, "Don't you just love it when a plan comes together?"

No phrase could be more apt when describing the pleasure and privilege of commanding the 32nd AADCOM from 1983 to 1987. The efforts and plans of my predecessors and many others from the Army, and particularly the air defense community, all seemed to coalesce during this time frame. The end of the period saw a much more capable force than that which existed at the beginning of the '80s.

Most obvious to all was the introduction of new and modified equipment. Patriot, a significant triumph of U.S. industry and government, made its appearance in Europe in 1985. With it came the requirement to revisit and revise our warfighting doctrine and tactics to make the maximum advantage of the quantum leap forward by this system. The Hawk system was product improved and its organization and tactical employment were modified to maximize its capabilities. Not forgotten were Chaparral with forward-looking infrared and Stinger with post and reprogrammable microprocessor. In short, the Army's philosophy of field-

ing equipment to improve the capabilities of the soldier was a reality, and a most positive impact on favorable warfighting capabilities.

Another positive step was the fruition of General Shy Meyer's efforts to rectify the Hollow Army. For the first time in my recollection of more than 30 years in the Army, we had enough money and civilian end strength to allow soldiers to do what they wanted to do — train. The results were impressive. We were able to institute year-round training in lieu of focusing on events — NATO tactical evaluations were more realistic, annual service practice was

conducted using the unit rather than a crew, NCOs took over the task of individual training and the officers concentrated on unit training. "We Fight Tonight" was the byword!

Close cooperation and coordination with the Air Defense Center and other Army agencies was the order of the day. Analyses of capabilities of both NATO and Warsaw Pact forces resulted in new doctrine, tactics and formations.

The past habitual association of the 10th and 69th ADA Brigades with the forward corps became the foundation for the corps ADA brigade. The 94th and 108th ADA Brigades became composite brigades, orchestrating all the weapon systems in the ADA arsenal. A support command, offering substantial enhancement in combat service support, came into being. Command and control, as provided by our organic 11th

While Hawk was mobile and had more firepower than Nike, our Hawk capability was no match for the expected Red air attacks. This is not to say that Hawk would not be a contributor — it would — but it would not be enough. The bottom line was we needed more firepower. We needed Patriot.

*— Maj. Gen. (Ret.)
Charles F. Means*

Signal Battalion, the largest signal battalion in the U.S. Army, kept pace with all else that was happening. We knew that the force we were assigned to protect would survive and, most importantly, win.

The most significant aspect of my tenure as the commander was the qual-

ity of all the soldiers (this includes enlisted, noncommissioned, warrant and commissioned), civilians and families in the command. Simply stated, they were the best I have ever seen. They were committed, innovative, enthusiastic and dedicated. They did all that was asked and more. They followed former Presi-

dent Kennedy's creed of not asking what your country can do for you, but what you can do for your country. They were magnificent; and it was an honor to serve with them.

In short, the years 1983 to 1987 were great years to be a soldier in 32nd AADCOR.

TRUE PROFESSIONALS

by Lt. Gen. (Ret.) R. L. Shoemaker



I assumed command of the 32nd AADCOR in November 1969 and turned it over to Major General C. J. LeVan when I was reassigned to command of Fort Bliss in June 1971.

In covering the spread of our three groups, 15 ADA battalions and a signal battalion deployed from the Czech border in the east to the French border in the west, I logged nearly 100,000 helicopter miles. My goal was to visit each battery at least once a quarter, more often in times of crisis such as imminent tactical evaluations. I was blessed in serving under two splendid commanders, General Jimmy Polk in USAREUR and General Gunter Rall, German Air Force, in 4ATAF for operations.

General Polk's philosophy was strictly laissez-faire: do your job and let me know if I can ever be of help. General Rall (later Chief of Staff, German Air Force) was similarly benign, an officer of the old school and a real gentleman. We frequently played squash and, although he was somewhat lame as the result of a war wound, he nearly always beat me. During World War II he had been a fighter pilot, the number two ace in Germany. We had both fought in Normandy, and we theorized that he might well have strafed me as I sought safety in a roadside ditch on one memorable occasion.

Probably our greatest challenge was trying to match the performance of our brothers-in-arms, the German Hercules batteries, in the annual 4ATAF tactical

evaluations. They had one huge advantage, of course: their personnel were essentially permanently assigned to the units, while we had the normal turnover. Even though we ran our own pre-ATAF evaluations, we could seldom equal their scores. It was a friendly competition, though, and the 32nd won the annual NATO Partnership Award based on our close relationship with the German missile units.

During my tenure we were joined by two Chaparral-Vulcan battalions, deployed in the Hahn-Kaiserslautern-Bitburg area. These proved to be first-rate systems, warmly welcomed by the Air Force units they came to protect.



In covering the spread of our three groups, 15 ADA battalions and a signal battalion, I logged nearly 100,000 helicopter miles.

*— Lt. Gen. (Ret.)
R. L. Shoemaker*

Self-propelled Hawk, on the other hand, was much better in theory than in practice. Designed to move on secondary roads or even cross-country, their electronic equipment was too sensitive to sustain much in the way of true mobility and the time to prepare the equipment for movement usually destroyed their potential advantages. The batteries so equipped invariably scored below their towed counterparts in tactical evaluations.

The 32nd deployment, especially Hawk, was not according to air defense doctrine, being generally linear instead of in depth. By 1969 to 1971, it was of course unfeasible to redeploy on a permanent basis, but we did locate alternate positions for occupation in an emergency situation in an effort to provide more depth.

We seemed to need an inordinate amount of tech rep support in the command and control area, especially in the Nike Hercules group. I was never totally confident that the equipment was going to be dependable, in spite of herculean efforts on the part of group personnel.

As was true of air defense generally, we had truly top-notch officers and enlisted men. They gave dedicated, intelligent service in the face of the usual problems and other demands not placed on most organizations. They were truly professionals!



THE "PEOPLE" ASPECT

by Maj. Gen. (Ret.) William E. Cooper Jr.

When I review my command tour of the 32nd Army Air Defense Command from 1981 to 1983, I have to revisit the 17-year period of time in which my commands at 05 through 08 took place. In this period of time, more than 70 percent of my Army service was in command positions at 05 through 08 level. When I assumed command of the 32nd, I had commanded, at 05 level or higher, all types of weapons found in the 32nd AADCOM. I went into my command position very well tuned on the "weapons" aspect of command. I left the command very appreciative of the "people" aspect of the command. I feel the people of the 32nd at all levels made it one of the outstanding units in Europe.

If I had to single out the greatest improvement in the 32nd AADCOM during the period 1972 to 1983, I would give full credit to the fantastic development of the NCO at the E-5 and E-6 levels.

When I arrived at the 10th ADA Brigade in 1972, I found few E-5s or E-6s in the command that were outstanding. When I left the 32nd in September 1983, the outstanding E-5 or E-6 was the norm rather than the exception.

I give full credit for this to the new enlisted selection process for the Army, the outstanding service schools in the Army and the training and leadership opportunities provided by our higher level command in Europe.

The soldiers of the 32nd AADCOM responded to this environment in a manner that was so outstanding, it was a real pleasure to work out our many problems. The families of these soldiers sensed the importance of the

mission of the command. They and the flow of great resources into the command allowed us to accomplish results that always seemed to top our expectations.

The 32nd became the real leader in Europe in training exercises, readiness and safety. This was in spite of our low troop levels when compared to the other NATO units doing the same job at the same time.

It was important that we gained the respect of NATO, but even more importantly, we gained the hard-to-achieve respect of the rest of the members of USAREUR. This was a joint effort of the 32nd AADCOM and the ADA units at division level in Europe.

The units of the 32nd were on a 24-hour-a-day, nose-to-nose, readiness posture in opposition to the forces of the Soviets and the Eastern Bloc.

No shots were ever fired by mistake. I think this one fact sums up the outstanding training and command and control by all members of the 32nd. This high level of command and control started at the battery level and worked its way all the way up to NATO.

It was a real experience for me to observe the 32nd become the ADA leader in Europe. I would like to thank the "people" of the 32nd AADCOM for demonstrating that the U.S. Army can become the very best in its mission.



AWARD-WINNING SOLDIERS

by Maj. Gen. (Ret.) James C. Cercy

I was privileged to command the 32nd AADCOM from August of 1987 to November of 1989. This was an exciting period of time as the Patriot missile system was being deployed throughout the command. New tactics and doctrine were being developed on the scene as we learned how to fight Patriot and Hawk together. We worked closely with our Air Force partners on procedures for joint engagement zones and new plans for protection of critical assets such as our air bases throughout Western Germany. NATO tactical evaluations and Army training and evaluation programs kept our soldiers trained at a high state of readiness, as was witnessed later during Desert Storm.

This was also a period when we enjoyed a significant modernization of our community facilities throughout the Darmstadt area and other communities that housed our 32nd AADCOM soldiers and their families. The culmination of this period was signified by receipt of the Army Community of Excellence Award in 1990.

32nd AADCOM soldiers set a fine example throughout Germany and Europe, and I am proud to have served among them.

THE BEST AND BRIGHTEST

by Lt. Gen. (Ret.) Richard T. Cassidy



I have had a close and meaningful association with the 32nd AADCOR over many years. As the commander of the 60th AAA AW Battalion, I deployed the battalion from San Francisco, Calif., to England in 1950 to join the 32nd AAA Brigade where we emplaced our 40mm batteries for the defense of RAF bases at Lakenheath and Mildenhall. These bases were being used by U.S. Strategic Air Command bomber crews on six-month rotations from the United States to forward bases during the Cold War.

I had a short, testy discussion with the CINCSAC, General Curtis LeMay, when he visited his bomber crews in England. When I briefed him on our AAA readiness condition and capabilities, he asked how I expected to defend his forces against the only threat to us at that time (Soviet bombers deploying from the East and attacking at high altitudes). When I replied that if the Soviet pilots were dumb enough to make a strafing run at our bases below 6,000 feet, we could really do a great job of knocking them out of the sky, he controlled his temper and decided he would talk to the Department of the Army. Nonetheless, we were directed by the U.S. Army, Europe headquarters in Heidelberg to maintain our constant vigil — including a dawn and dusk 30-second alert on a daily basis for many months. We were in the right place at the

right time with the wrong weapons. My goodness. We air defense artillerymen have been poised at ready position for so many years with marginally effective weapons. How satisfying it became in later years to be ready with Nike, Ajax, Hercules and Hawk. Although we never had to fire, our vigilance was never lessened — always ready to be First to Fire.

I was assigned as commanding general of the 32nd Air Defense Brigade in 1963, when it was at its greatest strength with six Hercules battalions and nine Hawk battalions, plus a Signal battalion to man radio relay stations for command and control over some 50,000 square miles of Germany. Considering the size and responsibility of the 32nd in the NATO defense, we initiated efforts to

upgrade the brigade to a command. We got started by getting approval to change the headquarters from a special organization to a general staff organization. Then it was only a matter of time to convince the U.S. Army, Europe commander in chief to seek Department of the Army approval for the change to the two-star 32nd AADCOR. This was accomplished in 1965.

I have vivid memories of late nights and emotional moments as I observed Major General Putman send his soldiers off to war in Saudi Arabia, Turkey and Israel. Despite the uncertainty of war, we were all confident that the training and the discipline of AADCOR soldiers would prevail — and it did.

— Brig. Gen.
John Costello

1964 and 1965 were most difficult. Our units were on constant alert to repel a Soviet attack. It was at this time that the drawdown of USAREUR forces to implement the Vietnam buildup in Southeast Asia really began to take a heavy toll on our strength and stretch our ability to maintain our demanding alert status. Those were the days when I suffered for the hardworking conscientious and dedicated young officers, NCOs and technical warrant officers who kept us at peak readiness. There were times when only two officers were assigned to a battery. Those young lads met themselves coming on and off duty. I am so proud of what our air defenders have accomplished over the years.

Despite our difficulties in '64 and '65 to support the Vietnam buildup, we maintained our high standards and were doing so well that Headquarters, Seventh Army called on the 32nd to send instruction teams to two of the combat divisions to teach them how to prepare for and pass command maintenance management inspections. If we could do it with complicated Hercules and Hawk systems and nuclear-capable weapons, Seventh Army felt that we could help a combat division with its rifles, machine guns, field artillery weapons and ADMs — and we did.

ADA lads have always been the brightest and the best and it was in those days that the rest of the Army began to realize it. Finally, in 1968, when our short-range air defense weapons were assigned to the division (Vulcan, Chaparral and Redeye missile units), we were able to closely associate with our counterparts as part of the combined arms team. With the advent of Patriot, Avenger, the Bradley Stinger Fighting Vehicle and others yet to come, we are in a position to ensure that our maneuver forces have adequate air defense to cover the entire spectrum: theater high-altitude area defense, the corps areas and close-in, short-range battle areas.

I have great faith in those key air defenders throughout the Army who have the experience, knowledge and drive to keep the future of air defense intact and an ever-increasing, vital part of our Army.



FOND MEMORIES

by Lt. Gen. (Ret.) C. J. LeVan

Commanding the 32nd AADCOR was one of the highlights of my more-than-36-year career. I assumed command in June 1971, and remained in command until May 1973, at which time I departed to assume command of the Air Defense Center at Fort Bliss. As a result of a previous tour in 32nd AADCOR, during which I commanded the 2nd Battalion, 56th ADA, was acting commander of the 94th Air Defense Group for an extended period, and later was the chief of staff and deputy of the 32nd AADCOR, I had extensive prior knowledge of the organization's mission demands and operational procedures.

Perhaps my most prominent memories of service in the 32nd AADCOR are those associated with the superb people, officers and soldiers with whom I served to include American, German, French and other NATO allies. Many of these associates arose to positions of prominence, several to become general officers. The current chairman of the Joint Chiefs, General John M. Shalikashvili, was, during my first tour, commander of Headquarters Battery, 32nd AADCOR, and served in other staff positions in the command. Other examples of the competence of those who served in the 32nd AADCOR as subordinate commanders during my command tour include (but are not limited to) Generals Cooper, Mason, Lunn and Koehler.

However, my greatest personal experience was the association with the outstanding soldiers and NCOs of the 32nd AADCOR. During the early '70s, the Cold War was in full force in Europe and the NATO air defense forces were required to be on a high state of alert and readiness to respond, immediately and effectively, to a massive Warsaw Pact air attack. A major portion of the forward-deployed Hawk batteries were required to be ready to launch an air defense missile almost immediately, or in a few minutes. The more rearward-deployed Hercules fire units were under only slightly longer "ready to fire" time requirements, but also only of a few minutes. These necessary operational requirements placed extra-

ordinary duty demands on the air defense soldiers of the entire 32nd AADCOR. Their response was superb! Their dedication to mission, although most demanding, was consistently outstanding and nearly universally present among all the soldiers of the command, including its operational and maintenance troops. Training, and resultant operational efficiency, were of the highest

order. One evidence of this was the "scores" produced by the 32nd AADCOR fire unit crews during their annual service practice firings at Fort Bliss and Crete. Scores were consistently in the top five to 10 percentiles, and in one case, a Hercules crew (B/2-56 ADA) fired the first perfect score.

I went into my command position very well tuned on the "weapons" aspect of command. I left the command very appreciative of the "people" aspect of command. I feel the people of the 32nd at all levels made it one of the outstanding units in Europe.

— Maj. Gen. (Ret.)
William E. Cooper Jr.

During my tenure, 32nd AADCOR battalion and batteries were closely integrated with both the Army ground forces and the air forces. The Hawk battalions, in addition to manning the forward defense belt, were also tasked to provide direct support for specific divisions and general support for the corps. During division and corps exercises the Hawks deployed with them as an integral part of the force to perform these support missions. This operational concept not only increased the effectiveness of the Army force, but produced a rapport and camaraderie between the 32nd AADCOR units and the total USAREUR forces.

The 32nd AADCOR forces were motivated to a high state of readiness by monitoring closely the near-border Warsaw Pact air exercises, and occasionally a penetrating Warsaw Pact aircraft, usually a defector. These activities kept the troops "on their toes."

In closing, I would be remiss if I failed to mention my most pleasant and professional association with our NATO allies and the German civilian population. Helmut Kohl, the current German chancellor, at the time was the "governor" of the region in which the 32nd AADCOR headquarters was located, and most supportive. In fact, the local population of the entire region was closely tied socially and politically to the command, in great part due to the "German-American Wives Clubs." The command also had a close relationship with the French, in great part as a result of a light French cavalry regiment stationed in Kaiserslautern. The command association with this unit, and its parent division, was such that the 32nd AADCOR commanding general was designated an honorary member of the regiment.

Command of the 32nd AADCOR was a most rewarding experience, and one of the highlights of my career. Great soldiers, great allies and superb senior and subordinate commanders.



COLUMN WRITE

A 32nd AADCOT Elogy

The demise of 32nd AADCOT doesn't just mark the end of an era for Air Defense Artillery, it marks the end of a way of life for ADA soldiers.

I spent 10 years of my career in 32nd AADCOT. I was a platoon sergeant, a battalion command sergeant major, a brigade command sergeant major, and the 32nd AADCOT command sergeant major for two-and-a-half years.

Over the years it changed a lot. In my younger days we focused mostly on TACEVALs [tactical evaluations]. The mentality back in the '70s was that you never worried about deploying. Once you passed your IGs [inspections] and your TACEVALs you were good to go. Sadly, we ate a lot of our young because of those TACEVALs and IG inspections.

When I arrived in Germany in 1985 for my second tour, the focus was still on TACEVALs somewhat, but had expanded to include the ARTEP [Army training and evaluation program]. The evaluations and training were no longer career-enders; the mentality throughout the AADCOT had changed. That mentality carried through when I was command sergeant major of 10th ADA Brigade. We no longer ate our young.

When I became the AADCOT command sergeant major and we experienced the onset of Operation Desert Storm in Southwest Asia, as far as I'm concerned, the AADCOT was in its

prime. I contribute that to the Non-commissioned Officer Corps we had and to the "sergeant's time" that we implemented. I think General [Crosbie] Saint changed the focus in Europe a whole lot, and I think General [Gerald] Putman, as the commander, saw where the future was headed, understood the threat, and knew the AADCOT couldn't be stopped. 32nd AADCOT soldiers could work circles around the divisional units over there when it came to meeting standards.

We moved by barge, rail, air — nothing stopped us. Soldiers saluted the flag and away they'd go. It's a good feeling to watch all that training come together, to know your soldiers are capable.

I don't think we'd ever seen before, and will never see again, the training focus evidenced by the soldiers of 32nd AADCOT. They were totally focused on their mission. They trained around the clock. A stateside-based unit has various missions and different cycles. Sometimes its focus is not on training. At 32nd AADCOT, training was the *only* focus.

The mindset there was different. The threat was hanging just outside your door; here in the States, there is no immediate threat. In the AADCOT you didn't worry about the extra taskings, you focused on training.

We are now faced with a generation of soldiers who will never experience the rigorous training atmosphere of 32nd AADCOT, who will miss out on the unique experience most ADA soldiers share. Past generations of ADA soldiers spent as much as 50 percent of their time on overseas tours. By comparison, the new generation of soldier can plan to spend several years at a

time in one location, where they will train to deploy anytime, anywhere. That will be their mindset.

I see pros and cons to it. We have to make sure these soldiers are properly trained. We have to provide them with equipment and resources to train and deploy if necessary.

At the same time, I think this will be an improvement for families and soldier care. The quality of life at Fort Bliss is outstanding. The post is undergoing massive renovations. New quarters are being built and the families are being taken care of. All of the facilities are being renovated. The children of today's soldiers will be able to go to school, join organizations and feel like they really belong. They won't have to pick up and leave every 18 months.

The end of 32nd AADCOT may be a welcome development for younger soldiers eager to experience family life and hesitant to spend half of their military careers overseas. Veteran air defenders, however, mourn 32nd AADCOT's passing.

I don't think anyone expected the wall to collapse. I don't think people realized the meaning of the Cold War. One day it was over, just over, and it had tremendous impact. We were raised under a Cold War cloud, and that cloud is gone. We will never, never put the AADCOT back together the way it was. We could never put Europe back together. That piece of history is gone. I'm just thankful I got to experience it.

James E. Walthe
Command Sergeant Major

ADA DIGEST

COMBAT TRAINING CENTERS



JRTC Trends

The U.S. Army Air Defense Artillery School has recently changed the format for transmitting and receiving early warning over the division early warning (DEW) net. We will no longer use the manual short-range air defense control system. In keeping with this doctrinal change, player units deploying to the Joint Readiness Training Center (JRTC) will now hear a more “user friendly” form of DEW being broadcast over the net. The new format will consist of the track designator; unknown or hostile; rotary- or fixed-wing; one, few or many; a four-digit grid coordinate or known geographical location; and a cardinal direction. The obvious benefit that this change provides is that non-ADA units can now tune into the DEW net and receive understandable, usable early warning information. However, as a note of caution for all air defense officers (ADOs), most non-ADA units do not have organic radios to dedicate solely for this function. This means, as the ADO, you continue to be the critical early warning node for the supported unit and must ensure that all early warning information is rebroadcast on command channels.

There are several key areas that this article will focus on, areas that, with minor adjustments and enforcement of current procedures, would greatly improve ADA units’ effectiveness. These

areas are early warning, fratricide and reconnaissance, selection and occupation of position (RSOP) procedures, since in many cases they are closely interrelated.

Early Warning

We have noted, during the past four rotations, a downward trend in the effectiveness of early warning being received at the fire unit level. The failure to receive timely air defense warnings, weapon control status changes and early warning track information routinely sets the stage for fratricide. The flip side of the lack of receipt of early warning is that this typically results in a failure to effectively engage and destroy the enemy air threat. It is readily apparent when fire units, for a variety of reasons, do not receive early warning. The effects are most obvious when air defenders attempt to defeat high performance fixed-wing leakers. Often the first pass is able to successfully deliver its ordnance on the selected target. If the air defenders are able to destroy the aircraft, it is usually on the egress after ordnance release.

This breakdown in early warning is not the only problem. Units need to also consider the potential threat, his capabilities and the criticality of employing our fire units beyond the ordnance release line.

Failure to receive early warning at the fire unit level can routinely be traced to not using the AN/GRA-39 remotes. Many team members will attempt to employ their one manpack single-channel ground-to-air radio system (SINCGARS) (although some units have two manpacks) at the team position. Merely using one radio severely degrades your net communications ca-

pability right from the beginning. This one radio is typically set to the platoon or section frequency. This results in the team no longer being able to receive near-real-time early warning information; instead, the team must now rely on either the section sergeant or platoon leader to relay all status changes and early warning information to them. In theory this is an acceptable workaround, should the team have had communications equipment failures. In practice, however, several things usually occur.

First, if the section sergeant or platoon leader should miss the status change or early warning track data, then every fire unit subordinate to him is now in the same boat — no data and probably doomed to be caught off guard. Unfortunately, we routinely see this. Second, let’s assume that the section sergeant or platoon leader is able to receive the status change or early warning information. Now we face a time lag in rebroadcasting this information and, invariably, contact is not consistently maintained with all of the subordinate elements. Often in the heat of battle the leader gets some of the data correct, but usually is rapidly overwhelmed, especially with multiple track situations as he attempts to generate the directed early warning over the supported unit’s command nets. The third occurrence that degrades teams that use only the SINCGARS manpack radio is that they become tied to the hand mike. Volume limitations, the proximity of the hand mike to the ear and the team’s attentiveness often result in significant amounts of missed information.

Using the AN/GRA-39 remotes as a routine part of the emplacement procedures is clearly the only way to conduct business and will greatly enhance early warning as well as command and control.

Fratricide

Fratricide is often closely related to a dysfunctional early warning system and other factors. Here's an example.

The Stinger team, thinking they were at Yellow/Tight, has just been overflown by hostile fixed-wing high performance aircraft (maybe they knew they were hostile, maybe they didn't—an orders process problem) and have observed other surface-to-air engagements. Now, in the reactive mode, they engage the hostile aircraft on the egress. At a heightened state of alert (after having been caught short once with known enemy aircraft in and about the area, the team is determined not to be caught short again) and with the adrenaline pumping, they write an obituary for the next aircraft that comes through their sector.

Unfortunately, we have observed this scenario at the JRTC on several occasions, all of which resulted in a faulty engagement decision and the loss of friendly aircraft, and all of which could have been avoided. First, had early warning been effective, the engagement would have been proactive vs. reactive. The team would have been properly alerted and cued to the inbound threatening aircraft. Second, a fratricide would not have occurred if the team chief properly applied and adhered to the weapon control status of tight by firing only at aircraft positively identified as hostile according to the hostile criteria.

One item that has cropped up in the hostile criteria area is the dropping of flares. Battery commanders often mistakenly list this as a hostile act. Dropping flares is merely a self-protective measure many aircraft take to defeat heat-seeking surface-to-air missiles. This is not, and should not in any way, be listed in hostile criteria or construed as a hostile act.

Another dynamic that contributes to the fratricide issue is gunner control by the team chief. Let's use another common scenario.



Fratricide is often related to a dysfunctional early warning system.

The team chief is physically away from his gunner, perhaps down at the vehicle getting additional missiles to replace the expended ones. The gunner, hearing aircraft noises, readies the round. When he sees the aircraft he launches on a UH-1 but, as it turns out, it was a friendly O.D.-painted UH-1 instead of a hostile desert-camouflaged UH-1.

While you might say this scenario is extremely situational dependent, we need to look at several things. First, apply the prevailing weapon control status and hostile criteria. In this case, knowing that both friendly and hostile UH-1s could be operating in the area, the gunner should have held his fire until he had positively identified the aircraft as hostile. This is not a JRTCism! U.S.-made aircraft have become prevalent around the world and we, as air defenders, should expect to encounter the same U.S.-made aircraft being operated by allies and potential adversaries. This forces us to know and apply the weapon control status, hos-

tile criteria, unique paint schemes and fin flashes as we make an identification determination.

The gunner control issue, unfortunately, isn't solved this easily. We have also noted, on many occasions, that during the target engagement battle drill the team chief and gunner are not synchronized and routinely do not follow the prescribed battle drill. As is found in the opening paragraphs of every ADA drill manual, "a team's ability to accomplish its mission depends on the ability of the team members to perform individual tasks and, at the same time, operate effectively as a unit." Additionally, "they should be executed without deviation and precisely as described." A good technique that truly helps the team chief control his gunner is for the team chief to place his right hand on the center line of the LBE strap. In this manner the team chief will enhance his ability to accurately "get on" the threatening target and ensure that the team chief and gunner are better synchronized.

ADA TACTICS SEMINAR

The JRTC air defense team will host the annual ADA Tactics Seminar at Fort Polk, La., on Dec. 6 and 7, 1995. The seminar's focus is to exchange information among the observer-controller team, the ADA School and the JRTC client units. The observer-controller team will provide feedback on the trends that have emerged during the past 10 JRTC rotations. ADA School personnel will provide the latest information on the threat, doctrinal updates and other pertinent issues.

The seminar will provide a "maneuver box" orientation and many valuable insights, and should improve everyone's warfighting skills. Hope to see you there!

One final, often overlooked, area is the technique of having the team chief conduct a confirmation brief with the platoon leader or section sergeant. This will help to ensure that the team chief knows the mission, hostile criteria, expected enemy aircraft, etc. All too often teams deploy with only vague guidance and minimal situational information. The fire unit leader has an important role here as well, if you, the team chief, do not know something or are unclear on a particular part of your mission. Ask the question! It could mean the difference between mission success or failure, and odds are if you do not know, other team chiefs probably have the same questions or issues.

RSOP

Much has been written in many of our field manuals and I certainly recommend that we study, implement and rehearse these procedures. I will only focus on a few general observations concerning the selection and occupation phases of RSOP.

As leaders, we have to ensure that we properly analyze the threat by working with the S-2. We have to anticipate and be proactive to an enemy's increased capabilities. For example, as we con-

duct movement-to-contact operations and face a relatively unsophisticated air threat, ordnance release lines are not as critical a consideration. However, as the threat increases with the introduction of a conventional force with high performance aircraft, then placement of fire units beyond ordnance release lines becomes an overriding consideration. This then becomes a critical — and often overlooked — consideration in the reconnaissance phase.

Assume that we have conducted our reconnaissance and have selected positions for our fire units. Occupation procedures become the responsibility of the fire unit leader. At the fire unit level, security should always be foremost in the leader's mind. Often it is not. Many teams meet their end by not coordinating with the supported unit. Had coordination occurred, the supported unit would have been able to pass on information concerning the suspected minefield you just drove into, enemy ground action or an artillery target reference point that has been registered on the high ground you plan on occupying.

Occupation of the selected terrain should include getting out of the vehicle while maintaining security and looking over the terrain, especially if the selected position was chosen from a map reconnaissance. Many teams will pull straight into a position when,

had they walked 50 meters, they would have found a dominating position with unlimited fields of view and a superb vehicle hide position.

One trap many fire units fall into is placing their positions on terrain features easily recognizable from the air. That little bare knoll is easily seen from the air and, if a position has been placed on it (especially without camouflaging), it can easily be found and destroyed. Again, a common occurrence.

One final consideration routinely not considered or developed is the use of alternate and supplementary positions. The use of an alternate position is a proven technique that works. Simply moving several hundred meters (as specified in your battalion field or tactical standing operating procedure) makes the enemy's acquisition job, both air and ground, tremendously difficult. Obviously, if you stay at the primary position, you reduce your life expectancy. You also hamper the air defense coverage as teams move to cover the gap created by your loss.

As I conclude this, my final JRTC trends article, it has been my pleasure passing on observations and possible solutions. My replacement, Maj. Mike Hennen, will continue to share the JRTC news in an effort to help air defenders become more effective.

LT. COL. JAMES OMAN



Observations and data on the effectiveness of the Bradley Stinger Fighting Vehicle at the NTC suggest that BSFV squads are not routinely dismounting the Stinger teams. The chief

problem appears to be the squad leader's reluctance to dismount the Stinger team. This reluctance results in degraded air defense.

The data in the System Effectiveness table at right illustrates this point.

There appears to be a gun vs. missile mentality, with the gun taking priority over the more effective Stinger missile system. For example, BSFV crews are not preparing Stinger fighting positions while in the defense, preferring to keep the team in the BSFV. BSFVs are

SYSTEM EFFECTIVENESS

	Rotation 94-03	Rotation 94-07	Rotation 94-09
BSFV	7.5	23	3.25
Stinger	18	20	6.8
Avenger	12.6	24.3	4.6

NOTES

1. Effectiveness measured by the average number of missile engagements per fire unit.
2. Statistics are based on air attacks in the forward area where all of the BSFVs were deployed, yet the BSFV had fewer missile engagements. In rotation 94-07 the BSFVs were equipped with simplified hand-held terminal units (SHTUs) and received early warning through the FAAD C³I system.

CONCLUSIONS

1. The most critical element for effective BSFV air defense is dismantling the Stinger team on receipt of air attack early warning.
2. Without FAAD C³I, the BSFV is the least effective air defense system, because the Stinger team is not dismantling in time to engage attacking aircraft.

routinely observed raising the TOW pod at halts but not dismantling the Stinger, even at air defense warning RED/Dynamite. Is their mission anti-tank defense or air defense?

When I've asked squad leaders why they fail to dismantle the Stinger team, they offer two reasons, both of which indicate that BSFV squad leaders do not understand their mission is to provide effective air defense.

The first reason is fear of falling behind the supported force. Squad leaders claim that if they take the time to dismantle the Stinger team when receiving actual track data, they'll lose the supported force. When asked how they expect to provide air defense, they say they'll use the gun. This excuse is flawed. The mission is to kill enemy aircraft, not simply to be with the supported force. The gun's PK against aircraft is such that it cannot be the primary air defense system. If you can't kill the aircraft, why be forward in the first place? Also, the fear of falling behind is not realistic. I've never seen a situation where a BSFV could not have dismantled and recovered its Stinger team and not catch back up with the supported force.

The second reason is concern for the safety of the Stinger team. Squad leaders claim that it's too dangerous to dismantle the Stinger team. Based on my observations of 34 rotations, this is a smokescreen for laziness and not a genuine concern. The purpose of the BSFV is to get the Stinger team forward so that they can kill aircraft. If we are not going to dismantle the Stinger team, why do we have a BSFV?

In discussions with BSFV crews and ADA leaders, the chief cause of these problems is the way BSFV crews train at home station. Units are not training BSFV crews as a team. The 14Rs train on the gun system, use the conduct of fire trainer and fire gunnery tables. The 14Ss go to the moving target simulator and use the troop proficiency trainer. When the BSFV crew is treated and trained as two separate elements, it is no surprise that they do not fight as a team. It is no wonder that the 14R squad leader, who is trained on the gun system and is comfortable with it, views the gun as the primary weapon system.

Fortunately, the solution is to fix the way BSFV crews train. The following guidelines may help:

- Train as a crew.
- Emphasize the primacy of the Stinger missile. (The BSFV exists only to provide survivable transportation for the Stinger team.)
- Establish clear dismount criteria linked to the early warning system.
- Train the 14Rs in the moving target simulator on the Stinger system to improve their understanding of and confidence in the Stinger system.

LT. COL. DALE EIKMEIER

UNIT NEWS

Air Defenders Can "Hang"

On the fertile Fort Lewis, Wash., soil stands a soldier with sun-parched skin, calloused hands and a firm expression on his face. A constant stream of deployments and taskings and the everyday stresses of life in the military have taken some of the gleam out of his eyes, but hard experience has given him a steely resolve. He can "hang."

This description fits the soldiers of 4-7 ADA, 35th ADA Brigade, say unit leaders. They have been tried, tested and toughened up for the past year.

When tensions were running high in Korea early last year, 4-7 ADA was told to prepare to deploy. This required intense crew training to become Quick Response Program certified. It also required conducting equipment inventories, checking and servicing unit Patriot missile system equipment, updating soldier readiness packets, family support group coordination, coordination for combat support and the other preparations that go with deploying.



Sgt. and Mrs. Steven McDaniel suffer the anguish of repeated separation.

The battalion ended up not being called to deploy to Korea, but not without experiencing all the tensions that go with preparing for a major real-world deployment.

That summer the call to deploy came again, and this time the battalion headed for the desert of Southwest Asia in late August for a five-month rotation. What the soldiers thought would be a routine deployment turned out to be a high stress, real-world mission and a golden training opportunity. Saddam Hussein's troops began to march toward Kuwait in October in an effort to get U.N. sanctions against Iraq eased. 4-7 ADA received warning orders of Hussein's "imminent" arrival in Kuwait and they prepared to defend the city.

"Everyone was real pumped up. Adrenaline was definitely high," recalled Capt. Tom Raggio, who served as chief of the operations center in Kuwait during the Iraqi troops' march toward the city. "We knew it wasn't just an Army training and evaluation

program. It was a real enemy with real weapons."

Tensions were high among the Kuwaiti people as Hussein and his troops continued to advance. Meanwhile, 4-7 ADA troops hustled to prepare for what looked like a sure battle. The soldiers' attitude was absolutely professional during this preparation, according to battalion commander Lt. Col. Jeffrey Pinasco. "The soldiers were doing whatever they were called upon to do without the slightest bit of hesitation. Even if they didn't know how to do a task, they just said 'Yes sir!' and went and found somebody to show them how to do it," he said. The Iraqi troops came within six kilometers of the Kuwait border when Saddam Hussein thought better of it and ordered his troops to retreat. Though the 4-7 ADA soldiers did not engage in battle with the Iraqi troops, the experience still gave them a feel for war.

Skirmishes between Iraq and Iran also made for a stressful environment

for 4-7 ADA soldiers as every time a Scud missile was fired by one of the countries, 4-7 ADA's Patriot system radar would pick it up and there would be a Scud alert. "When an alert would sound we didn't know where the Scud was coming from. This made for a very stressful environment," Raggio said.

The stark environment in Southwest Asia and the real-world missions the battalion experienced combined to sharply refine 4-7 ADA's air defense skills. "Right now we're the best-trained Patriot unit in the Army because we've been dedicating ourselves solely to training for the past five months, including real-world training," Raggio said soon after returning from Southwest Asia.

The battalion's experience in Southwest Asia also motivated the soldiers in the unit and brought them closer together. "Everybody came together in SWA. We're very cohesive now. Camaraderie is very high. We can depend on each other now," said Sgt. Edwin Barber, assistant battalion logistics NCO in charge.

Since the battalion returned in January they got two weeks of leave, then the "very very high operating tempo" the unit has been keeping picked up again. They have been conducting a 100-percent inventory of all their equipment, a mission capability assessment, moving to a new motor pool facility and preparing to deploy to Roving Sands.

The move to the motor pool involves not only moving vehicles and equipment, but most of the unit's offices are shifting to the new complex, Barber said. "This is a major move for the battalion," he said, adding that this will make a "vast difference" in the unit's deployment readiness and the overall efficiency of the unit.

It feels like a well-known travel route to soldiers as 4-7 ADA prepares for Roving Sands. A mini-command post exercise helped tune them up and the unit has also been rail-loading, preparing soldiers and families for deploy-

A Successful Future

In October 1991, a major airline made an important discovery. Management realized that ADA personnel, trained in electronics and hydraulics, had the necessary qualifications to become ground service mechanics. Monthly recruiting visits to the U.S. Army Job Assistance Center (JAC) at Fort Bliss through February 1992 resulted in all vacant ground service positions in terminals from Atlanta to Dallas being filled with former air defenders.

Employers around the globe have recognized the valuable skills attained through military service, making this but one example of the success that air defenders have found through participation in the JAC program. Air defenders from E-1 through O-6 have used JAC's services to convert from military careers into the next phase of working lives. Occupations selected have ranged from project managers to electronic technicians and from airline mechanics to country music producers. In fact, more than 5,000 ADA personnel have separated from the Army at Fort Bliss alone since Oct. 1, 1991, making documentation of all success stories next to impossible.

Transitioning personnel with 16 and 24 enlisted series MOSs or 14 officer series branch designators have found that military skills translate very successfully to many segments of the civilian job market. Technical training in electronics, hydraulics, guidance systems, heavy equipment operation and supply management are highly sought after by employers. Project management, supervision, budget control and personnel administration skills are also extremely marketable.

ment and the same old drill in preparation for Roving Sands.

Meanwhile, the battalion soldiers have extended themselves by carrying out post taskings. After Roving Sands, the unit will begin preparations for another deployment, Mighty Thunder (in Utah), in August.

Being human, 4-7 ADA soldiers will at some point get burned out, Barber said. The fact that it looks like the unit's schedule is going to slow down after their deployment to Mighty Thun-

der and the anticipation that they can spend the holiday season with their families this year helps sustain them.

Whatever challenge comes 4-7 ADA's way, however, the soldiers will somehow muster the reserve to take it on, Barber said.

"With the OPTEMPO we've been at the past year, the soldiers are ready to go anywhere, anytime."

RUSTY QUALLS

Avenger Class Fires Machine Gun

The "Set the Standard" battalion, 2-6 ADA, achieved another first when Avenger crewmen of Class 8-95 fired the MP-3 .50-caliber machine gun as part of their regular range firing familiarization. C/2-6 ADA, the unit conducting the training, recently re-

ceived 28 of the .50-caliber machine guns. Each class fires one Avenger missile, and each student completes a comprehensive test that requires them to fire 50 machinegun rounds.

TOM COOPER



Computerized Client Aids

Resume Writer

Step-by-step instructions to completing professional laser-printed products.

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Literally countless numbers of potential contacts. Available on CD-ROM.

Career Opportunities Program

Valuable information on different occupations to include employment outlooks, training requirements and average salaries.

Army Employer and Alumni Network

Data base of more than 15,000 employers worldwide who have committed to help soldiers find civilian jobs.

Defense Outplacement Referral System

Department of Defense-established data base that matches mini-resumes submitted by JAC clients with potential employers.

America's Job Bank

Job leads generated by the Department of Labor.

Transition Bulletin Board

Job leads assembled by the Department of Defense.

Quick and Easy

Automated SF 171 software.

Executive Search

Software that offers a listing of professional search firms.

Military members with successful service records possess reliability, dependability and self-discipline — traits desired by all employers. One CEO stated, "Hiring Army alumni provides a reasoned alternative to the skills shortage. They are trained and, importantly, trainable — a valuable asset for today's companies." ADA personnel have a history of excelling in demanding, highly technical occupations. The task at hand is to learn to translate that military background into a process that lands the next career opportunity.

JAC Program Established

Enter the JAC program, the most state-of-the-art job assistance program in the world. Located on 55 U.S. Army installations worldwide, JACs are serving air defenders in Korea, Central Europe, Alaska and Hawaii as well as on 47 stateside bases. Resource Consultants, Inc. (RCI) operates the JAC program under an extensive personnel services contract. RCI helped the Army

Career and Alumni Program (ACAP), tasked with managing the force reductions, with the design of the JAC program in 1990. Since then, more than 350,000 servicemembers, their family members and Department of the Army civilian workers affected by reduction in force actions have been assisted. As the Army's active end strength is reduced from 540,000 to 495,000 by the end of fiscal year 1996, the JAC and ACAP programs provide an opportunity for the Army to take care of its own as well as ease the costs of unemployment insurance benefits to taxpayers.

JAC Process

The process for transitioning military members begins with a one- to three-day workshop. Participants learn skills that cover the entire career search spectrum, to include short- and long-term goal setting, resume and cover letter writing, interviewing and professional development.

During the workshops, students learn from other students as well as the instructors. For example, one topic encompassed in resume writing is translating military terminology to civilian language. Together, class members may discuss how to describe a Patriot battery to a potential employer, with one option being, "operated and maintained complex electronic weapon systems for a 75-member organization."

Clients also receive appointments for individual counseling sessions with knowledgeable, master's degree-level vocational specialists. Counselors can offer assistance on a wide range of employment-related issues, including opportunities to focus on personal goals and chart necessary steps to success.

ADA and JAC Partnership

All military members are benefitting from the JAC program, whether in Fort Bliss, South Korea or Southwest Asia and regardless of whether a separation from the military is 180 days or ten years away. The Army has committed the resources for trained professionals to lead the way for future transitioners. Additionally, alumni will have paved the way, educating employers on the transferability of skills learned through ADA occupational specialties.

Ultimately, career development is in the hands of each individual and should start at the beginning of military service rather than at the end. "JAC clients, both military and civilian, may well face a lifetime of career and job transitions that go beyond the drawdown," says Ms. Katie M. Cohen, ACAP headquarters staff. While the economy is ever-changing, the JAC program teaches clients lifelong skills and empowers them to assume responsibility for their own career development, both now and in the future.

DR. EDWARD F. JONES
and
SONYA S. CRAFT

German Air Defense in a New Security Environment

by Lt. Col. Ferdinand Mertes



Owing to the political changes of recent years, the situation in the field of security policy in Europe has improved decisively. As a result, it has become necessary to restructure military preventive security measures of the Federal Republic of Germany and adapt the armed forces planning respectively. This restructuring also affects Germany's national air defense posture, whose unchanged mission is to protect its territory, the civilian population, the armed forces, and civilian and military resources against air attacks.

Military Preventive Security Measures

Although the above-mentioned political changes have reduced the danger of military conflicts in Europe, the security in Europe cannot be taken for granted. In Central Europe, preventive security measures are neces-

sary to respond to possible border violations and airspace incidents on short notice.

Crises and military conflicts may arise, without prior notice, outside of the NATO Central Region. While at first these incidents may not impose an immediate threat to the Federal Republic of

Germany and its Central European allies, they could grow and thus indirectly jeopardize the economic and social foundations of these industrialized nations. Therefore, common preventive security measures within the European Alliance have gained special importance.

In the future, the sovereign, united Germany will have to assume increased responsibility in the international community of nations, the North Atlantic Alliance and the European Union. Besides a security policy geared to the promotion of stability, this requires the capability and readiness to preserve the national sovereignty and render contributions within the framework of multinational and international crisis management and collective defense.

The North Atlantic Alliance is in the process of adaptation to the changed political situation. Its broad

security policy approach is characterized by dialogue, cooperation and collective defense, which are mutually complementing and reinforcing elements of the safeguarding of peace. Air defense remains a common task of the alliance. According to the new "strategic concept," the comprehensive capability of alliance-wide military crisis management with multinational forces will be of paramount importance in the future. The Federal Republic of Germany will provide both main defense forces and reaction forces for the alliance air defense effort.

Available Resources Impact on Air Defense

The adaptation to the changed parameters is limited by downsized forces and cuts in the defense budget funds available for new investments. In addition, in German defense planning, the investment costs for the units in the five new federal states, as well as the costs of the federal armed forces restructuring, have an overall limiting effect. Increased armament cooperation and standardization have only a limited impact on the reduction of expenses.

With the end of the East-West conflict; i.e., with the "directional threat" gone, air defense must now be prepared for a wider, not clearly predictable spectrum of risks. The scope and structure of air defense forces, particularly their reaction capabilities, must be geared to the regionally different risks and warning times.

The responsibility for the integrity of the German airspace is a new

lenge for the air defense units of the German Air Force. In addition, German air defense units continue to provide a peacetime contribution to NATO's integrated air defense as an integral part of NATO's command and control structure.

According to directives issued by the federal government, German air defense forces will participate in crisis management operations with NATO and the Western European Union alliance plus international crisis management with the United Nations and the Organization for Security and Cooperation in Europe (OSCE). The reaction forces need the appropriate personnel and materiel to be prepared for the crisis management tasks. The efforts focus on deployability over long distances, capability to exercise command and control, operability, technical availability and mobility in different operation areas with diverse environments and terrain features within and outside the area defined by the NATO treaty. There are plans that

provide for the combining of several nations' reaction forces, with air defense missions in the operation area, into a multinational task force. Instrumental in forming multinational task forces is the interoperability of weapons, communications and command and control systems.

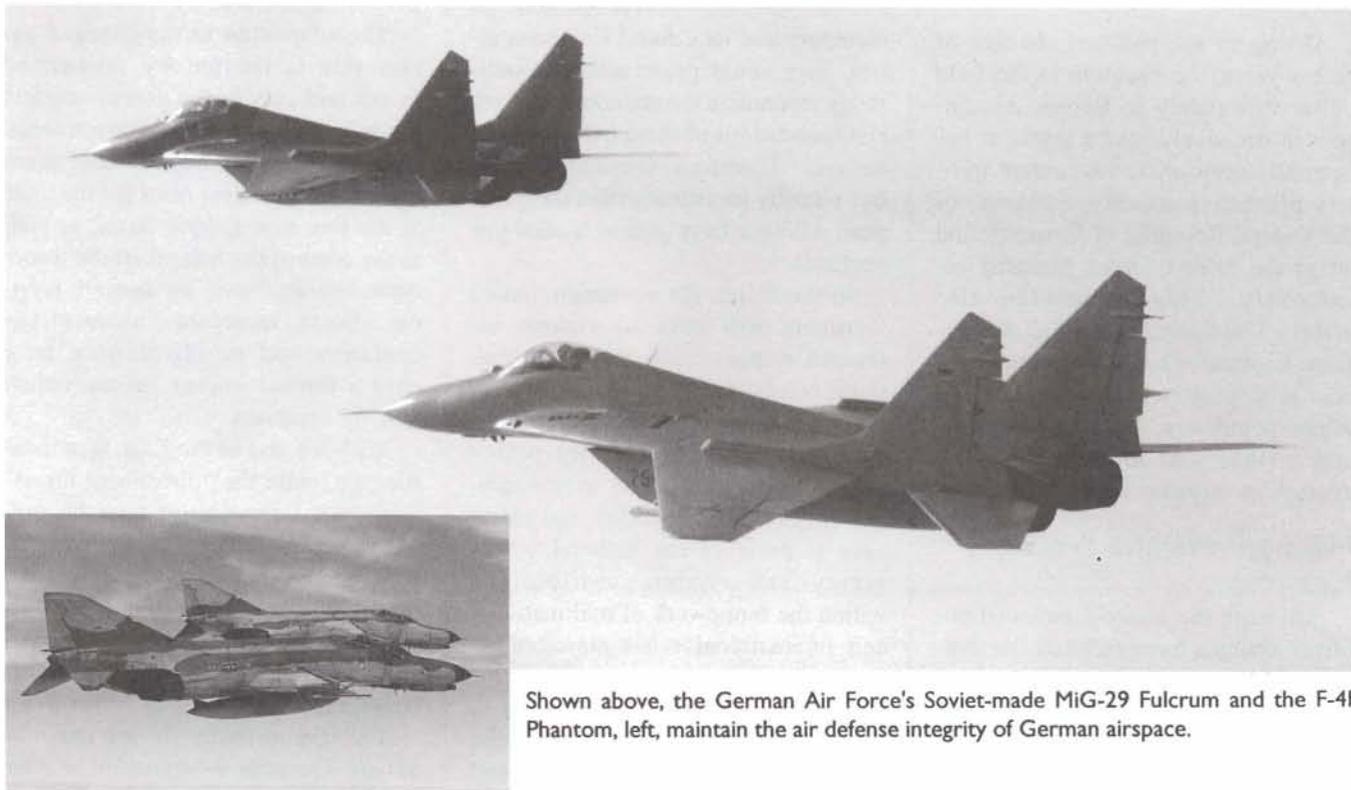
Extended warning times in Central Europe permit the reduction of peacetime readiness requirements also for part of the air defense forces. The German air defense forces will be kept ready in different force categories. Main defense forces and reaction forces are mostly comprised of components that can be mobilized and will become fully operational only after augmentation. Active air defense forces are available for maintaining the integrity of the airspace and for immediate reaction operations within the framework of international crisis management.

Arms control agreements and cuts in the defense budgets, especially those of our alliance partners, have resulted in the downsizing of air

forces. Due to the unification of Germany, the Central European protection area has increased but fewer forces are available until reinforcements can be brought up or the augmentation of main defense forces is complete.

Air defense forces must continue to be capable of countering modern, high-technology air warfare threats. In the future, these capabilities will include: combat aircraft with improved flying, load-carrying capabilities and weapon effectiveness, all-weather capability and survivability, and efficient air-to-ground missiles (stand-off weapons and/or anti-radiation missiles); helicopter gunships armed with modern guns and missiles; combat drones; and tactical, aerodynamic and ballistic missiles. In addition, it has to be presumed that an aggressor will use electronic warfare means to reduce the effectiveness of air defense.

The worldwide proliferation of modern weapons technology, including weapons of mass destruction and ballistic missiles, continues and cre-



Shown above, the German Air Force's Soviet-made MiG-29 Fulcrum and the F-4F Phantom, left, maintain the air defense integrity of German airspace.



German Hawk continues to get upgrading measures that adapt it to the changing operational environment.

ates new risks. Therefore, countering tactical aerodynamic and ballistic missiles will be of paramount importance in the future.

Command, Control and Weapon Systems for Area and Asset Protection

Air defense is an interservice task, which is mainly taken care of by the German Air Force units. Air defense is based on the combination of air surveillance installations and command and control elements (in the following text called the command and control system) as well as ground-based and airborne air defense weapon systems.

The new concept of NATO integrated air defense in Europe also rests on the idea of area protection. The surface-to-air missile (SAM) air defense weapon systems are no longer capable of accomplishing this task. Therefore, this mission will have to be carried out by fighter aircraft, which will make full use of their firepower wherever the situation calls for it.

The SAM weapon systems will be employed in the protection of high priority areas and forces; e.g., political, industrial and metropolitan areas; ports used by reinforcement forces; concentrations of friendly land, air and naval forces; or headquarters. They are particularly suited for local concentration of high firepower over an extended period of time and they have all-weather capability. Also, in the foreseeable future, only SAM weapon systems will be capable of engaging tactical ballistic missiles.

As a result of the extended protection area and reduced ground-based air defense weapons systems, fighter aircraft are gaining more importance because of their flexibility and mobility. In an armed conflict, fighter aircraft are the primary means of quickly establishing and relocating points of main effort over long distances. They offer multifarious employment options, including escort missions, for the friendly air attack forces. They protect wide areas and attrit enemy air forces as far

forward as possible.

It is a striking feature of the new air defense concepts that air defense forces are to be employed with flexibility and mobility. Command and control means, weapon systems and additional equipment have to take into account both these concepts and the requirements resulting from the employment of reaction forces.

The German Air Force air defense forces are integrated into the NATO Air Force's command

and control system. In the new federal states (former East Germany), a command and control system is in use that partly dates back to installations and systems of the former East German National People's Army. Its effectiveness, in terms of air picture processing and information transfer and processing, does not meet western standards. Therefore, the introduction of modern sensors and command post technology will be given priority. The follow-up planning provides for measures to improve the transfer and processing of computer-based command, control and information system called EIFEL.

All Bundeswehr plans are geared for the integration of the new German federal states' command and control organization into NATO, without renouncing the requirement of a national capability to exercise command and control. The integration plans, therefore, have been coordinated with the planning for the NATO air command and control system (ACCS), which will be realized starting in the late 1990s.

ACCS will create the preconditions for the integration and coordination of all air warfare operations at all command levels including battalion-size units, and thus it effectively employs all available forces. Among other things, ACCS provides for combined air operations centers (CAOCs), from which all air warfare operations, in a designated area, will be controlled. At the same time, airspace control is to be enhanced by the coordination of operational planning and execution of air, land and naval forces.

To improve the capability to exercise command and control in Central Europe, particularly over the reaction forces in operations outside of Central Europe, there are plans to create a deployable ACCS component. It is to include command post elements, sensors and communications equipment.

The command and control of air defense forces requires a comprehensive air picture, which is composed using a combination of ground- and air-based sensors in near-real time and at all altitude levels over the entire protection area. Its availability is particularly important, considering electronic warfare conditions. Special attention will have to be directed to fielding an early warning against tactical ballistic missile (TBM) attacks to give the SAM air defense weapon systems time to counter TBM threats effectively.

Reliable identification of flying objects is an indispensable prerequisite for the preparation of the air situation. The NATO Identification System (NIS) is to be developed and fielded in the alliance after the turn of the century. This new identification system aims at obtaining unambiguous, fast and reliable identification data that goes beyond the mere recognition of friendly aircraft, and possibly allows the clear classification of enemy and neutral airspace users.

Fast, comprehensive and reliable information exchange between sensors, command posts and weapon sys-

tems according to standardized procedures is the prerequisite for proper command and control, coordination and effective use of the air defense weapon systems. The extension of employment options beyond the boundaries of Central Europe necessitates the co-use of national and NATO communications networks and the utilization of satellite communication links, respectively. For this purpose, secure, compatible and survivable means of communication able to transmit huge amounts of data, with little delay, have to be provided.

A national capability to exercise command and control over the Air Force elements under national command will be created. The emphasis of national command and control is placed on administrative control, operational control prior to transfer of authority to a NATO or international commander, the command and control of combat service support troops and on civil-military cooperation. In operations of German Air Force units outside the Federal Republic of Germany, the German Air Force contingent will be led by a commander from the mobile command post of the German Air Force Command. The command responsibil-

ity will include administrative control and operational control, taking into account the limitations resulting from the transfer of authority to NATO or international commanders.

German Patriot, Hawk and Roland ground-based SAM air defense weapon systems are available to the German Air Force. Owing to their different capabilities, Patriot, Hawk and Roland are generally employed in mixed operations in clusters that form high-density protection zones. The clusters are designated flexibly, depending on the given situation. The planning, command and control and combat service support of the SAM weapon systems have to be integrated and supported by data processing equipment. The mobile SAM operations center (SAMOC) is earmarked for this purpose. In addition, this operations center links the SAM forces to the ACCS.

Requirements for the SAM forces to fully unleash their firepower are met through this linkage. The linkage also provides the necessary coordination within the overall air warfare framework. The linkage is also designed to create preconditions that ensure that coordination occurs with



Patriot launcher protects air base.

the land and naval forces, and particularly with their air defense assets.

The Patriot SAM weapon system has considerable, inherent growth potential, particularly to enhance its effectiveness against aircraft with small radar cross sections and for the improvement of its capability to counter tactical ballistic missiles. Early warning to Patriot units is an essential precondition for effective antitactical ballistic missile operations.

Hawk has been adapted to the changed operational environment several times in the past. Additional upgrade measures, like the introduction of an improved German Hawk operations center, will provide the link to Patriot while other improvements are in the process of realization. Although these upgrading measures continue the operational effectiveness of Hawk, there remain decisive operational constraints in regard to firepower and mobility. Therefore, after the turn of the century, Hawk is to be replaced by a newly developed SAM weapon system optimized for engaging flying targets at very low and low altitudes. The Hawk successor system will be developed in a transatlantic cooperation effort. In February 1995, France, Germany, Italy and the United States signed a statement of intent regarding the joint development of the Medium Extended Air Defense System, which will have anti-tactical ballistic missile capabilities.

As a rule, the new surface-to-air weapon system will be employed in combination with Patriot systems and/or air defense assets from other nations. This system will be characterized by mobility, air transportability, high firepower, high resistance against electromagnetic jamming and low personnel requirements. Regarding the anti-tactical ballistic and anti-aerodynamic missile capability, the new SAM weapon system will have a self-defense and limited area-protection capability. Due to these capabilities this weapon system will be particularly

suited for immediate reaction operations within the framework of crisis management.

The all-weather SAM air defense system Roland is used to engage flying targets in the very low to medium altitude range. Roland is employed for asset protection in the German Air Force national air defense effort as a stand-alone system or in SAM clusters together with Patriot and Hawk.

Modern, High-performance Fighter Aircraft Requirements

Presently, the German Air Force uses F-4F Phantom and MiG-29 Fulcrum fighters in an air defense role. Some weaknesses in the F-4F's operation that are being compensated by ongoing upgrades are the lack of an all-weather combat and multiple engagement capability and the inability to engage targets at long distances or from a banking position. Significant upgrade measures include the integration of a new radar system (APG-65) and the adaptation of an advanced medium-range air-to-air missile. These measures will finally exhaust the performance potential of the F-4F. Additional upgrading is neither feasible nor economical, as this fighter aircraft will have reached the end of its service-life after the turn of the century.

Thus, the German Air Force needs a modern, high-performance fighter aircraft to succeed the F-4F with the following main capabilities: all-weather combat capability; capability for long-range target acquisition, identification, tracking and engagement; short- and medium-range air-to-air weapon systems (guided missiles and guns); multiple engagement capability against low-flying targets; high subsonic and supersonic agility with good climbing and acceleration performance; high survivability on the ground and in the air, especially in an electronic warfare environment (short takeoff and landing capability and an electronic warfare self-protection package); capability for integration into the

ACCS; safe handling through the pilot; high technological availability; capability for air-to-air refueling; and autonomous operations. Such a fighter aircraft will enable the German Air Force to effectively meet the air defense challenges arising after the turn of the century, especially in the field of quick reaction missions within the framework of crisis management.

Military preventive security measures in the future will also require adequate air defense capabilities. The main tasks of the German air defense forces within the alliance are the preservation of the integrity of the airspace in peacetime, contributions to international crisis management and the protection of the civilian population and the armed forces in case of an enemy attack from the air.

The changed parameters pose high challenges to the operational flexibility and mobility of the units. Equipment and training must be geared to meeting these challenges. Priorities must be given to the efforts to improve capability to exercise command and control and to identify targets, as well as the enhancements to airborne air defense weapon systems.

The author, **LTC Ferdinand Mertes**, is the Director, Directorate of Evaluation, Test and Publication, German Air Force Air Defense School, Fort Bliss, Texas.

INTEGRATED DIAGNOSTICS

on the way to helping soldiers in the field

by John K. Nicely

Introduction

People all over the United States, when they have an urgent problem, call 911 and get fast, responsive help from experts. Why not have a way for the military maintainers in the field to call 911 for help also? A technology demonstration is underway to pave the way for this concept.

Within the Department of Defense Office of Production and Logistics, Mr. Martin Meth directs the Weapon System Improvement Group (WSIG) to explore technologies and concepts that have good potential for benefitting U.S. systems and the soldiers who keep them operating. One such program is being evaluated by Army soldiers in a Patriot fire unit at Fort Bliss, Texas, this summer, and shows how experts from remote locations can be quickly tied into problem-solving situations. The program is called the Integrated Diagnostics Support Demonstration, or IDSD, and is being managed by the Army's Patriot Project Office in Huntsville, Ala.

Background

Large defense systems, such as the Patriot missile system, have become more and more complex as they have become more capable. Growing along with this complexity are the number of built-in tests, pages of technical publications, quantities of spare parts, and the amount of highly specialized training. Most complex systems have a maintenance time distribution curve that says most repairs are distributed fairly evenly about the mode, but some take significantly longer times. These values, which form an extended "tail" on the curve, push the mean time to repair (MTTR) out to a longer time.

This curve, in Patriot's case, has been quite good; the system's time between failures has met or exceeded the goals for some years. Still, if you look at the reliability data, the MTTR curve is driven by a significant "tail." In recent years, only 17 percent of the failure actions caused over half of the total maintenance time. These problems, which take more than five hours to repair, are the "tough nut" problems on which the IDSD has focused.

When built-in diagnostics and normal procedures at the operator/organizational level can't isolate a problem, outside

help is called. Sometimes this is from an intermediate-level maintainer (IM). Sometimes a government or civilian expert is called to the site. During Operation Desert Storm, a number of previously unseen anomalies made it necessary to fly contractor personnel and special equipment or software in from the States. Such actions are costly in terms of time; time when a single system being down may mean that a key asset is unprotected and soldiers are at risk.

The Patriot Project Office believed that technology could provide relief for the bulk of such delays. For years, Patriot has been adapting new technologies, particularly with the use of personal computers, to meet its support needs. They have already placed electronic technical manuals and PC-based maintenance monitors in the hands of field soldiers. Satellite data communications have been used to move system data from tests back to analysis centers. Computer-based collection of maintenance data has been implemented. Expert system studies had been conducted, and limited implementations made. Each of these technologies is playing a part in the IDSD to benefit the Army and the other services.

Taking this experience, and taking inspiration from the successes of commercial remote diagnostics by the computer and auto giants, Patriot proposed to the WSIG that it take an approach similar to using our children's "Legos". The capabilities on hand, like Lego pieces, would be integrated and new interfaces would be developed as needed to assemble a structure of capabilities that would definitely enhance system diagnostics and maintenance.

Program

The WSIG and the Patriot Project Office worked together to define the goals and objectives for the IDSD, and to help assure meaningful and useful results, not just for Patriot and the Army, but for all the services. The goals reflect the success-oriented nature of the program. The IDSD goals are to show that Patriot can —

- reallocate at least 75 percent of the IM maintenance tasks to the operator/organizational-level soldiers,
- improve the MTTR for the overall system by at least 25 percent, and



A Patriot soldier adjusts the oscillator in the phased-array radar as a remote expert guides the procedure.

- reduce the system operations and support costs by \$3.5 million or more per year.

The effort was formally kicked off in 1993, when a memorandum of agreement (MOA) was signed between Meth's office and the Army's Program Executive Office for Missile Defense. The agreement provides that the WSIG will provide advanced research and development funding for the IDSD and that Patriot will develop and evaluate the concept, using actual fielded units as a test bed. With an eye toward realism, the MOA also stipulates that upon completion of the effort, Patriot will implement and field an integrated diagnostics concept.

The team working the IDSD exemplifies the type of integration that is taking place with the pieces of technology. The Patriot Project Office, headed by Col. Frank L. Powell III, has the lead for the effort. The IDSD project manager is Mr. Vernon O. Chance, who is the Associate Program Manager for Product Assurance. He has pulled together representatives of the many government and contractor organizations that have significant interests and capabilities in this area. Patriot's support contractor, CAS, Inc., is serving as the system integrator and communications developer. Patriot's prime contractor, the Raytheon Company, is developing interactive maintenance aids, using expert system software and remote diagnostic capability. At the Missile Command's Integrated Materiel Management Center, the Electronics Publications Division is managing the specialized publications

needs, and the Logistics Laboratory is responsible for the use of video systems. The Army's Test, Measurement and Diagnostic Equipment Program Manager is involved with the selection of the test equipment and computer resources being used. The military users have played an active role in the definition of the system itself and how it should be used. All in all, this program represents an integration not of just technologies, but of many government and contractor organizations, and a variety of support responsibilities.

The IDSD program is divided into four phases, and is now approaching its halfway mark. The first two phases addressed the detailed system definition and development, along with the planning for the modified maintenance concept and training aspects. The last two phases entail the field evaluation of the integrated diagnostics equipment and procedures by soldiers who will use it to diagnose and repair naturally-occurring faults and a variety of pre-planned faults to be inserted by the test team. During June through October 1995, the Phase 3 evaluation is being performed near Fort Bliss with B/3-43 ADA. The testbed for the early 1996 Phase 4 efforts will be at an overseas location yet to be selected.

Concept

The concept for IDSD is fairly simple, and has three primary components. First, attack the time and expense of solving diagnostic problems by giving the on-site soldier access to more capability, which is to be embedded in maintenance aids employing personal computers. Second, when that doesn't do the job, put him in touch with remote experts, and provide them with the right data to answer questions. Third, close the information loop. To begin to close the loop, use the IDSD equipment to collect enough data about the situation to allow analysts to diagnose the underlying problems and correct them. Final closure comes with feedback to the field soldier in the form of updated procedures or diagnostic programs.

The structure developed for this concept includes three tiers. The soldier and the IDSD equipment at the field site make up the first tier. The second is at a Support Center, located close to the Patriot Project Office. This center is manned by system experts and operates in a "help desk" capacity. If further expertise is required, the Support Center enlists on-line help from the third tier, a team of specialists at government and contractor "Patriot Expert Sites." Compatible software and hardware at all sites assure that data and communications are used to their best advantage.

Most of the pieces of IDSD already exist. They have been developed in the marketplace or in direct support of some area of Patriot. IDSD's main effort is to integrate these "Legos" into a working, integrated capability. The glue that links them together is a robust communications system using satellite or landlines. Brief descriptions of the "Legos" follow.

Interactive electronic technical manuals, or IETMs. The library of paper publications for Patriot, at the operator/organizational and intermediate levels, takes over 80,000 pages of paper (much in 11"x17" format). These are all now available to the soldier in the field on two CD-ROMs, which are displayed on a ruggedized PC, the Common Hardware/Software (CHS) V2. Presentation is made easy by the Army Missile Command's Interactive Authoring and Display System, or IADS. These publications are developed by computerized processing of CALS-compliant data files, and they offer convenient hypertext linkages from any document to any other place in the entire library. These links also tie the publications to the expert system programs and test equipment programs. For the soldier, this means that the needed explanations or procedures are brought up automatically. The results include elimination of the time to post changes and much faster access to required information. The cost to make another copy of the whole library? Under \$5.00!

Remote Maintenance Monitor, or RMM. Patriot's weapon control computer (WCC), as it performs airspace surveillance and many other functions, also examines the health of all its critical subsystems. In IDSD, the maintenance soldier is provided specialized access to this "health status" data by another PC, which is tied to the WCC by a special interface circuit and a cable. This PC runs what is called Remote Maintenance Monitor (RMM) software. This software provides alerts and meaningful explanations for transient and recurring errors, and also suggests the most likely system diagnostics to be used for fault isolation when the system may be taken off-line. In some cases, recommendations are even given for specific replacement parts to restore the system to full tactical capability. In IDSD, the RMM also serves as the "information conduit," passing Patriot status and diagnostic information to the expert system computer.

Expert Systems. Putting the specialized knowledge of system experts into software and data bases is a way to put the best people in many places at once. Several forms of such systems will be evaluated in the IDSD, as well as methods for linking them with adjunct information services. Knowledge engineers and maintenance specialists have captured complex rules on diagnosing faults within the Patriot phased-array radar, and coded them using both standard data base techniques and Carnegie Group, Inc.'s "TestBench" expert system software. In the field, status and diagnostic data directly from the Patriot system computer will be fed via the RMM to the expert system computer. The data will be analyzed using database techniques and "TestView" (the user's expert system software package) and the maintainer will be presented with the most expeditious method of repair. The data bases will contain information from recent analyses and from reported field faults, which will be readily available to the soldier/maintainer during maintenance, allowing him to see if a problem correlates to something observed previously.

Remote Diagnostics. Many diagnostics, although complex, produce straightforward, simple results that include a list of replacement parts or battery replaceable units. Specialized diagnostics, however, are reserved for the more highly-trained intermediate level or contractor maintainers. These latter programs take considerable skill in setting up tailored stimuli, such as how to exercise certain radar actions in a critical sequence. Much system expertise is also required in analyzing the detailed octal data printouts. In the IDSD, a capability has been developed to allow remote experts to build the specialized sets of diagnostic command data and uplink them to the battery for execution. The resultant data is then transmitted to the experts for analysis. The experts, when they have developed probable solutions, guide the on-site maintainer in the needed repair and the performance of validation tests. In most cases, this will eliminate the travel delays (hours to days) for skilled experts to reach the scene. In addition, the collection of the complete detailed diagnostic data from ailing systems will enable the system engineers to

B/3-43 ADA is IDSD's testbed. Here the battalion and battery commanders observe Patriot soldiers operating the maintenance support shelter.



determine the root causes of more problems, and develop ways to eliminate them.

Computer-Assisted Test, Measurement and Diagnostic Equipment (TMDE). Much of today's test equipment has a special connector in the back that can interface it to a PC, allowing the instrument to be set up and used through software in the computer. Also coming along rapidly are circuit cards that plug inside the PC itself, which turn the PC into an oscilloscope, logic analyzer or other complex electronic item. IDSD will use the IEEE-488 bus capability of a suite of standard Army TMDE, to let them be controlled by software in Contact Test Set VI portable computer. As an example of how this will be used, the soldier needing to make a complex adjustment hooks up the probes of a frequency counter to a circuit in the radar. He then initializes the instrument from a recorded procedure, and simply adjusts the radar controls until a simulated meter on the computer moves into the "green" region, indicating a value within specifications. In the past, he had to be experienced in instrument setup, reading and also in manually making calculations and checking the answer against his documentation. If he still has trouble, he can link his equipment to an expert's computer. Through computer communications, the remote expert can then take control of the on-site equipment and monitor the readings, record the data or change the setup. An added bonus during IDSD will be that all the Patriot tech manuals will be "onboard" and linked to the TMDE software. This will give the soldier fast access to the referenced procedures and drawings he needs.

Audio/Video Integrated Diagnostics, or AVID. The commercial world is fast developing the technology for videoconferencing, allowing inexpensive ways to capture video information, record it, compress it, transmit and receive it, edit it and use it effectively. Already in use by doctors to get expert advice on diagnosing critical medical problems, the audiovideo capability of the IDSD will allow soldiers in the field to get almost immediate help from remote experts. The capability will be two-way: pictures of problems and repairs will be sent from the field to remote experts, who can then use video to show the soldier how to perform unfamiliar procedures. Preliminary tests, involving complex repairs and adjustments, damage assessment and work inspection, have been encouraging.

Communications . . . the "glue"

The Legos described above are glued together by a communications system that can adapt to both landline and satellite links. Efforts are now underway by the Army Communications Electronics Command (CECOM) to develop and field a worldwide logistics-oriented communications network, capable of meeting the requirements of the IDSD components. In the meantime, standard telephone lines, the Integrated Service Digital Network (ISDN) and a commercial

satellite system (Hughes Eclipse) will be used to demonstrate IDSD operations. The communications will handle computer data files, voice, video data and facsimile. Since portions of the system status and repair data are classified, encryption devices will be used.

Evaluation

The best way to test theories about what will benefit the soldiers in the field is to let soldiers try them out. IDSD started doing just that in June, when B/3-43 ADA began a five-month hands-on evaluation of the equipment and procedures. Tests will be conducted in garrison close to Fort Bliss, and also during field exercises in the desert. The IDSD equipment will then be moved to a U.S. Patriot unit at an overseas location (probably Germany) in early 1996. This unit will support continued evaluation efforts for another three months. To ensure that all the features are exercised, a series of unannounced fault insertion scenarios is planned that will present very tough problems. To assure that the responses of the soldiers and their remote supporters are carefully gathered and assessed, government and contractor assessment personnel will interface closely with the unit and support locations.

A series of goals and objectives has been defined for these evaluation periods, and are basically intended to assess how well IDSD works as a whole, how well the individual elements work, and to reveal the cost effectiveness of the concept. The results are to be presented to Pentagon officials for potential use not only by the Army, but also by all other services.

Summary

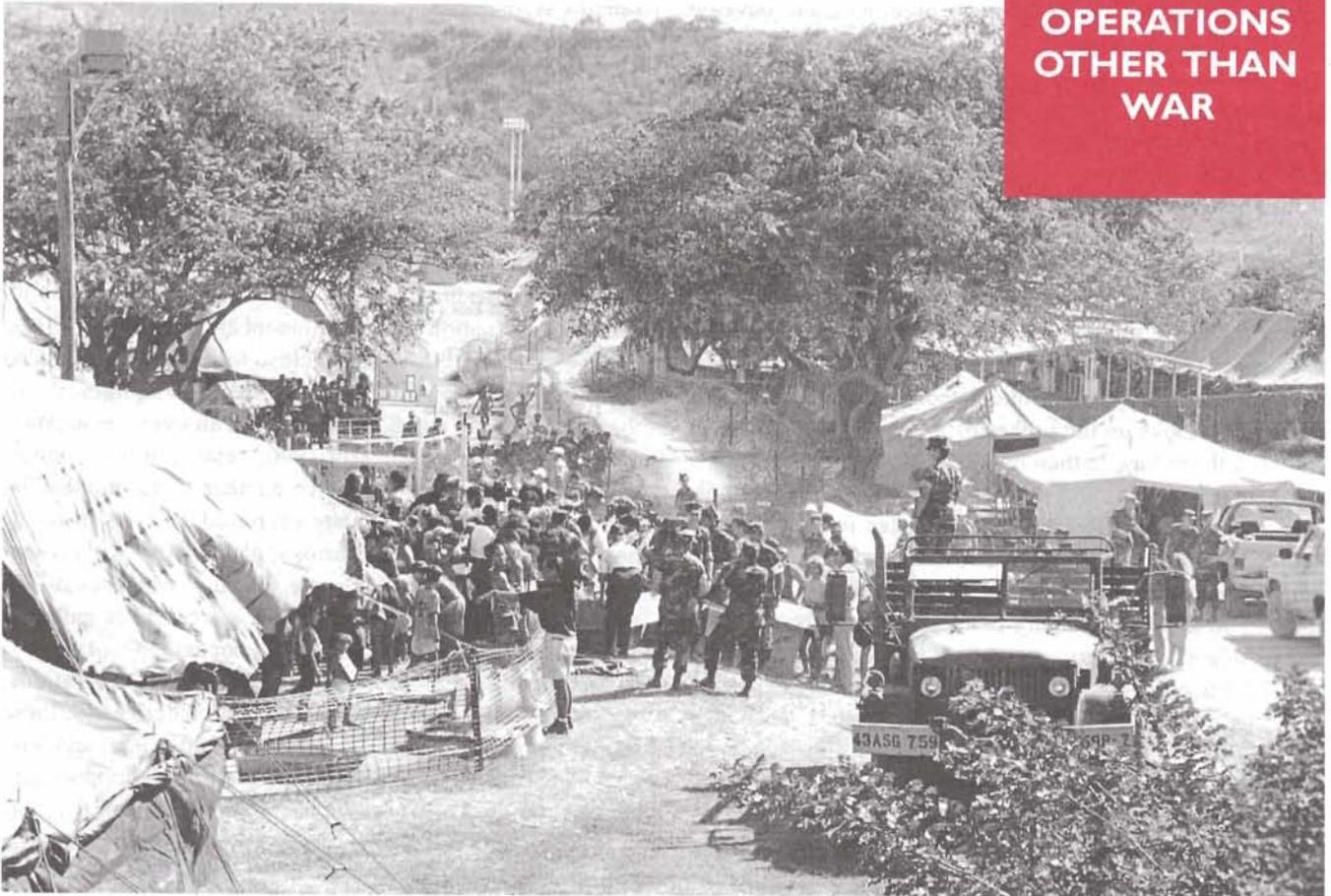
The technology is here. Valuable lessons have already been learned from industry and the medical community. This demonstration will help pave the way to enhancing our defense capability by allowing greater repair capability by organizational level soldiers and by providing faster response time for tough problems.

Key issues for fielding this type of IDSD capability will be the establishment of standards for information and communications, the development of a supportable configuration of the systems and the creative management of the multiple disciplines involved.

Enthusiasm for the potential benefits has been high since project inception. As Maj. Gen. James J. Cravens Jr. proclaimed, "this is a classic example of leveraging off of commercial technology to enhance our support of soldiers and systems in the field."

John K. Nicely works for CAS Inc.

OPERATIONS OTHER THAN WAR



2-2 ADA soldiers stand by as Cuban-born U.S. baseball player Jose Canseco visits migrants interned at Guantanamo Bay.

GUANTANAMO

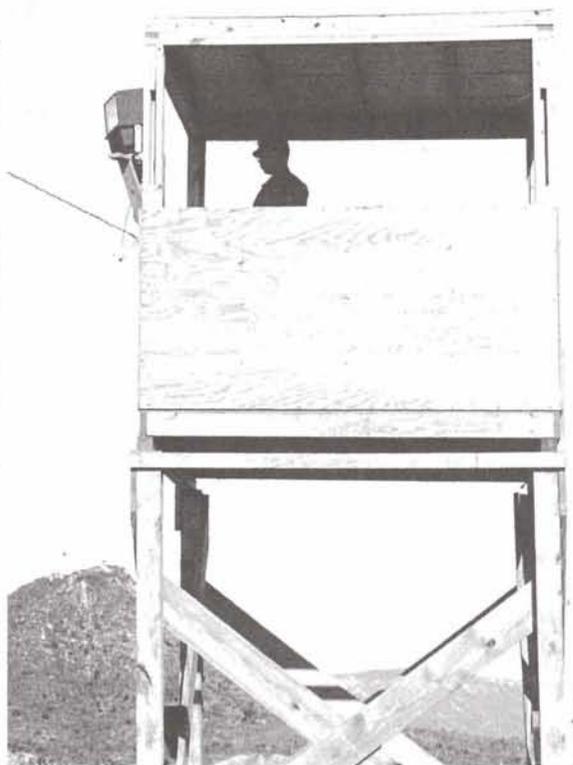
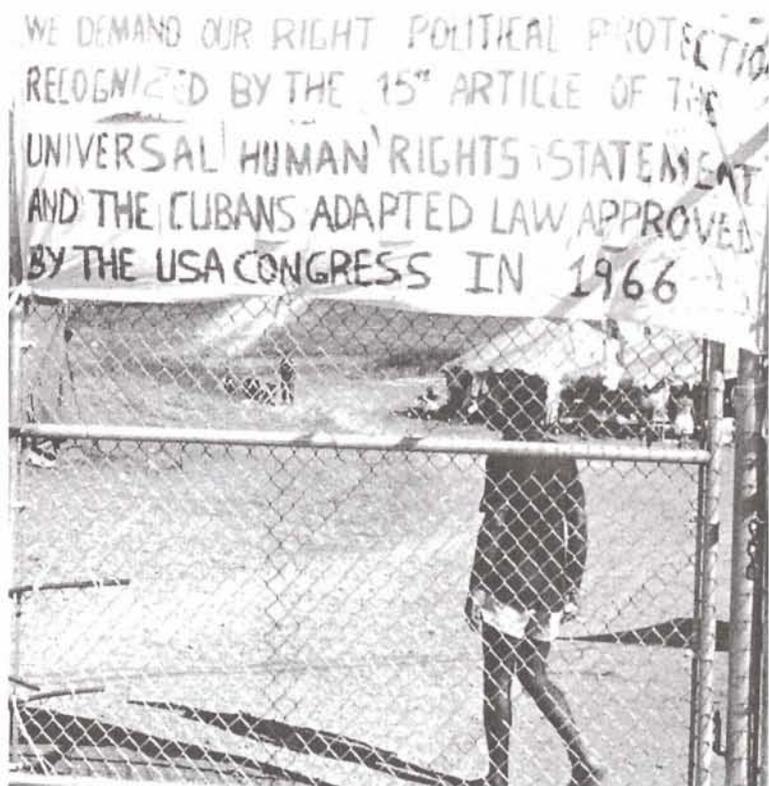
by Lt. Col. Richard E. Bedwell

A tropical storm swept into the Caribbean on Saturday, Nov. 12, 1994, lashing the western flank of Cuba and 2-2 ADA soldiers at their posts at Guantanamo Bay with solid sheets of rain driven by banshee winds. The downpour sent floodwaters swirling into crowded migrant tent cities. Air defenders coming off post anticipated showers and dry clothing, but instead found themselves helping women and children struggle through dark, raging torrents that separated the inundated migrant camps from higher ground and safety.

The storm's intensity may have been atypical, but the air defenders' reaction was nothing out of the ordinary. For three months they had served as protectors, providers, arbitrators and detention camp custodians for the swelling Cuban migrant (CM) population. At times, moved by compassion for migrant families, they had fought to change directives they felt inflicted unnecessary hardships on camp inhabitants. At other times, they had donned riot gear and grabbed batons in anticipation of battle with migrants armed with sticks, stones, shanks and other

homemade weapons. They accomplished their mission in a vortex of controversy beneath the glare of media floodlights. By the time the tropical storm made landfall in November, 2-2 ADA Avenger soldiers had become veterans at a new type of mission, a mission called operations other than war (OOTW).

But last September, as we prepared to deploy from Fort Hood, Texas, to the Caribbean, OOTW was still unexplored territory for 2-2 ADA. I was confident the battalion could handle any combat assignment, but what about OOTW?



Banners protesting shifts in American immigration policy adorn Camp Mike as a HHB/2-2 ADA soldier stands watch.

Intuition told me that any ADA unit trained to standards and prepared to accomplish its primary mission should be able to handle any OOTW mission that came its way, but it was only intuition. Should we have devoted training schedule time to training OOTW tasks? Would deployment mechanisms designed for war mesh as smoothly for OOTW missions? We were about to find out.

We had expected Sept. 6, 1994, to be a typical day following a four-day weekend for 2-2 ADA. We had spent the previous week conducting civil disturbance training and focusing on range priority firing, so "normal" activities had been suspended. We conducted our monthly battalion run and released the battalion to go home, clean up, change and return to stand a morning formation at 0900 hours. However, at 0800 we received an alert to prepare the battalion for deployment to Guantanamo Bay, Cuba. The mission: perform external security for CM camps. We immediately initiated re-

call and other actions called for by the brigade's N-Hour sequence standing operating procedures.

We learned early in the deployment preparation that we would have to acquire vehicles from outside the battalion for the deployment rather than taking our organic vehicles. The deployment warning order specified that each company-size unit should bring four cargo/utility carrier vehicles (CUCVs) and six two-and-a-half-ton trucks. Our battalion had no CUCVs, much less the 16 (four per battery) called for in the warning order. To take our full complement of two-and-a-half-ton trucks, we would have had to remove the built-up shelters from combat service support trucks. Besides, the warning order specified that we would leave the vehicles behind in Cuba for follow-on replacement forces upon our return.

On the morning of Sept. 8 at Fort Hood, we rail-loaded 19 CUCVs (we added three for command and control and logistics) and 24 two-and-a-half-ton trucks, having filled their beds with

cargo and equipment that we couldn't take with us on the passenger flight. At that time we were told that the vehicles would depart Fort Hood on Sept. 9, be loaded on the ship at Beaumont, Texas, on Sept. 10 and be on the ground at Guantanamo Bay by Sept. 17. We based our cargo distribution and loading on that assumption.

4-43 ADA, our 31st ADA Brigade sister battalion, and the brigade Headquarters and Headquarters Battery (HHB) helped us prepare for the deployment and furnished needed equipment. Their cooperation and assistance significantly facilitated our preparation for deployment.

Phase I

The 197 soldiers who comprised the first element (61 soldiers from A Battery, 61 soldiers from B Battery and 75 soldiers from HHB) were manifested at 2130, Sept. 8, and departed via contracted commercial aircraft at 0550, Sept. 9. We arrived at Leeward Point Field, Guantanamo Bay, Cuba, around

0930 Eastern Standard Time. A representative from Joint Task Group (JTG) Bulkeley was waiting on the windward side and immediately transported me and my S-3, Maj. Jim Bedingfield, to JTG Bulkeley Headquarters. JTF Bulkeley was an ad hoc headquarters staffed by Marines whose mission was to provide command and control of both the internal and external security forces for CMs. Within an hour of our arrival, the JTG Bulkeley S-3 received notice that about 150 CMs had broken out of the camps in the Golf Course area and were headed west toward the Guantanamo Bay Naval Base. We accompanied him to Hilltop 92 just north of the Golf Course to observe the operations to get the CMs back into the camps. This task was accomplished efficiently and without serious incident.

The S-3 and I returned to Camp Phillips, where the battalion was to spend the first four days until the *Comfort*, a hospital ship that was to serve as our long-term housing facility, arrived in port. We checked to make sure our soldiers were given a place to rest while awaiting the arrival of the remainder of the battalion.

In the afternoon, I returned with the S-3 to Camp Bulkeley for the daily 1700 commanders' meeting with the JTG Bulkeley commander, Col. Douglas Redlich, U.S. Marine Corps. Just prior to the meeting, CMs, intent on conducting what they declared would be a peaceful demonstration, began breaking out of the wire. The migrants had heard — and misunderstood — a Radio Marti broadcast announcing a new immigration policy agreement between Cuba and the United States. They wrongly believed they would be forced to return to Castro's Cuba. Throughout the remainder of the evening, the CM camps in the Radio Range area erupted in demonstrations. So many migrants broke out that they could no longer be confined within the defined perimeters of the migrant camps but could only be contained within the general area of Radio Range and Camp Bulkeley.

The battalion's remaining 207 soldiers, 70 from C Battery, 25 from HHB and 112 soldiers from A/2-5 ADA, who had been attached to 2-2 ADA, arrived Saturday morning, Sept. 10. Their arrival brought the battalion's deployed strength to 404 soldiers.

That afternoon, about 2,500 CMs broke out of Golf Course area camps and moved west toward the naval base. They reached the base chapel before bumping

*So many migrants
broke out that they could
no longer be contained
inside the perimeters of
the migrant camps*

up against a perimeter established to halt their westward movement. Marine Brig. Gen. Michael J. Williams, the JTF 160 commander, met with migrant leaders and discovered their chief desire was to obtain press coverage of their situation. He promised they would be allowed to meet with members of the news media scheduled to arrive Wednesday. He encouraged them to return to their camps for their own safety and security and said he would walk back with those who decided to return. He said CMs who desired to remain at the chapel could do so until Wednesday, as long as they remained peaceful.

At this point, many CMs walked with the general back to the Golf Course camp complex and returned to their individual camps. Many others returned with Military Police escorts during the evening and night, but about 600 CMs remained at the chapel, a number that was to gradually shrink to around 300 by Sunday morning. To contain them, a concertina wire perimeter was established around the chapel area later that afternoon. MPs provided internal security, and our battalion made its operational debut, with HHB/2-2 ADA providing external security. That evening,

B/2-2 ADA provided reinforcement to a blocking position that had been established by 2-6 Marines between Camp Quick, a U.S. base camp, and the Radio Range camp complex.

Later the same afternoon, sources indicated that CMs at the Golf Course complex were planning a mass exodus and a march on the naval base on Sunday, Sept 11. It was said as many a 10,000 CMs would participate. Faced with this serious threat, JTG Bulkeley leaders decided to employ a show of force. Operational planning began at around 2200 on Sept. 10 and continued until around 0230. Forces designated to participate included the Ground Defense Security Force (GDSF), which consisted of Marines assigned to Marine Barracks, Guantanamo Bay; 2-6 Marines; 1-12 Infantry; and 2-2 ADA. Forces were to be emplaced at 0600 and were to remain in place until the breakout occurred or until relieved (see Operation Overlay, Bulkeley FARGO, 110200T Sep 94). 2-2 ADA units involved in the operation received the following missions: A/2-5 ADA was to occupy Battle Position (BP) North. C/2-2 ADA was to occupy BP South, A/2-2 ADA and B/2-2 ADA were to first occupy AA Avenger, then deploy, on order, to BP 2. HHB/2-2 ADA, still involved in the migrant containment operation on Chapel Hill, did not participate.

At around 1500 on Sunday, the JTG Bulkeley commander called battalion commanders to a meeting. Weather forecasters had been tracking a tropical storm that was expected to hit Guantanamo Bay early that evening. The topic of the meeting was what action could be taken to protect the migrant camps and CMs from the fury of the storm. We decided to forcibly move the CMs who remained at the chapel to return to their camp, if they did not do so voluntarily. At approximately 1730, the JTG Bulkeley chaplain talked to the CMs at the chapel in an effort to convince them to return to their camps. Throughout the evening the chaplain and JTG commander con-

ducted emotional negotiations with the remaining CMs, and by around 2130 all but three had voluntarily returned. The three holdouts remained, they said, because Williams had promised them on Saturday they could do so. At approximately 2215, as HHB/2-2 ADA prepared to conduct a "snatch team" operation to forcibly return them to their camps, the three relented. The approaching tropical storm, which had brought about the confrontation, bypassed Guantanamo Bay.

On Monday, Sept. 12, the JTG Bulkeley commander decided to take action to put the CMs loose in the Radio Range area back inside the concertina wire. Unit commanders and their S-3s spent most of the morning planning an operation to accomplish this objective.

Operation Clean Sweep called for a four-phase operation. Phase I was to start at 1700, Sept. 12, with a show-of-force sweep through the Radio Range complex with all external security forces under JTG Bulkeley command. HHB/2-2 ADA relieved E/2-6 Marines in providing external security for Camp Bulkeley and, at execution time, linked with A/2-5 ADA to form a screen to the west of the Clean Sweep operations and occupy BP 4.

A/2-5 ADA deployed to the west of the Radio Range complex to screen along that flank and occupied BP 5 to prevent migrants from departing the complex area to the west once the show of force began. C/2-2 ADA established a blocking position at BP 1 on the eastern flank between the Radio Range Complex and Camp Quick. A/2-2 ADA and B/2-2 ADA established blocking positions at BP 3 and BP 2, respectively, at the eastern gate of Camp Bulkeley to prevent CMs in the Radio Range area from entering Camp Bulkeley compound. The show of force was preceded by psychological operations announcements broadcast over loudspeakers. The announcements instructing migrants to return to their camps or face confinement in a segregation facility.

Operation Clean Sweep commenced at T1700. The 2-6 Marines and 1-12 Infantry marched east to west through the Radio Range complex, with the Marines advancing along Axis Kathy and the infantrymen along Axis Gayle. By 1830, the CMs were back under positive control inside the concertina wire. During Phase I, about 70 migrants who resisted or urged other migrants to resist were detained, or in operational parlance, "snatched," and placed in administrative segregation.

Operation Clean Sweep was designed to force migrants loose in the Radio Range area back inside the concertina wire.

Phase II of Operation Clean Sweep began the morning of Sept. 13 with a thorough physical inspection of every area of every migrant camp. C/2-2 ADA and A/2-5 ADA cordoned off areas within the camps to keep CMs being inspected inside the inspection areas and CMs not being inspected outside the inspection areas. Another 50 migrants, most of whom possessed homemade weapons or stockpiles of black market goods, were snatched and delivered to administrative segregation. 2-2 ADA's part in Clean Sweep concluded with the end of Phase II the next afternoon.

Commanders and S-3s spent the afternoon and evening of Sept. 14 planning a similar operation, Operation Clean House, for the Golf Course camps. The operation started the following morning. 2-2 ADA's participation, executed by A/2-2 ADA, C/2-2 ADA and A/2-5 ADA, consisted of the same type of cordoning operations the battalion had conducted during Clean Sweep. During Operation Clean House, about another 70 migrants were de-

tained and placed in administrative segregation for reasons similar to those that led to the segregation of migrants snatched during Clean Sweep.

From Sept. 13 to 15, the battalion was also tasked to erect tents for a new camp, Camp Oscar Two, in the Radio Range complex. HHB/2-2 ADA (Sept. 13), C/2-2 ADA, (Sept. 14) and B/2-2 ADA (Sept. 15) each spent a day, a total of 560 man-hours, on the task, erecting 137 general purpose (GP) medium tents.

On Sept. 16, for the first time since our arrival Sept. 9, the battalion's soldiers had a chance to pause and catch their breath. We had seen the level of proficiency required to conduct external security operations and had witnessed the impact that a visual military presence had in regaining control of the Radio Range camps.

After fully assessing the battalion's level of proficiency in the tasks at hand, we made the decision to dedicate nonoperational time to additional civil disturbance training and quick reaction force (QRF) tasks, including bayonet drills and various procedures for the movement of military formations. We began training on these skills Sept. 16.

We also believed it necessary to establish a battalion external security mission essential task list (METL) so we could focus our training on skills we would be performing for the next six months. This proved valuable because, when training time became available, the METL allowed us to determine how much time to spend honing OOTW skills to a high level and how much time to devote to basic skills training for our normal air defense mission.

In mid-September, another Marine battalion arrived to assist in the external security mission. The 8th Marine Regimental Headquarters also deployed to Guantanamo Bay to serve as a command and control element for external security forces for both the Cuban and Haitian migrant camps. The commander of this organization, not normally a part of the unit, was Brig. Gen. Raymond P. Ayers, who had been hand-picked for the mission. Ayers' head-

quarters was designated Joint Security Group (JSG), and 2-2 ADA began responding to JSG rather than JTG Bulkeley on Sept. 16. The same day, we received our first long-term mission. We were tasked to provide external security for CM Camp Mike and to serve as a general-support (GS) QRF to reinforce any external security force, in either the Haitian or Cuban camps, that needed help. We were given a specific tactical area of responsibility within which we would be responsible for all external security and all migrant control actions outside the concertina. This assignment began Phase II of our mission in Guantanamo Bay.

Phase II

On Sept. 17, HHB/2-2 ADA received a warning order to assume operational responsibility for external security of Camp Mike. All soldiers assigned to the battery, except 35 soldiers who, initially, comprised a command, control, personnel and logistics headquarters, were task organized under the battery commander. They spent Sept. 17 conducting soldier orientation to Camp Mike and a "rock drill" focused on external security of the camp. The rest of the battalion continued to work on improving our new METL skills, concentrating on QRF skills, since each battery would assume GS QRF battery responsibilities on a rotating basis.

On Monday, Sept. 19, HHB/2-2 ADA moved to Camp Mike near the Rifle Range and assumed external security for approximately 3,000 CMs. The same day, A/2-5 ADA was chopped back to 2-5 ADA to enhance external security and create a more sustainable work rotation at Haitian migrant camps at Camp McCalla. This left 2-2 ADA with 292 soldiers available for missions at Guantanamo Bay.

Phase III

As previously indicated, the battalion had expected to spend only four days at Camp Phillips before moving aboard the *Comfort*. However, the *Comfort* was diverted by the U.S. interven-

tion in Haiti. So the battalion moved on Sept. 20 from Camp Phillips to Cooper Field, the naval base's soccer field, where we initially occupied 56 GP medium tents. The night of our arrival, we were instructed to vacate 28 of the GP tents, which were reserved for another unit, but the other unit never appeared.

The following day, the battalion assumed the GS QRF mission and external security for migrants waiting for processing, being processed and after completing processing through the

The warning order tasked the battalion to assume full responsibility for Camp X-Ray, a "higher security" camp

Deployable Mass Population Information Tracking System (DMPITS), a Guantanamo Bay personnel accountability system for migrants similar to the Army's Standard Installation/Division Personnel System (SIDPERS) set up to keep track of the swelling migrant population. We also provided security for migrants awaiting departure for and during transportation to safe haven in Panama. Each day, four soldiers accompanied about 160 migrants on flights from Cuba to Panama. Return flights for security personnel occurred on Sundays and Wednesdays.

The ship bearing our equipment-laden vehicles finally sailed into port on Sept. 25. It was only eight days late, but the equipment had been sorely missed. Especially critical were single-channel ground and airborne radio system (SINCGARS) batteries. At first we relied totally on battery-powered SINCGARS for operational communication and had expended almost all the batteries our soldiers could hand-carry with them onto the commercial airliner during our initial deployment. Fortu-

nately, we had brought more than the seven-day supply we had considered sufficient to last until the cargo ship was to have arrived, had it been on schedule. The cargo ship's late arrival had also made transportation a major problem. We would have been unable to accomplish many of the tasks assigned us during the early days of our mission had not 2-5 ADA loaned us a CUCV and three two-and-a-half ton trucks. The equipment was unloaded on Sept. 26 and was under our control by late evening the same day.

On Sept 30, we received a warning order to prepare to assume full responsibility for the internal and external security operations of a "higher security" camp. Camp X-Ray was being constructed to hold migrants who had been previously deported from the United States; had committed felonies or serious offenses in Cuba, the migrant camps at Guantanamo Bay or in the United States; who were known gang members; or whom the JTG Bulkeley commander had determined required, or were likely to require, a more controlled and secure environment.

Phase IV

The battalion was relieved of the DMPITS and safe haven mission on Oct. 2 so it could prepare to assume the security mission at Camp X-Ray. On Oct. 5, the battalion moved into condemned quarters at the Nob Hill-Villimar Housing Area. Despite the condemned label, the quarters had air conditioning, refrigerators, functional plumbing, cable television and, in most cases, stoves. Soldiers were housed eight per set of quarters. Compared to Cooper Field, where the latrines were Porta-Johns and the showers were in the gym or, for those willing to walk three or four hundred meters, at the swimming pool, the new quarters represented an appreciable upgrade in living conditions. On the same day, we moved our battalion tactical operations center from an air assault tent at Cooper Field to a new AT&T building.

Located in the vicinity of the housing area where our soldiers were quartered, the new building had commercial power, telephone jacks and space to establish a functional battalion headquarters operation.

On Oct. 6, we assumed responsibility for Camp X-Ray. We were augmented with 24 MOS 95C Corrections specialists and a 40-man tube-launched, optically tracked wire-guided (TOW) missile platoon from 8th Marines. A part of the external security equipment for this camp included M-16 rifles and shotguns. Since shotguns were not part of our battalion's modified table of equipment, we signed for 20 shotguns from 1-2 Marines. On Oct. 11 and 12, we set up shotgun ranges and conducted training for personnel assigned to external security operations.

On Oct. 14, in preparation for closing Camp Mike as part of a JTF-160 consolidation and relocation plan, HHB moved its personnel, who had been living in large GP tents near Camp Mike, into housing at Nob Hill-Villimar with the rest of the battalion. Camp Mike was initially scheduled to close on Oct. 28, but the relocation of migrants to camps at McCalla Field was delayed until Oct. 30.

On Oct. 17, Ayers assumed command of JTF 160 from Williams and Col. J. B. Beavers, that 8th Marines commander who had been serving as Ayers' chief of staff, replaced Ayers as the new JSG commander. The change of command went smoothly because Beaver's regimental staff had already been functioning as the JSG staff.

Phases V-VI

On Oct. 29, the battalion was released from its GS QRF mission due to JSG operational changes that gave 2-2 ADA responsibility for four Golf Course camps. Accordingly, A/2-2 ADA took responsibility for Camps Uniform and Victor while C/2-2 ADA took charge of Camps Romeo and Tango.

The two batteries began external security duties at these camps at 0700, Nov. 1. With HHB/2-2 ADA, they be-



At top, HHB/2-2 ADA situated its tactical operations center on a hilltop overlooking Camp Mike. At bottom, the 8th Marines set up the Joint Security Group Headquarters in the Guantanamo Bay Naval Base Youth Center.

gan a two-day rotation of external security duty at each pair of camps, one day of training and one day off duty, a schedule of five days on and one day off duty.

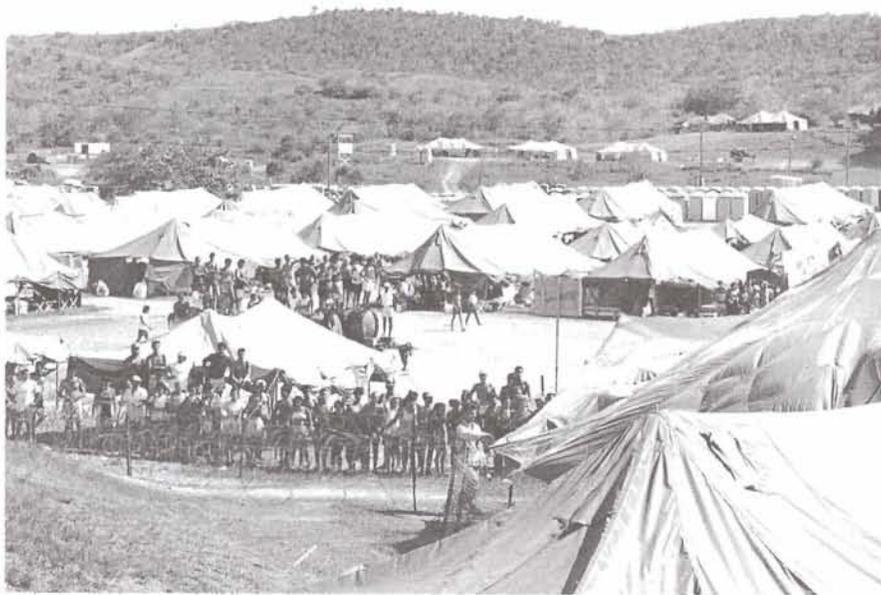
On Nov. 4, we received notification that we would assume responsibility for two additional camps, Papa and Quebec, at the Golf Course. CMs and Haitian migrants had been separated because cultural differences made them incompatible. Every since the voluntary repatriation of Haitian migrants following the U.S. intervention in Haiti had begun, internal security forces had been working to consolidate CMs at McCalla Field.

As the Haitian camps emptied, they were cleaned and prepared for occupation by CMs. Unfortunately, the voluntary repatriation of Haitian migrants

came to a halt during the last week of October, leaving 6,000 Haitians at McCalla Field.

Most of the remaining Haitians, who had risked everything in hazardous sea voyages aboard a ragged flotilla of rafts and boats, had nothing to return to in Haiti and preferred living conditions in Guantanamo Bay migrant camps to those they had left behind them. Others were determined to emigrate to the United States. The slowdown was reinforced by legal suits filed in the United States to prevent further repatriation of Haitian migrants.

Therefore, on Nov. 6, 2-2 ADA was responsible for all Golf Course camps and Camp X-Ray. The migrant population at the Golf Course camps was about 7,800, a number that shrunk to about 4,900 on Nov. 8 when Camps



At top, CMs gather at the concertina wire at Camp Papa. At bottom, Camp Mike CMs prepare for relocation.

Papa and Quebec moved to McCalla Field. This left the battalion with Camps Romeo, Tango, Uniform and Victor at the Golf Course and Camp X-Ray.

The tropical storm howled into the Caribbean on Saturday, Nov. 12, sweeping Guantanamo Bay with 30 to 40 mile-per-hour winds with microbursts up to 120 miles per hour. More than seven inches of rain fell during a 15-hour period, flooding the Golf Course camps.

We began evacuating the Golf Course camps at 0730 on Nov. 13. Migrants from Camp Romeo moved to Camp 7 at McCalla Field, migrants from Camp Uniform moved to the high school, and migrants from Camp Tango and Victor moved to the base gym.

About 30 soldiers from HHB/2-2 ADA and C/2-2 ADA, having endured the brunt of the storm while on post, were coming off shift at 0700 as the evacuation got underway. These sol-

diers delayed their return to showers, dry clothing and rest to help the migrants, including many women and children who might have been swept away by swift currents, flee through the rising floodwaters. Their action prevented possible loss of life and numerous injuries.

The transition to temporary shelters following the evacuation began in chaos because of the internal security plan to separate migrant males from women and children. The migrants, many of whom had experienced difficulties reuniting with their families following their arrival at Guantanamo Bay, were understandably uncooperative. Maj. Kenny Cox, the 2-2 ADA executive officer, was instrumental in having this policy changed so family units could remain together. Once this decision was announced, cooperation improved and feeding the migrants became the immediate priority.

The storm totally disrupted normal food distribution, and no food appeared until around 1100 when Cox took the initiative to provide juice, fruit, peanut butter and bread to the migrants until ready-to-eat meals, or MREs, could be provided in a controlled manner.

The facilities into which the migrants had been moved were inadequate in size and support and sustainment systems, such as toilets and water. Motivated by commitment and compassion, the 2-2 ADA executive officer and soldiers from the battalion worked "outside their lane" throughout the day to ensure the migrants were treated as humanely as possible.

The battalion received an order to prepare for dock security and a transportation mission on Nov. 14. This changed the duty rotation at the Golf Course camps with HHB/2-2 ADA assigned long-term association with Camps Tango and Victor and C/2-2 ADA assigned long-term association with Camp Romeo.

A/2-2 ADA spent Nov. 15 through Nov. 18 preparing for the dock security and conducting driver's training in buses and cattle cars in preparation for

the transportation mission. The battery assumed this mission at 0700 on Nov. 19.

We were informed on Nov. 18 that the 716 Military Police Battalion would move migrants being held in administrative segregation into Camp X-Ray on Nov. 23 and then assume responsibility for the camp. The same day, following a force drawdown briefing, Ayers decided to keep one 2-2 ADA battery at Guantanamo Bay for an unspecified period while the remainder of the battalion redeployed to Fort Hood.

We spent the ensuing weekend attempting to quantify, in absolute detail, the security requirements for the remaining Cuban and Haitian migrants, and after a follow-on briefing on Nov. 21, Ayers relented. The battalion was scheduled to redeploy intact around Dec. 6.

We immediately informed the brigade and family support group leaders back at Fort Hood of our imminent homecoming. We then assembled our soldiers at the W.T. Sampson Elementary School amphitheater to tell them the good news. Immediately afterward, we held a commanders and staff meeting to begin planning for redeployment.

We redeployed on Dec. 7. The 1st Cavalry Division Band, brigade leaders and members of our rear detachment met us at Robert Gray Army Airfield. A family reunification ceremony at Ironhorse Gymnasium immediately followed.

Lessons Learned

I was proud of my soldiers. They handled a tough, controversial mission with compassion, dedication and professionalism. Still, our Guantanamo Bay experiences raised some important issues that need to be resolved before the next OOTW warning order arrives. The mission also supplied some answers to questions that other ADA soldiers, except, perhaps, the soldiers of 3-62 ADA, who are veterans of both Somalia and Haiti, are probably asking themselves.

Is the N-hour sequence adaptable to both primary mission deployments and OOTW deployments?

Discussion: The N-hour sequence is based on several assumptions applicable to primary mission deployment circumstances but not necessarily applicable to OOTW deployments. For example, individual packing lists are planned based on a deployment made only with the individual items and clothing specified in Common Table of Allowance-50. Additionally, vehicle and equipment load plans are constructed for a deployment with 100-percent modified table of organization and equipment (MTOE) items. OOTW deployments make modifications to soldier and unit equipment requirements a necessity, and time to make these modifications is not built into the N-hour sequence.

2-2 ADA's deployment to Guantanamo Bay is a perfect example. We received specific lists of individual and unit equipment items that we would need to accomplish our OOTW mission. Instead of deploying with our organic MTOE vehicles, we had to procure vehicles specified in the warning order from Fort Hood's Directorate of Resource Management or sign for them from other units with "excess" vehicles. Furthermore, the battalion had to procure and install radios in some of the vehicles.

All of these tasks, which would not have been required had the battalion deployed on a wartime air defense mission, required time to perform, time that wasn't built into the N-hour sequence. Accomplishing these tasks forced a significant adjustment to the N-hour sequence and took certain soldiers away from doing other things to support the deployment in a pre-planned manner.

Fortunately, 2-2 ADA had been previously alerted and stood down 10 days prior to the actual deployment alert, so we had completed many significant activities and tasks that, otherwise, would have had to have been accom-

plished within the N-hour sequence's 72-hour window. A preparation for overseas movement (POM) had been previously conducted, so the POM for actual deployment was more abbreviated. We conducted a deployment briefing Wednesday evening following the initial alert notification, so one was not necessary within the 72-hour window. The battalion had spent the previous week conducting civil disturbance training, so most of the riot control gear had been previously procured and issued to soldiers.

The OOTW mission requirement for nonorganic vehicles and communications equipment created the greatest problem. The battalion was alerted at 0800 on Sept. 6 and informed that vehicles would be loaded on railcars at Fort Hood on the morning of Sept. 8. Convoys departed the 2-2 ADA motor pool at 0600 on Sept. 8.

So in the 46 hours between alert notification and rail-loading, the battalion had to procure, configure and load cargo on 19 CUCVs (1008s and 1009s) and 24 two-and-a-half-ton trucks. Our soldiers also installed four AN/VRC-47s in the 1008 CUCVs and two AN/VRC 48s in the 1009 CUCVs. In addition, they acquired one 524 radio-telephone as a spare and 35 PRC-127 radios for mission requirements.

These additional required activities took a substantial amount of time and adversely affected the battalion's ability to comply with the "normal" N-hour sequence. Between the time the battalion's vehicles were delivered to the railhead and manifest time was 13 hours and 30 minutes, so individuals directly involved with procuring vehicles and procuring and mounting radios had a reduced amount of time (essentially only the 13 hours and 30 minutes) to perform the personal and professional aspects of preparing to deploy.

The time our soldiers spent on these nonstandard tasks was subtracted from the time that they normally would have spent making personal and family arrangements for the deployment. The

lost time ultimately produced a variety of personal and family challenges during the first six weeks of deployment.

Recommendations: Create two separate N-hour sequences; one to support primary mission deployments and a second to support OOTW mission deployments. Synchronize both to reflect mission requirements and unit levels of prior preparedness applicable to both types of mission. Make time available up front to accomplish the myriad, unanticipated tasks characteristic of OOTW deployments. Place more routine, easily accomplished tasks in the N-hour sequence. Major subordinate commands should focus their attention exclusively on the deploying force, dedicating 100-percent support and employing every efficiency. Inform key installation and community support agencies, such as transportation, housing, central issue facility, clothing sales, etc., early and get them involved early to ensure their full cooperation and support of every aspect of deployment.

Should we make OOTW a separate mission-essential task for units, and should resources be dedicated to the garrison environment?

Discussion: There has been significant discussion, within 2-2 ADA and throughout the Army, about dedicating garrison training resources to OOTW. The problem is that preparing a unit for an unspecified OOTW mission is no more possible than preparing a unit for an unspecified combat mission. That is to say, without mission specifications, there can be no task lists created to focus training on anticipated tasks and guide the allocation of training resources. For example, a commander who receives a directive to “prepare for war” would be at a loss as to how to proceed. On the other hand, a commander who receives a directive to “prepare an Avenger battalion for war” could make certain assumptions. Since an Avenger unit’s designation gives it implied tasks, an Avenger commander can focus training on the anticipated

tasks the unit would be required to perform in a combat environment. Conversely, OOTW take on many faces — natural disaster assistance, firefighting, peacekeeping, migrant control, etc. — for which there is insufficient focus to support the preparation of METLs, identify training standards or create a yardstick to measure training success.

It is my opinion, based solely on my battalion’s deployment to Cuba, that units, soldiers and leaders trained in the basics can quickly and easily adapt to the fluid OOTW environment.

For example, the most important tasks that junior leaders need to be proficient in are basic troop-leading procedures, including mission analysis, understanding the commander’s intent and concept of operations and translating that into action, issuing clear mission orders, and performing pre-execution and pre-combat checks. Similarly, soldiers well founded in basic soldier skills (understanding and executing orders, maintaining military discipline, exercising communications, map reading and navigation skills, reporting observations, etc.) can apply these skills to the OOTW environment.

Recommendations: Units must train hard and efficiently on primary mission tasks and not divert time, energy and material resources to training on an undetermined and undefined OOTW mission. Train on the basics and establish a strong, responsive, adaptable chain of command.

Establish strong family support groups. Soldiers who are confident that their families can rely on the rear detachment and family support group are not distracted by family issues and can focus on the mission.

Given a “go to war” MTOE, how do you constitute a rear detachment capable of serving and caring for the families of deployed soldiers?

Discussion: The MTOE is constructed for wartime missions with no excess personnel or equipment to accomplish other tasks, functions or mis-

sions. However, the Army’s commitment to supporting families of deploying soldiers has evolved to the point that soldiers with sufficient expertise in certain rear detachment functional areas must stay at the home location.

While preparing for deployment, we had intended to take every deployable soldier except the battalion executive officer, who was to remain at Fort Hood as the rear detachment commander. Late in the deployment, the brigade commander offered to provide a major from the brigade staff to serve as the rear detachment commander and allow our executive officer to make the deployment. This later proved to be of extraordinary benefit to the battalion as the logistical structure and system in Guantanamo Bay was not “user friendly.” We also decided that additional soldiers should remain at Fort Hood to assist families and provide minimal maintenance on equipment left behind.

The rear detachment core ultimately included the rear detachment commander and, as a measure to build enlisted family confidence in rear detachment operations, a sergeant major, who was detailed after deployment to serve as the rear NCO in charge.

The rear detachment also included the personnel and administration center (PAC) supervisor, a PAC clerk, a battery maintenance officer and two nondeployable soldiers who served as S-3 and S-4 NCOs. The rear detachment personnel made the family assistance program a success and permitted deployed soldiers to concentrate on the mission rather than worrying about their families. The rear detachment core was augmented as replacements arrived and began preparing for deployment.

In Guantanamo Bay, HHB/2-2 ADA did not perform the “wartime” functions of a HHB. Instead, we improvised a 35-soldier battalion headquarters made up of HHB personnel to carry out command and control functions and furnish personnel and logistical support to the battalion. The remainder of HHB was reformed under the battery



After life in GP tents, air defenders found the condemned housing in Guantanamo Bay's Knob Hill area luxurious.

commander and performed the same type of external security missions assigned to the line batteries.

So the expertise invested in the rear detachment was not necessarily needed in Guantanamo Bay, although every soldier's presence was important to the execution of the general external security mission.

In our case, the investment in rear detachment operations positively affected operations forward. Deployed soldiers were confident their families' needs would be sufficiently addressed.

Recommendations: While I believe that the creation of a strong rear detachment is a necessary investment in any deployment of significant duration, our Guantanamo Bay deployment provided limited challenges and, therefore, limited insight into how the rear detachment mission should be accomplished; however, certain measures that should be taken are apparent.

Identify and train soldiers in rear detachment tasks and functions. Rotate rear detachment personnel when possible so they can train on wartime tasks and functions rather than exclusively focusing on rear detachment tasks and functions. Establish a "unit core curriculum" for family support group leaders that goes beyond Army regulatory requirements to ensure family support groups understand which functions and

services the rear detachment can and should provide and which functions and services family support groups should themselves provide.

Should units of lesser size than identified in force requisitions be deployed?

Discussion: The order issued to III Corps for the Guantanamo Bay operation specified four company-size organizations with each company consisting of 120 soldiers, a total of 480 soldiers. At the time of deployment, 2-2 ADA had 337 soldiers assigned, of whom only 292 could deploy on Sept. 9. Those unable to make the deployment were 18 nondeployables, 12 soldiers with conflicting estimated time of separation or permanent change of station dates, two soldiers who stayed behind due to compassionate circumstances, 10 soldiers scheduled to attend Noncommissioned Officer Education System courses and three rear detachment personnel. Upon our arrival in Guantanamo Bay, we learned that A/2-5 ADA would be attached to the battalion. This brought the combined strength of the deployed 2-2 ADA force to 404 soldiers, but this number included the improvised 35-soldier headquarters. Therefore, our on-line strength of 369 soldiers was 111 soldiers — almost a full company — short of the number

required to perform the mission. Ten days after our deployment, A/2-5 ADA was chopped back to 2-5 ADA. So, at 10 days into the deployment, 2-2 ADA was just over half the size of the force JTF 160 had requested. As a result, operational plans had to be modified and additional forces deployed.

Recommendation: Units not of sufficient size for mission requirements should not be selected for deployment unless they receive attachments that bring them to, or near, the mission-stated required strength.

Meeting the Challenge

OOTW missions pose unique challenges, but they are challenges that well-trained ADA units can overcome. The bottom line is that we can adequately prepare our soldiers to accomplish OOTW missions without degrading our ability to accomplish our primary mission of protecting the force. ADA units prepared to go to war are also prepared for OOTW.

Lt. Col. Richard E. Bedwell commands the 2nd Battalion, 2nd Air Defense Artillery, III Corps, Fort Hood Texas.



**TO THE MEMBERS OF THE
32ND ARMY AIR DEFENSE COMMAND
PAST AND PRESENT**

The inactivation of the 32nd Army Air Defense Command brings to a close a great chapter in the history of the United States Army. Through World Wars I and II, and most recently in the Persian Gulf War, the men and women of the 32nd AADCOM served our great nation with pride and distinction. Even now, members of your unit are serving in Southwest Asia, a visible reminder to Saddam Hussein of your professionalism and steadfast determination.

As an alumnus, I am extraordinarily proud and honored at the opportunity to recognize your many accomplishments and pay tribute to all those who have contributed to the success of this distinguished organization. It is because of you — members, veterans, civilians and families — and because of the untiring support of the community, that your mission was accomplished so very successfully. Thank you all.

As the curtain is drawn for the last time, please accept my warmest regards and best wishes for the future. Godspeed.

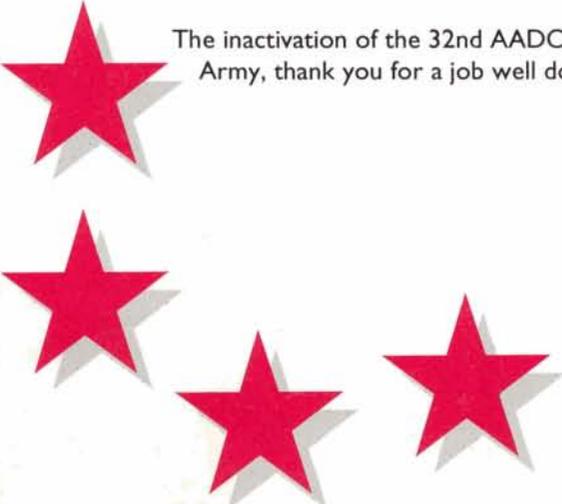
Sincerely,

John M. Shalikhvili
Chairman
of the Joint Chiefs of Staff

A MESSAGE FROM THE ARMY CHIEF OF STAFF

I want to take this opportunity to send my regards to the many soldiers, family members, and civilian employees who have served and supported the 32nd Army Air Defense Command throughout its long history. You have been at the forefront of NATO's defense since 1957. Your skill and your dedication helped to keep the peace in Western Europe. This is an accomplishment of which you can be very proud.

In recent years you have served outside Europe. You deployed to the Persian Gulf, where you performed your mission superbly. You set new standards for the employment of our air defense forces in a new and dangerous world environment. Even today your soldiers are serving in Southwest Asia, deterring aggression and ready to defeat any air threat against our allies and friends. In every way — and in every task — you have matched your motto: "Swift and Sure."



The inactivation of the 32nd AADCOM leaves behind a legacy of great achievements. On behalf of America's Army, thank you for a job well done.

Gordon R. Sullivan
General, United States Army
Chief of Staff