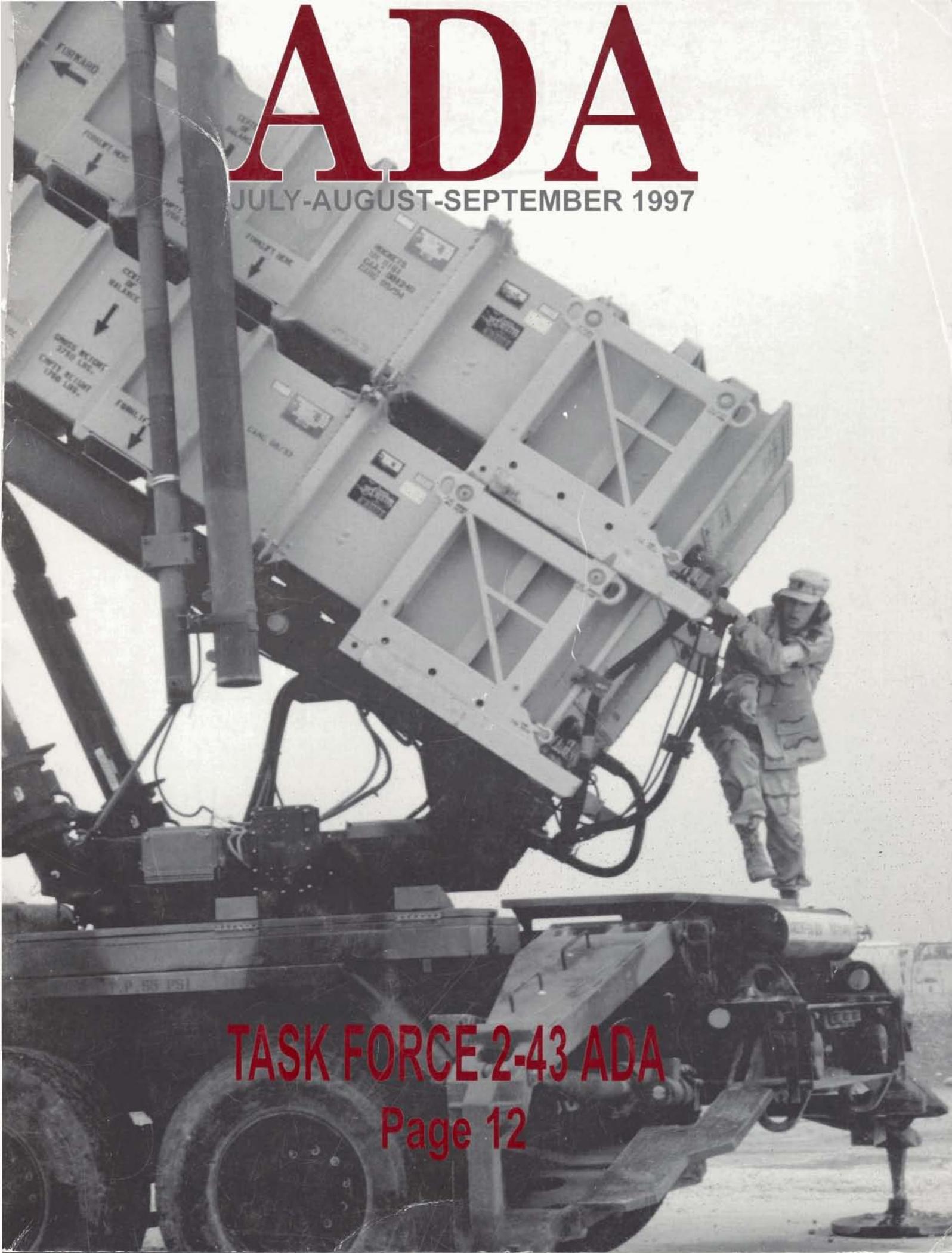


# ADA

JULY-AUGUST-SEPTEMBER 1997



TASK FORCE 2-43 ADA

Page 12

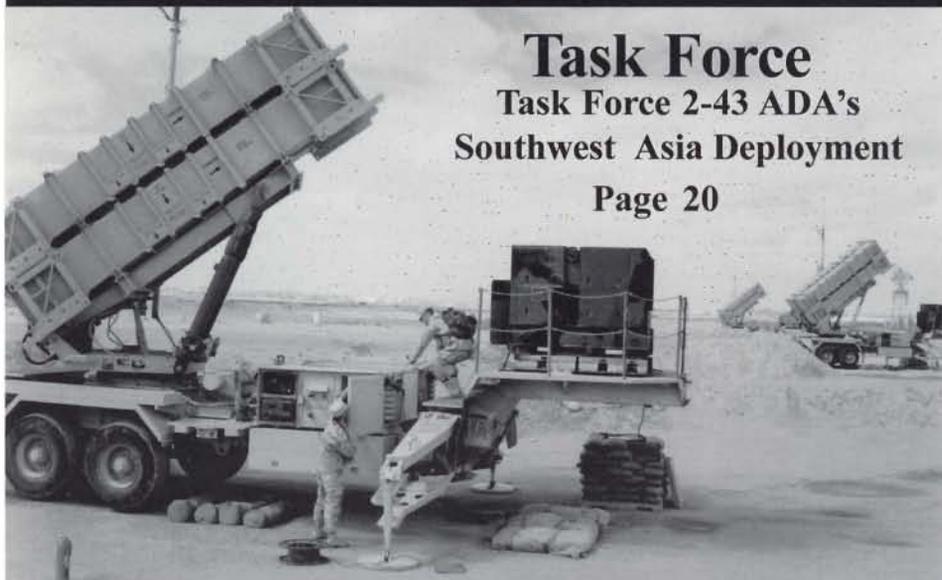
# ADA

HQDA PB 44-97-3

JULY-AUGUST-SEPTEMBER 1997

## FEATURES

### Task Force Task Force 2-43 ADA's Southwest Asia Deployment Page 20



*Sergeant Romulo Villegas of Task Force 2-43 ADA prepares a Patriot launcher for action.*

**Blair Case**  
Editor

ADA is the professional journal of the U.S. Army Air Defense Artillery branch. Approved for public release; distribution is unlimited. Headquarters, Department of the Army.

ADA (ISSN 1084-6700) is published quarterly by the U.S. Army Air Defense Artillery School, 2 Sheridan Road, Fort Bliss, Texas 79916-3802.

POSTMASTER: Send changes of address to ADA, U.S. Army Air Defense Artillery School, 2 Sheridan Road, Fort Bliss, TX 79916-3802.

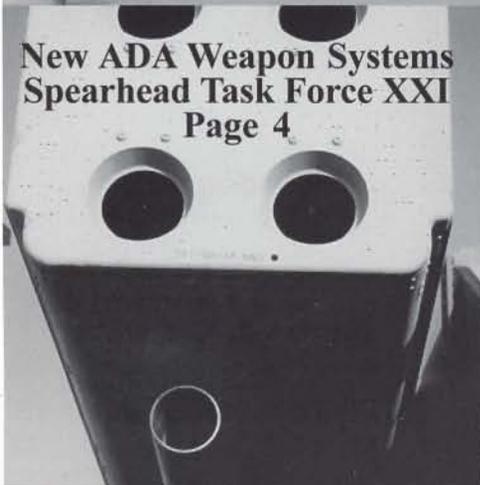
CORRESPONDENCE: Address articles and letters to Editor, ADA magazine; USAADASCH; ATTN: ATSA-ADA; 2 Sheridan Road; Fort Bliss, TX 79916-3802. Telephone (915) 568-5603, DSN 978-4133, FAX 568-3002.

By order of the Secretary of the Army:  
**DENNIS J. REIMER**  
General, United States Army  
Chief of Staff

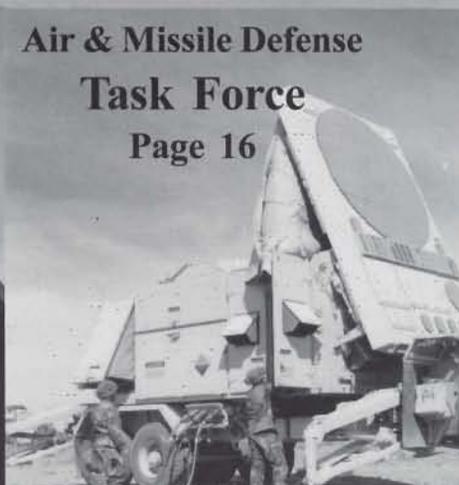
Official:

JOEL B. HUDSON

### New ADA Weapon Systems Spearhead Task Force XXI Page 4



### Air & Missile Defense Task Force Page 16



## DEPARTMENTS

### Intercept Point

Page 2

### Observation Post

Page 3

### Slew-to-Cue Avengers Demolish Task Force XXI Air Threat

Page 12





Secretary of the Navy James V. Forrestal watched Marines raise the “Stars and Stripes” over Mount Suribachi from a flag ship standing off Iwo Jima. Appreciating the significance of the event even before the famous photograph made the flag raising one of World War II’s enduring images, he turned to General Holland Smith and declared, “Holland, the raising of that flag on Suribachi means a Marine Corps for the next 500 years.” As I review recent events, I feel as optimistic about Air Defense Artillery’s future as Secretary Forrestal felt about the Marine Corps’s future. The ADA “flag” is flying high for all to see.

■ During Exercise Roving Sands '97 in June, we deployed, for the first time, a Theater High-Altitude Area Defense (THAAD) battery and a Patriot battalion in an air and missile defense task force configuration. This deployment marked history’s first appearance of a two-tier defense against tactical ballistic missiles. The Air and Missile Defense Task Force met all objectives. The task force’s THAAD and Patriot systems became the first systems of any service to exchange tactical ballistic missile space tracks over the Joint Data Net.

■ Quickly adapting to heightened threat conditions in the Kingdom of Saudi Arabia, our Patriot task forces

# INTERCEPT POINT

*by Major General John Custello  
Chief, Air Defense Artillery*



*Major General John Custello, second from right, visits 1-44 ADA soldiers during Task Force XXI training at Fort Hood, Texas.*

■ In March, air defenders emerged triumphant from the Task Force XXI battlefield. Conducted at the National Training Center, the Task Force XXI Advanced Warfighting Experiment came at a pivotal moment in the Army’s debate over 21st-century force structure. Alpha Battery, 1st Battalion, 44th Air Defense Artillery, and its attachments preserved divisional air defense’s place in the division by demonstrating the synergistic effectiveness of the Bradley Linebacker, Avenger, Sentinel radar and Forward Area Air Defense Command, Control, Communications and Intelligence (FAAD C<sup>3</sup>I) system.

“The systems in the ADA architecture are clear winners for Task Force XXI. Program Manager FAAD C<sup>2</sup>I and the ADA community have done a superb job in designing and integrating a stable and functional architecture,” said **General William W. Hartzog**, Commanding General, U.S. Army Training and Doctrine Command. “This architecture and its composite systems should be fielded as soon as possible by the Army.”

continued to push the Patriot envelop, improving operational interfaces with our sister services. From rotation to rotation, the outstanding performance of our Patriot task forces in a high-profile, sensitive mission continue to win new supporters for ADA systems, soldiers and organizations.

■ We also continue to lead the way in providing career opportunities for female soldiers. Four women have recently been selected to command ADA battalions. Lieutenant Colonel Deborah Hollis, Lieutenant Colonel Beverly Stipe, Lieutenant Colonel Barbara Treharne and Major Heidi Brown became the first women selected to command ADA battalions. The selection of these officers is a credit to the branch and the emphasis that it puts on quality training and career development.

Air Defense Artillery is truly the branch of the future. Its destiny as a dynamic force on 21st-century battlefields is ensured. We will continue to keep the branch’s flag flying high as we **lead the charge to Army 2010!**

Once again, greetings from my foxhole at Fortress Bliss, Texas. Soldiers who attended the recent ADA Commanders' Conference came away with a clearer vision of the branch's future. I want to discuss some issues that surfaced at the conference, including promotions, the deactivation of our last two Corps Avenger battalions and changes in NCO force structure, for those unable to attend.

**Promotions.** We have completed a difficult period of adjustment and have made great strides toward reducing our standing list. Our numbers compare well with other combat arms branches. In the past 12 months, for example, 57 sergeants, 30 staff sergeants and 23 sergeants first class were promoted in Military Occupational Skill (MOS) 14J.

**Objective Two:** Fort Hood absorbs 76 slots consisting of skill levels 1, 2 and 4; Fort Stewart absorbs 44 slots at skill levels 1, 2 and 4; Fort Campbell absorbs 39 slots at skill levels 1 and 2; Fort Carson absorbs 20 slots at skill levels 1 through 4. **Objective Three:** Fort Lewis absorbs 20 slots at skill levels 1 through 4, Fort Polk absorbs five slots at skill level 2; Fort Riley absorbs three slots at skill level 3 and 4. The redistribution will be closely coordinated with personnel managers, the losing commands and their strength-management offices. If approved, we will use the Army's fast-track program and early retirement program to reclassify or retire soldiers. Each soldier will select one unit from each objective and list them in order

# Observation Post

by Command Sergeant Major  
Jeffery G. Jordan



*"Don't worry about biting off more than you can chew. Your mouth is probably a whole lot bigger 'n you think."*

In MOS 14R, 52 sergeants, 46 staff sergeants and 47 sergeants first class won promotions. In MOS 14S 334 sergeants, 133 staff sergeants and 74 sergeants first class sewed on new stripes. Another 357 sergeants, 199 staff sergeants and 101 sergeants first class were promoted in MOSs 14T and 14E. Since we have many MOSs with no standing list for sergeant, promotion opportunities are also looking better for our privates and specialists.

**Battalion Deactivations.** We originally planned to deactivate 1-2 ADA and 5-2 ADA between now and the year 1999 and hoped to use the two-year interval to smooth the transition for soldiers and families. However, the Army Chief of Staff recently directed the closure of these two Avenger battalions effective 30 September 1997. The branch has established three objectives to relocate these soldiers. **Objective One:** Korea absorbs 31 slots comprising all skill levels; Fort Bragg absorbs 40 slots at skill level one; Fort Irwin absorbs 35 slots comprising all skill levels; and Fort Drum absorbs 24 slots at skill levels 2, 3 and 4.

of preference. Our enlisted personnel managers will work with each and every soldier to try and help the soldier get what he wants. There are no absolute guarantees in today's climate of change, but this is our plan of action.

**NCO Force Structure.** The Army recently decided to reduce the percentage of NCOs from 57 percent to 47 percent of the ADA enlisted force. This will bring us in line with the Army average. I have been working vigorously with personnel proponent specialists to ensure ADA soldiers do not get the short end of the stick. We are confident that we have saved our warfighting force without hurting our ability to train our soldiers. Currently our branch is at 44.5 percent in NCO structure. This will help keep professional development opportunities for our soldiers intact.

Our leaders and soldiers at all levels are doing a bang up job in the field, in the schoolhouse and in far reaches of the earth. Stay Army and be all you can be. "First to Fire!" from the home of Air Defense. "ADA Seven," out!

# Task Force XXI



*The sun sets on the desert and the 1st Brigade Combat Team Tactical Operations Center on the next to the last day of Task Force XXI.*

## **New ADA Weapon Systems Spearhead Task Force XXI**

*by Captain Christopher Colombo*

The Task Force XXI Advanced Warfighting Experiment, a digital brigade-level experiment conducted at the National Training Center in March 1997, was only a simulated battle; not the real thing, but judging from the accolades heaped upon them, one would have thought the soldiers of Alpha Battery (+), 1st Battalion, 44th Air Defense Artillery, had just stormed Omaha Beach. "They have preserved divisional air defense's place in the division," declared Major General John Costello, Chief of Air Defense Artillery. General William W. Hartzog, Commander, U.S. Army Training and Doctrine Command, termed the experimental weapon systems they crewed "clear winners for Task Force XXI" and declared the Army should field them "as soon as possible."

Today, 1-44 ADA is poised to repeat its Task Force XXI success during the Division XXI Advanced Warfighting Experiment, which is scheduled for November. For our soldiers, this division-level warfighting experiment will be the end of a long, rigorous journey.

For the past two years, the soldiers of Alpha Battery have been walking point for Air Defense Artillery. During Task Force XXI, which came at a pivotal moment in the struggle to determine Army 2010's force structure, they were challenged to determine the effectiveness of four ADA initiatives: the Bradley Linebacker, Avenger Slew-to-Cue, Sentinel radar and Forward Area Air Defense Command, Control, Communications and Intelligence (FAADC<sup>3</sup>I) system. Following new-equipment training, equipment modifications, a series of software upgrades and an extensive collective-train-up, the battery carried these four ADA initiatives into battle in the deserts of Mojavia in support of the 1st Brigade Combat Team, 4th Infantry Division. Although the combat was simulated, each soldier knew others had toiled for a decade to put the advanced air defense systems in their hands, and each was acutely aware that the future of divisional air defense, and therefore the safety of the maneuver force on 21st-century battlefields, was riding on their performance.

# Task Force XXI



*Captain Chris Colombo of A/1-44 ADA briefs General William W. Hartzog on Task Force XXI weapon systems capabilities.*

The advanced warfighting experiment results were conclusive: the Sentinel radar, Bradley Linebacker, Avenger Slew-to-Cue and FAAD C<sup>3</sup>I comprise the most lethal short-range air defense array ever assembled. The Sentinel transmitted an integrated, real-time digital data picture down to the shooter, i.e., fire unit, over the enhanced position location reporting system (EPLRS) radio net. The effective use of identification, friend or foe (IFF), systems and procedures completely eliminated ground-to-air fratricide incidents, even though the same air frames frequently replicated both friendly and hostile air support. Digitization facilitated target acquisition and simplified engagements. The Bradley Linebacker and Avenger Slew-to-Cue scored with uncanny accuracy. Working in unprecedented synergy, the ADA systems clearly demonstrated that they clearly out match the projected early 21st-century aerial threat.

## **ENHANCED EQUIPMENT CAPABILITIES**

*Bradley Linebacker.* The Bradley Linebacker is a M2A2 with a Stinger vehicle-mounted launcher (SVML) in lieu of a Bradley tube-launched, optically-tracked, wire-

guided missile. The Bradley Linebacker has slew-to-cue capability with a fire-control computer that computes the lead angle and super elevation for an airframe "hooked" on the simplified handheld terminal unit (SHTU).

The SVML houses four ready-to-fire Stinger missiles. The Bradley Linebacker carries a basic load of 10 missiles and has a crew of four: a track commander, driver, machine gunner and loader. The Bradley Linebacker retains the Bradley Fighting Vehicle's 25mm and 7.62 Coaxial machine gun, although its basic load is decreased due to air defense equipment modifications. The system has a VRC-89A single-channel ground and air radio system (SINCGARS). The Bradley Linebacker's EPLRS radio is dedicated to the SHTU for the digital data pass of air tracks. Also, the SINCGARS-Improved Product (SIP) passes Appliqué data on a voice-over-data FM net.

*Avenger Slew-to-Cue.* The Avenger Slew-to-Cue has a M3-P .50-caliber machine gun and is equipped with an environmental control unit/prime power plant unit, a VRC-89A radio system and an EPLRS. The system carries a basic load of eight Stinger missiles housed in two SVMLs. It also carries 200 rounds for the MP-3. The Avenger

# Task Force XXI

Slew-to-Cue is equipped with an SHTU, which receives its digital data via the EPLRS radio. Appliqué data is passed over a FM net.

*Sentinel.* The AN/MPQ-64 Sentinel radar is an X-band, pencil-beam, IFF-equipped radar system that provides 360-degree coverage out to 40 kilometers. The Sentinel is highly mobile, with march order and emplacement times of 15 and 30 minutes respectively. The radar is mounted on a FAAD M1097 prime mover with a 10kw tactically quiet generator. The system includes a FAAD support M1097 vehicle with a mounted S250 shelter and a 10kw tactically quiet generator. The Sentinel has a six-soldier crew. It transmits over EPLRS and SIP nets or over the intra-FAAD network to fire units. The Sentinel routinely tracked unmanned aerial vehicles (UAVs) that flew throughout the Task Force XXI Advanced Warfighting Experiment.

*FAAD C3I.* The FAAD C<sup>3</sup>I system at the heavy division battery tactical operations center (TOC) and below includes the commander's real-time display, an engagement operations Army tactical command and control system (ATCCS) and the SHTU. The FAAD C<sup>3</sup>I

system enables the sensor-to-shooter digital data pass. It provides the feed into the ADA battery TOC, which is collocated with the brigade TOC, task force battalion TOCs and ADA battalion TOCs. The commander's real-time display enables the battery commander to analyze terrain and air corridors, and assists him in Army airspace command and control management. It also provides access via the client-server functionality when it is tied together with other ATCCSs as part of a local-area network (when internal to the TOC) or as part of the multiple subscriber equipment net (when external to the TOC). The client-server functionality allows access to the S-3's maneuver control system, the S-2's all-source analysis system and the Army Field Artillery Tactical Data System (AFATADS).

*Appliqué.* During Task Force XXI, critical vehicles throughout the brigade carried Appliqué computer systems. Alpha Battery received 30 Appliqué systems that came in three variations. There were 21 "ruggedized" Version Two systems, five position navigation (POSNAV) systems and four V1 Appliqué systems. Thirty-two EPLRS-equipped vehicles served as the backbone of the Appliqué network for the 1st Brigade Combat Team.



*From left to right, First Lieutenant Michael Malpede, Captain Christopher Colombo and Sergeant Jeffery Jefferson demonstrate Bradley Linebacker capabilities to Major General John Costello, Chief of Air Defense Artillery.*

# Task Force XXI

Appliqué capabilities fall into two categories: situational awareness and command and control messaging. The Appliqué situational awareness capability enabled us to identify where other friendly elements (down to vehicle level) were located in near real-time. Thus, the Appliqué monitor ensured a minimal amount of fratricide during the rotation. The impact of this increased situational awareness was critical at all times, but it was most readily apparent during offensive or night maneuvers, and during link-ups as we repositioned fire units to attain better dispersion or coverage. It also helped in casualty evacuation, maintenance and missile resupply operations. For example, the Appliqué enabled our platoon sergeants to provide each fire unit overlays with eight-digit grid coordinates that identified pre-positioned ammunition cache points. Maintenance contact teams could find the right vehicle at night on their first try.

The Appliqué displays enemy locations via the all-source analysis system and air tracks via an interface with the commander's real-time display. During the battle, the

Appliqué displayed numerous hazards, including nuclear-chemical-biological strikes, field artillery scatterable mines and enemy combat surveillance and observations posts.

## BATTERY ORGANIZATION

A/1-44 ADA converted from a conventional Bradley Stinger Fighting Vehicle (BSFV)/Manportable Stinger battery to its test-bed configuration. The battalion disbanded the manportable Stinger platoon from the BSFV/Stinger battery; in its place, the battalion assigned an Avenger platoon. A six-team manportable Stinger platoon (Third Platoon, Charlie Battery, 1st Battalion, 62nd Air Defense Artillery, Fort Lewis, Washington) was attached. Three Sentinels, two equipped with EPLRS transmitting capability and one with SIP capability, were also attached to the battery. Our Bradley Stinger Fighting Vehicle crews made the transition to Bradley Linebackers. The new battery organization consisted of two Bradley Linebacker platoons, one Avenger Slew-to-Cue platoon, and a headquarters element that included three liaison teams. The



*At left, an insider's view of the Avenger Slew-to-Cue with mounted Appliqué computer at left above the steering wheel. At right, a view of the Bradley Linebacker turret with Appliqué monitor and keyboard.*

# Task Force XXI



*From left to right, First Lieutenant Ken O'Donnel (Bradley Linebacker platoon leader), Captain Christopher Colombo (Alpha Battery commander), and First Lieutenant Paul Fritz (Sentinel Linebacker platoon leader) review upcoming Task Force XXI missions.*

battery's three liaison teams consisted of a NCO and an enlisted soldier who operated out of an M998 vehicle. Each team had an EPLRS radio, SHTU and a VRC-92A radio.

The teams collocated with supported task force tactical operation centers. They provided their supported task force with a real-time air picture from their SHTU via the Sentinel radars and around-the-clock air defense expertise. This freed ADA platoon leaders to fight the battle forward with their soldiers. The teams helped prepare orders, constructed sand tables and performed other TOC functions. They served as the primary information conduit both up and down the chain of command.

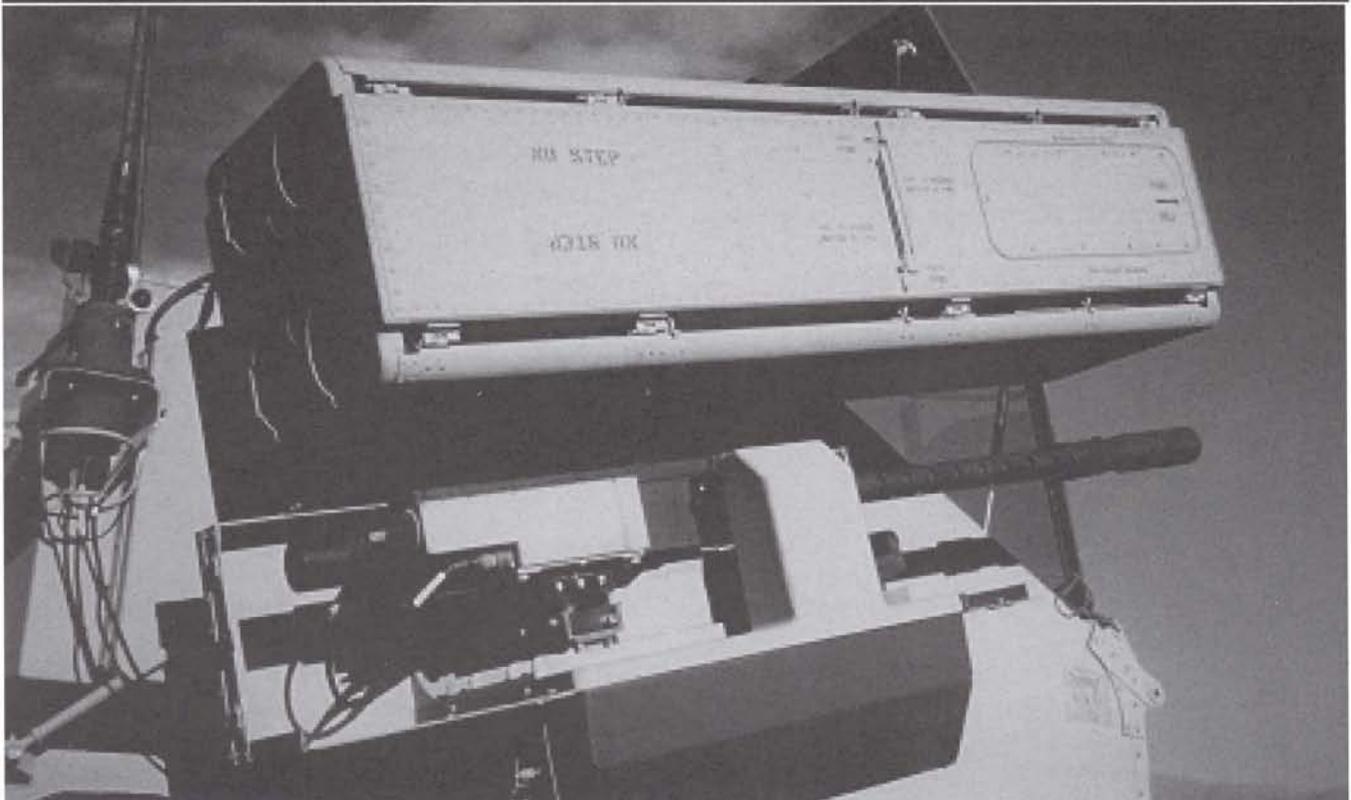
## **MAINTENANCE**

The maintenance tactical configuration for the Task Force XXI consisted of task-organized maintenance support teams that were integrated into the forward support company teams in support of specific task forces. The maintenance teams were task organization with various maintenance military occupation specialities. Each

team was equipped with an M88 or heavy expanded mobility tactical truck (wrecker), a fueler and a contact M998. They were very successful in ensuring integration with the task force support operations. The battery's equipment was loaded into the appropriate task force unit-level logistics system. A special identifier designated the battery's vehicles. Incorporating the battery's equipment into the unit-level logistics system kept the task force commander and executive officer aware of the platoons' maintenance status and allowed them to influence parts turn around time.

The task-organized configuration allowed maintenance crews to repair equipment closer to the forward lines of own troops. The Appliqué computer helped the contact vehicle find the "right" vehicle in a minimal amount of time. The interim table of organization and equipment provided no additional maintenance personnel, but we did have outstanding contractor support during the preparation for and execution of the advanced warfighting experiment mission.

# Task Force XXI



*An M3P machine gun and Stinger vehicle-mounted launcher gives the Avenger air defense system its lethal firepower.*

## **TRAIN-UP**

Alpha Battery's "road to war" was congested. Here are some of the capstone events that were added to normal training requirements, software and equipment modifications, and sustainment training on the new equipment.

- January-March 1996. Modified the Bradley Linebacker and Avenger Slew-to-Cue (including Appliqué installation) and trained soldiers on the new equipment.

- April-May 1996. Successfully conducted the Bradley Integrated Operational Test and Evaluation.

- May-June 1996. Conducted a test of the Bradley Linebacker Multiple Integrated Laser Engagement (MILES) Force-on-Force Trainer.

- June-July 1996. Conducted first-ever Bradley Linebacker live-fire under the new gunnery matrix. Received division award for superior performance.

- July 1996. Conducted first Appliqué connectivity exercise.

- August-September 1996. Conducted platoon lanes training.

- October 1996. Conducted battery lanes training.

- December 1996. Conducted task force and brigade lanes training.

- March 1997. Conducted National Training Center Rotation 97-06, which incorporated the Task Force XXI Advanced Warfighting Experiment.

During the train-up, extensive night drivers' training ensured all soldiers were properly trained and certified. The platoon, battery, and task force lanes allowed us to successfully integrate the line platoons with their supported task force and work on the collective training tasks. IFF and MILES checkouts increased our soldiers' IFF proficiency and gave them confidence in the "new" MILES.

## **TACTICAL EMPLOYMENT**

*Sentinel Raids.* In conjunction with the FAAD C<sup>3</sup>I system, the Sentinel radar provides the foundation for the success of the other air defense initiatives. The Sentinel must be positioned on the "right" point on the battlefield to provide early identification of enemy aircraft. In order to position Sentinels appropriately, units must identify named areas of interest early and coordinate necessary engineer support. They must also arrange for additional assets for self-protection through the brigade commander and his or her S-3. During Task Force XXI, the brigade commander considered the Sentinel radar a critical asset

# Task Force XXI

and provided engineer support and additional assets for protection. We conducted Sentinel raids with a forward-deployed Sentinel with supporting Infantry or Armor elements, sometimes moving with the brigade Reconnaissance Troop. Movement was closely coordinated with the Reconnaissance Troop. The Sentinel section sergeant took part in the troop rehearsal.

We discovered that effective Sentinel rotary wing aircraft acquisition was proportional to the accurate templating of rotary named areas of interest and the positioning of survivability assets to protect the radars. We used a “bounding” technique to move the Sentinels forward while maintaining a sufficient air picture for offensive operations.

## Avenger Employment

The Avenger Slew-to-Cue system’s enhanced capabilities allowed us to increase fire-unit dispersion. We created a third Avenger section to maximize this enhanced capability. The Avengers were able to cover more assets. To provide additional coverage forward, our Avenger sections trailed task forces and “flexed” forward if the Bradley Linebacker platoon suffered losses. A typical “trigger” for movement of an Avenger section forward was 50-percent attrition in the Bradley Linebacker platoon.

## Bradley Linebackers Fought in Sections

During Task Force XXI, we fought Bradley Linebackers by sections in support of the task forces and/or company teams. Integrating the line platoons with the task forces paid dividends in terms of survivability and force protection. Section sergeants participated in company teams “rock drills” while platoon leader, along with other key leaders, as available, participated in task force rock drills. This integration permitted Bradley Linebacker platoon leaders to adjust their sections and/or fire units positions if the company team locations and supporting air defense assets did not support the task force air defense plan. The Appliqué facilitated the platoon leader’s adjustment of fire unit positions.

## Task Force Angel in the Close Fight

The Opposing Force’s Task Force Angel and the close in fight at the National Training Center need to be fought as two separate fights with different objectives. We succeeded in gaining brigade and task force visibility and made it a combined arms fight. This was one of the keys to defeating Task Force Angel. Sentinel positioning was also critical since attacking Task Force Angel aircraft fly nap of the earth. Once the Task Force Angel threat is defeated, air defenders can reposition their air defense assets to fight the follow-on close fight.



*From left to right, First Lieutenant Paul Fritz, Captain Chirs Colombo, and First Lieutenants Mike Malpede, Ken O'Donnell and Aaron Dwyer celebrate their success at the end of the Task Force XXI Advanced Warfighting Experiment.*

# Task Force XXI

## Positioning Fire Units

The ability to fully leverage positive control of aircraft at fire-unit level has not yet been achieved, but knowing where enemy aircraft are (in real-time) relative to their position and supported assets, allows short-range air defense units to operate autonomously of the maneuver units. . . Or does it? Bradley Linebackers maneuver with the supported task force or company team to survive on the battlefield and kill enemy aircraft. Bradley Linebackers operating in the forward area but isolated from the task force or company team are at great risk. Those operating on the flanks of a maneuver element are vulnerable to “keyhole” shots. They risk “fouling up” the task force scheme of maneuver as company teams set or flex. They also run the danger of being on the “wrong” side of an IV line when opposing force aircraft attack. Moreover, platoons operating autonomously are not integrated into the supported task force’s force-sustainment operations.

Critical to the platoon’s success is the platoon leader’s ability to reposition fire units and sections. The best way to succeed is to use both techniques of movement: operating integrated with company teams and/or task

force, or operating autonomously. Platoons normally should move with the task force or company teams and position fire units in the “best possible” air defense positions once critical locations are identified. However, they must retain the flexibility to operate integrated with the supported unit or autonomously in pre-identified positions.

## Digital vs. Analog TDMP

Digital or analog, the tactical decision making process (TDMP) did not drastically change. The intelligence preparation of the battlefield—the identification of air avenues of approach and named areas of interest that forecast likely rotary wing battle positions—and air order of battle are still valid in the digital arena. The commander’s real-time display capabilities allows him to analyze terrain and select positions. It also provides a shot opportunity analysis. A digitized three-dimension wargame permits a commander to program specific flight profiles into the computer, which then simulates aircraft flying against his defense array. The commander receives an analysis, which incorporates line-of-sight implications and predicts the number of missiles that can be launched during an engagement. Digitization also helps the commander disseminate information to subordinate leaders.

## CONCLUSION

The soldiers of Alpha Battery and its attachments were heroes of the Task Force XXI. They always gave 100 percent. However, air defense leaders who, years ago, figured out that digitizing short-range ADA systems and putting an SVMML on a common chassis would be a good idea postured the branch for its Task Force XXI success. As a branch, we made the most of the opportunity to demonstrate our relevance to the 21st-century battlefield. This became quite evident during task force lanes. During one battle, a commander from another combat arm and I watched a breaching operation. As the operation preceded, a Bradley Linebacker provided overwatch and engaged remotely controlled aerial targets. He remarked how well Air Defense Artillery had leveraged its Force XXI technology and that he wished his branch had done the same. It made you want to shout: “First to Fire!”

*Captain Christopher M. Colombo commanded A/1-44 ADA from October 1995 to May 1997. He is now the 4th Infantry Division Assistant Division Air Defense Officer in support of the Division XXI Advanced Warfighting Experiment.*



# ADVANCED WARFIGHTING



*A 1-44 ADA Avenger team chief takes up a temporary position during the crucial Task Force XXI Advanced Warfighting Experiment.*

## Slew-to-Cue Avengers Demolish Task Force XXI Air Threat

*by Steve C. Miller & Leonard Gibbs*

The letters A-V-E-N-G-E-R spelled big trouble for the opposing air threat during the Task Force XXI Advanced Warfighting Experiment recently held at the National Training Center, Fort Irwin, California. A platoon of six Avenger fire units equipped with prototype Slew-to-Cue subsystems participated, as did the Bradley Linebacker, manportable Stinger, Sentinel radar and Forward Area Air Defense Command, Control, Communications and Intelligence (FAAD C<sup>3</sup>I) system.

The Task Force XXI Advanced Warfighting Experiment, 15 to 29 March 97, was a major Army digitization and doctrinal experiment designed to shape Army 2010 and the future "Army After Next." During the exercise, advanced weapon and situational awareness technologies

leveraged information age capabilities to increase the lethality, survivability and tempo of combat operations. This involved the "digitization" of a brigade from the 4th Infantry Division, Fort Hood, Texas, by training and equipping it with the latest in weapons and communications systems, including Avenger with Slew-to-Cue. Soldiers from Alpha Battery and Headquarters Battery, 1st Battalion, 44th Air Defense Artillery, Fort Hood, Texas, manned the equipment during the experiment.

The Slew-to-Cue is a prototype Avenger subsystem, developed jointly by the U.S. Army Missile Command (MICOM) and the U.S. Marine Corps and adopted, with modifications, by the Army. In December 96, following in the steps of the Bradley Linebacker, Avenger Slew-to-

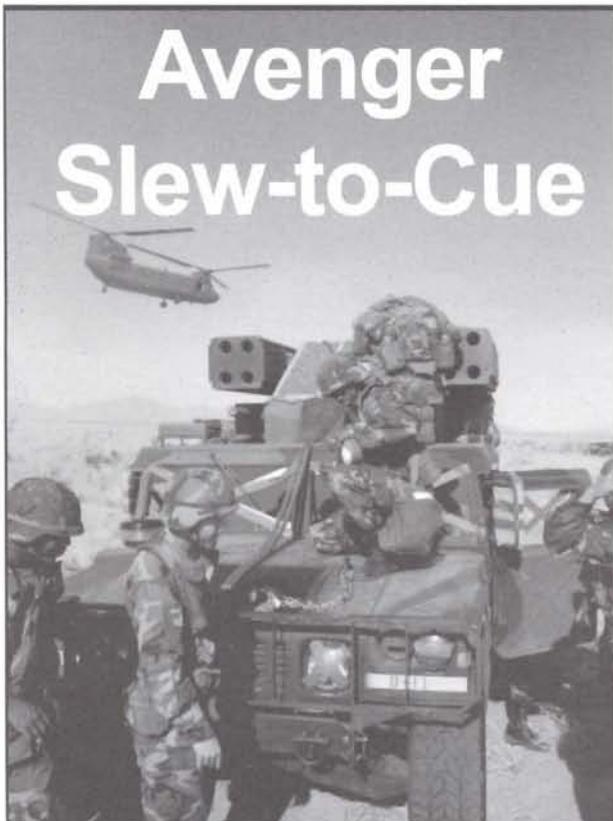
Cue won approval as a Department of Army rapid acquisition system. This approval gives air defense special priority as well as the right to develop Slew-to-Cue subsystems with accelerated acquisition procedures that may result in much quicker fielding.

Currently, Avengers without the Slew-to-Cue subsystems but equipped with FAAD C<sup>3</sup>I, receive air threat target information detected by radars through the FAAD C<sup>3</sup>I system. This information is then displayed on the fire unit's Simplified Hand Held Terminal Unit (SHTU) or on the newer, more capable Hand-Held Terminal Unit [HTU]]. However, once displayed, the information must be verbally passed by the squad leader to the gunner in the turret. This process of manually transferring digital target information to the gunner so that he can conduct a visual search of the approximate target area is far slower and less accurate than an automated process. In essence, much of the benefit of digital target information is lost because, as one soldier put it, the "digits fall on the ground." The Avenger Slew-to-Cue automates this process.

FAAD C<sup>3</sup>I data is received by the Avenger Enhanced Position Location Reporting System (EPLRS) or Single-Channel Ground and Airborne Radio System (SINCGARS) in the Avenger's cab. The EPLRS is the radio of choice since its faster data update rates provides more accurate data for moving aircraft. The Slew-to-Cue subsystem then

displays the FAAD C<sup>3</sup>I target information to the gunner in the turret or at a remoted foxhole position. In the turret, the same FAAD C<sup>3</sup>I air picture displayed on the SHTU or HTU is displayed on a Remote Terminal Unit that also acts as a special processor for Slew-to-Cue engagements. At the Remote Control Unit, the targets are displayed on the SHTU or HTU. Once the air picture is received, the gunner or the squad leader can select a target from either the Remote Terminal Unit, the SHTU or HTU and initiate an auto slew by pushing a single button.

The Remote Terminal Unit processes the slew after consideration of additional data inputs. The first input is based upon the fire unit's position taken from the onboard Global Positioning System receiver. The second is the tilt of the fire unit caused by terrain slope differences taken from an onboard Land Navigation System. At the end of the slew, the target is centered in the gunner's forward looking infrared (FLIR) receiver's field of view. This automatic Slew-to-Cue process greatly reduces gunner search time, thus increasing the number of engagements while minimizing missed engagement opportunities. The Slew-to-Cue subsystem can also retransmit FAAD C<sup>3</sup>I data to nearby Marine Corps units for their use. The Remote Terminal Unit translates the data into a format usable by the Marines and retransmits it via the turret SINCGARS radio.



The Avenger Slew-to-Cue is a significant upgrade to the existing Avenger weapon system. Using slew-to-cue, the Avenger can now take digital early warning data and automatically slew the turret in both azimuth and elevation, centering the threat target in the gunner's field of view. This improvement not only improves the efficiency and effectiveness of the Avenger, but also allows it to kill the broadening spectrum of 21st century threats, including cruise missiles and unmanned aerial vehicles. The Avenger Slew-to-Cue makes the Force XXI air defense soldier more effective, more efficient and more lethal.

Because of its unique ability to enhance target acquisition while the fire unit is stationary or on-the-move, the Slew-to-Cue subsystem is especially useful against smaller targets such as unmanned aerial vehicles and “fleeting” (fast, very low-altitude) targets such as cruise missiles. In June 96, as proof of its effectiveness, an Avenger with Slew-to-Cue capabilities engaged and destroyed a cruise missile surrogate flying at less than 100 meters above ground level. A Sentinel radar provided target cueing.

Slew-to-Cue effectiveness was proven again during the Task Force XXI Advanced Warfighting Experiment. During these simulated battles, Avengers equipped with Slew-to-Cue subsystems helped air defense achieve its best performance ever at the National Training Center. During the course of the battles, air defense was credited with killing 124 out of 168 aircraft—a remarkable 74-percent kill rate. In fact, the integrated air defense architecture was so effective it was singled out as the only fully integrated, digital battlefield operating system capability demonstrated during the advanced warfighting experiment. Second Lieutenant Aaron Dwyer was the Avenger platoon leader during the simulated battles. He describes the performance of FAADC<sup>3</sup>I and Avenger Slew-to-Cue as “phenomenal.”

“We knew where everything was, which often gave us minutes to prepare,” Dwyer said. “Once, an F-16 tried to ingress into our corridor from behind a mountain ridge. We just sat there, letting the Slew-to-Cue track him behind the mountain before we even saw him. Once he popped over the ridge line . . . six seconds later he was dead. Slew-to-Cue made our job real easy; it turned us into ‘air attackers’ instead of just ‘air defenders.’”

A subsequent memorandum from General William W. Hartzog, Commander, U.S. Army Training and Doctrine Command, to General Dennis J. Reimer, Army Chief of Staff, lauded the success of air defense during the Task

Force XXI Advanced Warfighting Experiment and urged full funding for the ADA architecture with its composite systems.

Based upon congressionally established criteria, the final Training and Doctrine Command evaluation gave Avenger Slew-to-Cue the highest possible score for overall effectiveness, technical maturity and criticality to the warfight. In fact, in terms of effectiveness, Avenger Slew-to-Cue was one of only two systems to achieve the maximum possible score.

During the advanced warfighting experiment, Avenger used the newly developed Avenger Force-on-Force Trainer (FOFT) to obtain credit for its helicopter kills. The new FOFT, which takes the place of one of the launcher pods, includes a laser transmitter to simulate Stinger missile engagements as well as pyrotechnic devices to represent the missile-launch flash and smoke signature. The Avenger FOFT enables the Avenger to receive credit for its Multiple Integrated Laser Engagement Simulation (MILES) kills. Because a fixed-wing MILES device was not available in time to support the advanced warfighting exercise, only rotary-wing kills could be recorded through the MILES system; fixed-wing kills were verified and recorded by observer-controller personnel. The Avenger FOFT will soon be fielded to support Avenger training at both the Joint Readiness Training Center in Louisiana and the Combat Maneuver Training Center in Germany.

**When can soldiers in the field expect to get Slew-to-Cue?** Although funding is scarce, Air Defense Artillery has just been notified that initial funding has been granted. These limited funds should equip a portion of the training base and a selected high-priority battalion or battalions, depending upon Department of the Army unit allocations. Fielding is anticipated around September 1998. The ultimate goal, given continued funding, is to field all Avengers

### Task Force XXI Avenger Platoon



### ‘CLEAR WINNERS’

The systems in the ADA architecture are clear winners for Task Force XXI. Program Manager FAADC<sup>3</sup>I and the ADA community have done a superb job in designing and integrating a stable and functional architecture. This architecture and its composite systems should be fielded as soon as possible by the Army.

General William W. Hartzog  
U.S. Army Training  
& Doctrine Command

with Slew-to-Cue subsystems. High ratings achieved at the Task Force XXI Advanced Warfighting Experiment will no doubt greatly aid efforts to fund and field this proven subsystem.

**So what's down the road for Avenger?** The long awaited Environmental Control Unit/Prime Power Unit (ECU/PPU) is funded and the Army expects to begin fielding it in 2QFY98. Funding delays and the bankruptcy of the original small-business contractor is responsible for the fielding delay. Fortunately, a new company (Marvin Land Systems) has assumed responsibility and successfully passed government testing. The ECU/PPU provides heating and cooling for the turret and enables the system to be operated continuously without depending upon the vehicle engine or batteries for power.

Additionally, a new FLIR is now available, but due to limited funds, replacement of existing FLIRs will likely occur by attrition rather than a field retrofit. The new FLIR has better reliability and performance than the old. Redesign of the Avenger control electronics, which is the system's fire control computer, is also ongoing at the Missile Command; again however, scarce Army funding may delay fielding of this improved and more capable processor. Lastly, special improvements, including the issue of new combat vehicle crew member (CVC) helmet liners, will soon be fielded to all units. These improvements eliminate the internally generated noise often experienced over the intercom.

In terms of training devices, an Avenger machine gun Blank Firing Adapter and a FOFT MILES device to simulate Avenger machine gun engagements are being tested. Prototype Table-Top Trainers (TTTs) have been developed and are now in use by the U.S. Army Air Defense Artillery School, Fort Bliss, Texas. The TTT is a personal computer-based training device equipped with Avenger hand grip controls. The computer screen displays both the FLIR and out-of-canopy view so that the gunner can train in various engagement scenarios. The manportable TTT can be used in home-station classroom training or deployed to field locations. Approximately 47 trainers are funded; the plan is to issue two per battery with deliveries expected in approximately February 1998.

The Air Defense Artillery School also recently received several Avenger Institutional Conduct of Fire Trainers (ICOFTs). An Avenger ICOFT consists of one instructor station and six gunner stations. Gunners sit in Avenger turret mockups and progress through various engagement scenarios designed to teach them basic engagement skills. Although the ICOFT is not portable like the TTT, it is more realistic and enables full recording and playback of gunner engagements by the instructor.

Avenger is managed by the Missile Command's Weapons Systems Management Center, Redstone Ar-

senal, Alabama. The center oversees the development, modernization and support of the system in response to requirements generated by the Air Defense Artillery School's Directorate of Combat Developments and the Training and Doctrine Command's System Manager for Short-Range Air Defense (SHORAD), Fort Bliss. Management responsibility for Avenger will transition from the Weapons Systems Management Directorate to a new SHORAD Project Management Office later this year. The SHORAD Project Manager will ultimately have primary responsibility for Stinger, Avenger and Sentinel. Although the Bradley Linebacker will be managed by the Bradley Project Manager, the SHORAD Project Manager will serve in a supporting role.

Realizing the contribution of soldiers to ADA modernization, Air Defense Artillery owes a great debt to the soldiers of 2nd Battalion, 6th Air Defense Artillery, Fort Bliss, who served as the test crews for Bradley Linebacker and Avenger Slew-to-Cue prototypes prior to the advanced warfighting experiment, and the soldiers of 1-44 ADA who preformed magnificently during the experiment. These soldiers have spent long hours training, maintaining and testing new equipment. In the case of the 1-44 ADA, their efforts successfully culminated in a long series of grueling battle scenarios during the Task Force XXI Advanced Warfighting Experiment. Soldiers are often asked to undertake the special burden of proving out new equipment and system improvements such as Slew-to-Cue; it should be noted that it is only through their efforts, sacrifices and ultimate successes that Air Defense Artillery can modernize and maintain combat effectiveness.

The leveraging of information and situational awareness technologies into our systems will continue to improve our capabilities and effectiveness as air defenders. As proven during the Task Force XXI Advanced Warfighting Experiment, Air Defense Artillery is proud to be leading the way into the era of Army battlefield digitization.

*Steve C. Miller is a Nichols Research systems expert who works with the Avenger Systems Management Office, U.S. Army Missile Command, Redstone Arsenal, Huntsville, Alabama. He held the rank of major when he retired from active duty at Fort Bliss, Texas, in June 96. He served as the Forward Area Air Defense Branch Chief in the Requirements Division of the Directorate of Combat Developments, U.S. Army Air Defense Artillery School at Fort Bliss from 1991 to 1996.*

*Leonard Gibbs is the Avenger System Manager, Weapons Systems Management Directorate, Redstone Arsenal, Huntsville, Alabama.*

# Air & Missile Defense Task Force

*by Mike Bearce*

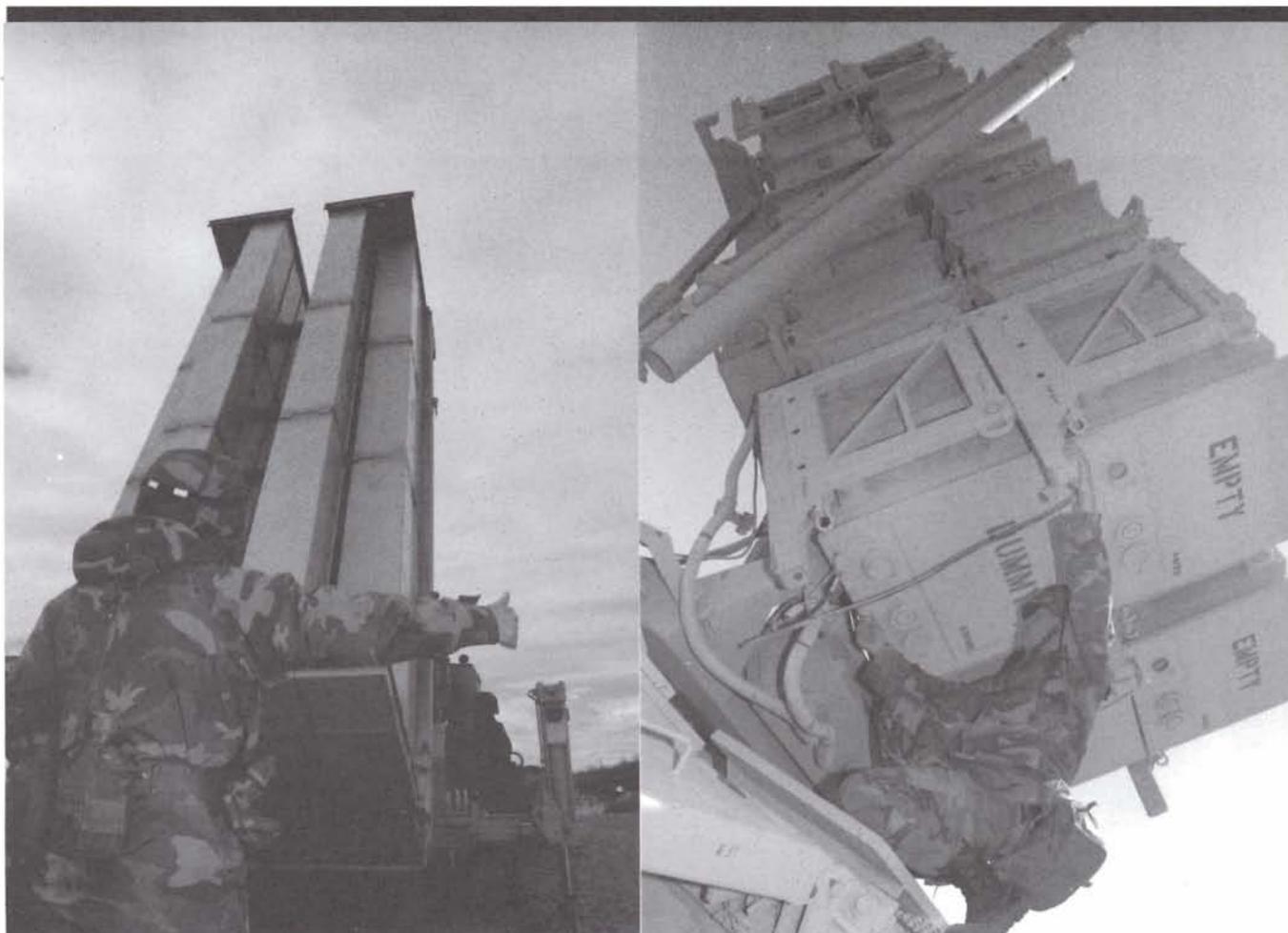
During Exercise Roving Sands '97, the U.S. Army deployed a Theater High-Altitude Area Defense (THAAD) system battery and a Patriot battalion in an air and missile defense task force configuration for the first time. The Air and Missile Defense Task Force made its own history by recording a number of firsts during the annual exercise. The exercise marked the first time that the Army or any other service had deployed an upper-tier and lower-tier defense against tactical ballistic missiles. Also it was the

## An Open Window to ADA's Future

first time any service employed Joint Tactical Information Distribution System radios to exchange tactical ballistic missile space tracks using the Tactical Data Information Link-J over the Joint Data Net.

Bravo Battery, 1st Battalion, 6th Air Defense Artillery Brigade, Fort Bliss, Texas, deployed as the THAAD element of the task force. The battery deployed User Operational Evaluation System equipment consisting of a launcher, radar, Tactical Operations Station and Launch Control Station. The THAAD program is the first Department of Defense program to integrate the User Operational Evaluation System concept into the acquisition process. This concept puts hardware and software into the hands of soldiers early in the research and development process so that soldier feedback is incorporated into objective system design; to evaluate doctrine, tactics, techniques and procedures; and to provide a deployable capability in a national emergency.

The THAAD battery was augmented with a non-tactical piece of equipment called the THAAD Test Controller that simulated the THAAD radar, launchers



Photos by Sergeant Forrest Vicent

*Roving Sands '97 marked the first time the Theater High-Altitude Area Defense system (left) had been deployed with the Patriot air defense system to create a lower- and upper-tier defense against tactical ballistic missiles.*

and missiles and enabled the THAAD battery to participate on the Distributed Interactive Simulation network. This network enabled all capable systems to track and engage simulated tactical ballistic missiles with real-time kill removal. The THAAD Test Controller eventually will be incorporated into the objective THAAD system to provide realistic, robust air and missile defense training in an integrated joint and multinational environment.

The 5th Battalion, 52nd Air Defense Artillery, 11th Air Defense Artillery Brigade, Fort Bliss, provided five Patriot firing batteries and the task force headquarters for the Air and Missile Defense Task Force. 5-52 ADA is the first Patriot battalion to field the Patriot Advanced Capabilities-3 (PAC-3) Configuration 2 capabilities. The 5-52 ADA Tactical Command System was augmented with the Defense Design-System Exerciser capability as well as initial THAAD defense design planning data. This enabled the task force headquarters to plan an integrated air and missile defense and evaluate alternative friendly courses of action against various threat attack options.

During selected demonstration periods, the Patriot Information and Coordination Central used a developmental version of Post Deployment Build 5 software called Post Deployment Build 5(-) Build 1. With this version of the software, the Information and Coordination Central was able to exchange and correlate tactical ballistic missile space tracks from both THAAD and Patriot batteries. Throughout the exercise, the Patriot firing batteries were augmented with a piece of non-tactical equipment called the Flight Mission Simulator-Digital which simulated the Patriot radar and enabled the Patriot batteries to operate in the Distributed Interactive System network and thereby engage simulated targets with real-time kill removal. The capability to operate in a Distributed Interactive System network is a requirement of the objective PAC-3 system. One of the Flight Mission Simulator-Digital units also was configured as a prototype battery command post that possessed functionality similar to that of the Tactical Command System but scaled down to battery level. Additionally, it contained a Joint Tactical Information



*The Roving Sands '97 Air and Missile Defense Task force deployed Patriot and THAAD systems with advanced capabilities.*

Distribution System radio terminal and had a capability to display an integrated Joint Tactical Information Distribution System and local Patriot battery radar track picture for situational awareness.

Part of an integrated team effort, the Air and Missile Defense Task Force was supported by military personnel, Department of the Army civilians and contractors. These personnel represented the U.S. Army Air Defense Artillery School and Center, Program Executive Office for Air and Missile Defense, U.S. Army Training and Doctrine Command System Manager for Theater Missile Defense, Air Defense Command and Control System Project Office, Patriot Project Office and THAAD Project Office.

The Army's operational concept for tactical ballistic missile defense envisions a two-level or tiered defense. A single-tier defense can provide a robust degree of protection for defended assets, but a two-tier defense is required for a near leakproof defense of the theater's most critical military and geopolitical assets, as well as defense against weapons of mass destruction.

THAAD is the Army's upper-tier system. Patriot is the Army's lower-tier system. Given sufficient funding, the Medium Extended Air Defense System will eventually replace Patriot as the lower tier. The upper- and lower-tier

units operate in a task force configuration under the command and control of the task force commander. The upper-tier engages tactical ballistic missiles at long range and at high altitude, either outside or within the atmosphere. The lower-tier engages at medium range and at medium altitude, totally within the atmosphere. The lower-tier also has responsibility for cruise missiles, tactical air-to-surface missiles and manned and unmanned aircraft. The upper-tier uses the most efficient method of fire—shoot-look-shoot—whenever possible, although it retains the capability to ripple or salvo when necessary. This reduces the total number of missiles that must be fired to obtain the desired degree of protection. Engagements are handed-off to the lower tier in time for Patriot fire units to engage at optimum range and altitude and obtain an intercept above a prescribed "keep-out" altitude, which minimizes the effects of weapons of mass destruction on the ground.

The lower-tier normally uses the salvo method of fire due to limitations in battlespace. Surveillance data is shared with the joint community over the Joint Data Net; however, command and control is exercised over a task force engagement coordination net also using Joint Tactical Information Distribution System radios and Tactical

Data Information Link-J. The concept is broad enough to work with current and projected Army systems, systems of other services and systems of multinational forces. In addition to the upper- and lower-tier systems, short-range air defense systems are integrated into the overall defense consistent with the commander's priorities at all levels to provide total force protection.

The Air and Missile Defense Task Force's Roving Sands '97 objectives were threefold. First, to deploy a THAAD User Operational Evaluation System battery to a field-training exercise. Second, to have task force elements participate as Blue Force players during the field training exercise. Third, to demonstrate the task force's initial interoperability capabilities. Each objective was met successfully. Although each objectives appears to be quite simple and easily attainable, there was a great deal of effort and dedication demonstrated by all involved to accomplish these goals.

While deploying a battery to an field training exercise seems like a simplistic objective, this is hardly the case with the THAAD system. First of all, the THAAD system is still in the research and development stage of the acquisition process. It has not been fielded to any unit in the Army. Secondly, it is undergoing constant testing at White Sands Missile Range, New Mexico, and other testing facilities around the country. Third, less than two complete sets of THAAD battery equipment have been produced. Fourth, the Army has not taken ownership of the equipment from the contractors. However, in the finest spirit of cooperation among the user, developer and contractor communities, all obstacles were overcome. Not only did Bravo Battery soldiers deploy with representative THAAD User Operational Evaluation System equipment, but Alpha Battery deployed with a THAAD Radar March Order and Emplacement Trainer prototype complete with custom-made experimental camouflage. The battalion headquarters also deployed.

The second objective of participating as Blue Forces was complicated by the fact that THAAD is not yet a fielded system. Normally, U.S. Army Forces Central Command and U.S. Forces Command use the "two-year rule" to decide whether new systems may participate. Naturally all services want new capabilities to be played in the world's largest joint air defense exercise; however, controlling headquarters want to limit the new capabilities that may be available within the normal personnel assignment cycle of their staffs. After much discussion and the untiring efforts of the Army Air and Missile Defense Command, Fort Bliss, the Air and Missile Defense Task Force was included in the Blue Forces' task organization.

During the field training exercise, the THAAD battery was attached less operational control to 5-52 ADA. The

11th ADA Brigade retained operational control of the battery per direction of the Army Air and Missile Defense Command. ADA units followed and "wring out" the draft doctrine, tactics, techniques and procedures developed specifically for Exercise Roving Sands '97 by the U.S. Army Air Defense Artillery School's Combined Arms and Tactics Department and modified by appropriate tactical authorities during the free-play exercise. Evaluators gathered feedback on the draft doctrine, tactics, techniques and procedures during the exercise. Lessons learned will be incorporated into future doctrinal publications.

Many obstacles were scaled to accomplish the third objective. The Patriot Information and Coordination Central had to use developmental software that contained selected capabilities of the PAC-3 software. Next Patriot had to be approved for the aforementioned two year rule. Upon approval by Central Command and Forces Command, the Army designated the Air and Missile Defense Task Force as one of just three technology initiatives for theater missile defense. The task force would conduct a special demonstration outside of the Exercise Roving Sands '97 time frame to exchange tactical ballistic missile space tracks over the Joint Tactical Information Distribution System and Tactical Data Information Link-J; conduct automated, integrated defense design planning; and validate draft doctrine, tactics, techniques and procedures for air and missile defense task force engagements and force operations.

On 26 April, THAAD and Patriot became the first systems of any service to exchange tactical ballistic missile space tracks over the Joint Data Net. Over 100 track messages (J3.6) and data update requests (J7.1) were processed. The preliminary defense design tools added to the Patriot Tactical Command System were evaluated throughout the exercise. Soldier feedback will be incorporated into the final design of the Tactical Command System upgrades and will be included in design of the new Air and Missile Defense Planning Control System. Doctrine writers will use the lessons learned to write PAC-3 and THAAD system task-force doctrine.

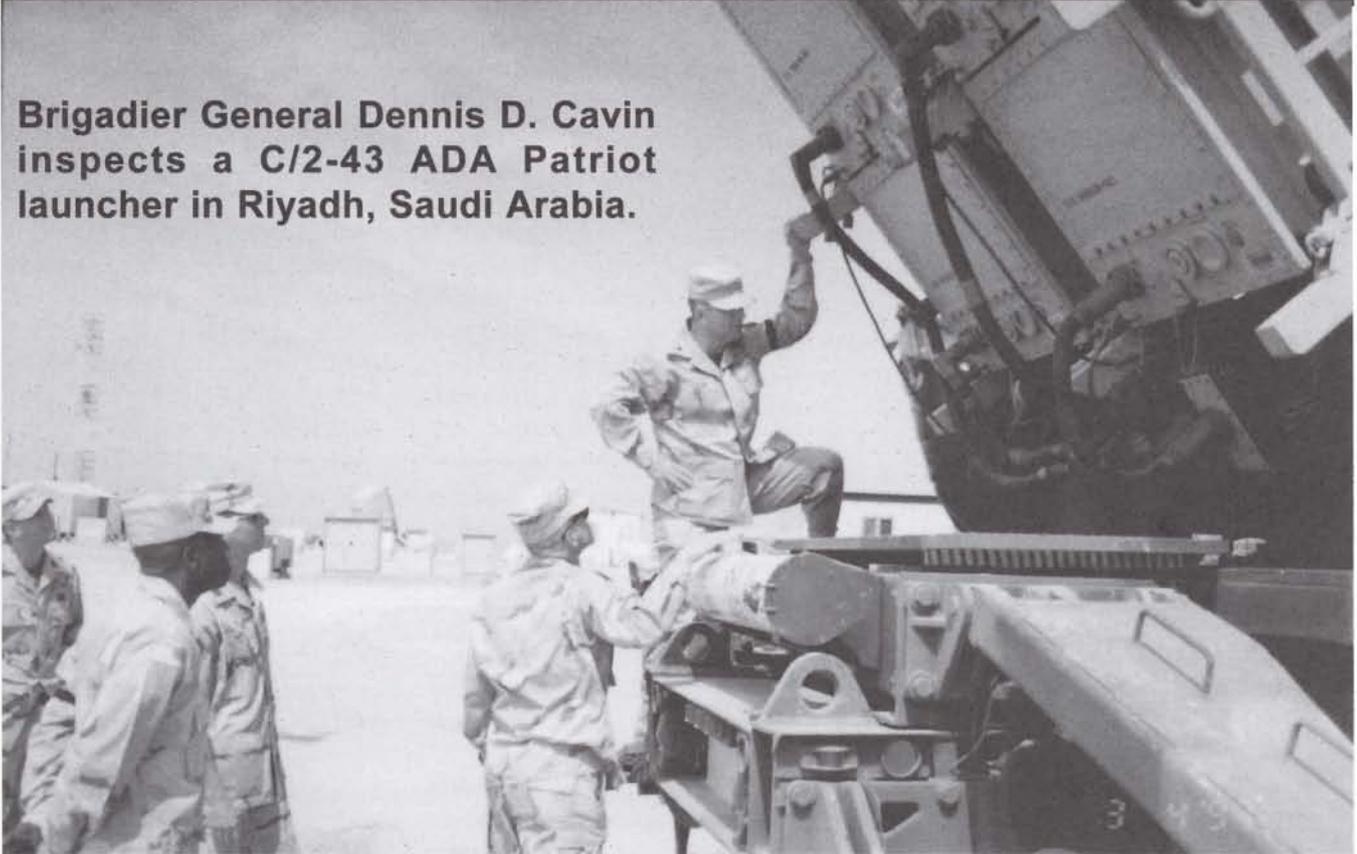
Roving Sands '97 opened a window onto Air Defense Artillery's future. The Air and Missile Defense Task Force accomplished all objectives and showed observers that the Army has the correct concept for countering tactical ballistic missiles. The "First to Fire" branch has made a leap ahead in technology and is leading the Army into the 21st century.

---

**Michael B Bearce**, a retired ADA officer, is a CAS Incorporated weapon system analyst who works closely with the U.S. Army Training and Doctrine Command's Theater Missile Defense System Manager's Office, Fort Bliss, Texas.

# TASK FORCE

**Brigadier General Dennis D. Cavin inspects a C/2-43 ADA Patriot launcher in Riyadh, Saudi Arabia.**



Task Force 2-43 ADA's recently completed Southwest Asia rotation was the most successful ever conducted. I write this without fear of offending Patriot soldiers who deployed with previous task forces because every rotation **ought** to be better than the one before. The reason is that each arriving Patriot task force builds on the accomplishments of the departing Patriot task force, and our Patriot task forces have recorded an unbroken string of successful rotations.

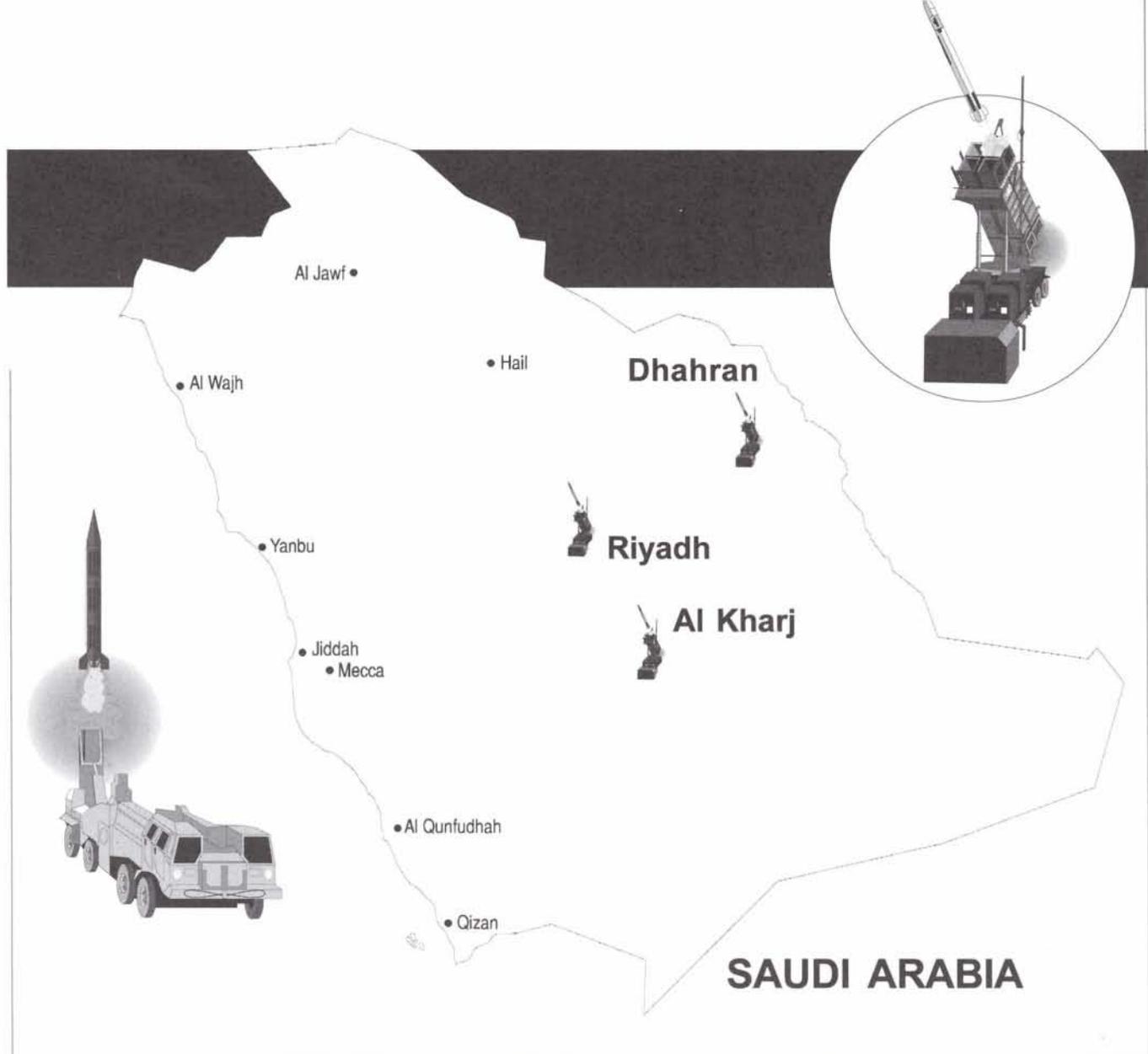
Operation Constant Vigil has made our Patriot soldiers among the Army's most frequently deployed soldiers, and the stress frequent deployment places on Patriot soldiers and their families has had an adverse impact on retention rates. The creation of a tenth Patriot battalion, the 3rd Battalion, 2nd Air Defense Artillery, 31st ADA Brigade, Fort Bliss, Texas, will lighten the burden our Patriot soldiers have borne since the end of the Gulf War.

The benefits of Operation Constant Vigil, however, have been enormous. Today, when budget cuts threaten to erode training tempo, each Southwest Asia rotation represents a training plus. I visited the soldiers of Task

Force 2-43 ADA in Saudi Arabia and witnessed first hand the positive affects of Operation Constant Vigil. Morale soars. Soldier competence and confidence are unquestioned. Our Patriot task forces operate with other joint services and host nation elements in a truly joint environment, the sort of environment that will be the predominant characteristic of Army 2010.

The following section contains several articles that chronicle Task Force 2-43 ADA's Southwest Asia rotation from a variety of perspectives. They should be read not only as a chronicle of Task Force 2-43 ADA's outstanding performance, but as a tribute to past, present and future Patriot task forces that carry on the ADA legacy in the desert sands of Southwest Asia.

Brigadier General Dennis D. Cavin  
Deputy Commanding General  
U.S. Army Air Defense Artillery Center  
Fort Bliss, Texas



At left, Brigadier General Dennis D. Cavin, Deputy Commanding General, U.S. Army Air Defense Artillery Center and Fort Bliss, Texas, prepares to lead Task Force 2-43 ADA soldiers on a morning run. At right Lieutenant Colonel Thomas W. Williams, Task Force 2-43 ADA Commander, welcomes General John M. Shalikashvili, Chairman of the Joint Chiefs of Staff.

# TASK FORCE



*E/2-43 ADA commander, Captain Dean Larkins, briefs General John M. Shalikashvili, Chairman of the Joint Chiefs of Staff.*

## THE ARCENT-SA PERSPECTIVE

### *Always First, Always There*

*by Lieutenant Colonel Mark J. Reardon*

Army Forces Central Command (ARCENT), headquartered at Fort McPherson, Georgia, is represented within the Middle East portion of the U.S. Army Central Command area of responsibility by three separate and distinct forward-deployed headquarters located in Kuwait, Qatar and Saudi Arabia. ARCENT-Kuwait is based at Camp Doha outside Kuwait City. It is primarily responsible for supporting Intrinsic Action (maneuver task force deployment and training), as well as Iris Gold (Combined Special Forces Training). ARCENT-Qatar is headquartered in Doha, Qatar, with the primary mission of maintaining pre-positioned war stocks located within that country. ARCENT-Saudi Arabia (ARCENT-SA), commanded by Colonel Pete Deperro since August 1996, has a number of installations and forces deployed in Dhahran, as well as forces deployed at Prince Sultan Air Base and in Riyadh.

Command Sergeant Major Leonardo Rabago currently serves as the ARCENT-SA command sergeant major. While most soldiers assigned to ARCENT-SA, as well as the headquarters itself, are located in Dhahran, a significant number of soldiers who work in administrative, maintenance and host nation support liaison functions are based in Riyadh. The latter arrangement also facilitates interaction with other components in theater that are located in Riyadh, as well as provides responsive support for the split-based Patriot task force.

ARCENT-SA's primary peacetime responsibilities lie with providing command and control for Patriot units defending critical assets within the Kingdom of Saudi Arabia. In wartime or during contingency operations, ARCENT-SA assumes the considerable responsibility of supporting all Army forces deploying into the area of



responsibility. The command helps these force process Army War Reserve -3 float equipment off-loaded at the Port of Dammam and helps them convert their command and control structure into a configuration that supports the establishment of ARCENT-Rear headquarters.

ARCENT-SA's lineage can be directly traced back to the Gulf War. It got its start as part of the 22nd Support Command during Operation Desert Shield and Desert Storm in 1991-1992. After Desert Storm, mission responsibilities were transferred in January 1992 from 22nd Support Command to the 1st Area Support Group. ARCENT-SA was officially formed with a separate mission and organizational structure in July 1992.

The initial post-conflict deployment of Patriot in Saudi Arabia, beginning in October 1991, was a responsibility of the 94th Air Defense Brigade, Darmstadt, Germany. At that time, two battalions were sited to provide coverage for a number of critical assets in theater. As the Patriot footprint within Saudi Arabia was drawn down following the dismantling of the Iraqi theater ballistic missile arsenal, responsibility for the mission of tactical ballistic missile defense was turned over to Patriot soldiers of the 10th Air Defense Brigade, 32nd Army Air Defense Command, Darmstadt, in January 1992. When both the 1st Area Support Group and the 10th ADA Brigade headquarters slices left Saudi Arabia that July, ARCENT-SA assumed the dual mission of serving as Army Component headquarters in Saudi Arabia and providing command and control for Patriot units charged with tactical ballistic missile defense.

Since its formation, ARCENT-SA has been composed of a varied array of companies and battalions, each performing a vital function in theater. These organizations, currently numbering more than 1,300 soldiers, perform a myriad of missions on a daily basis. However, the centerpiece of ARCENT-SA's task organization remains the Patriot task force, an organization that, given current requirements to operate and secure five active sites under Threat Condition-Charlie (THREATCON-C) security conditions, numbers over 750 personnel. While Patriot soldiers are still responsible for providing security at their tactical sites, their burden has been somewhat eased by the deployment of two infantry security companies in the Dhahran area. These security companies deploy into theater for a 120-day rotation with the mission to secure headquarters and troop billeting areas in the Dhahran area.

The ARCENT-SA's Headquarters and Headquarters Company has grown from 65 authorized personnel following the Khobar attack to its current strength of 187 permanent party and augmentee soldiers. This 300-percent increase is largely attributable to Operational Plan (OPLAN) 10-93 revisions that transferred all support military occupational skill augmentee requirements formerly levied on the Patriot task force to Headquarters and Headquarters Company, ARCENT-SA. Another contributing factor is that Army forces in Dhahran have had to plus up their support structure to provide base operations functions that were formerly the responsibility of the U.S. Air Force's 4404th Wing (Provisional). Another key component of ARCENT-SA includes the 54th Signal Battalion, which was transferred from United States Military Training Mission control to ARCENT-SA in October 1996. The 54th Signal provides theater-level communications for the entire Middle East. Their headquarters elements are collocated with ARCENT-SA, with subordinate companies stationed in Dhahran, Riyadh and Kuwait.

An annual personnel turnover approaching 250 percent and the volatility of the Middle East make it little wonder that ARCENT-SA normally experiences a high operational tempo. Recent real-world events in which ARCENT-SA participated include Operation Desert Strike in September 1996, in which U.S. forces launched cruise missiles against Iraq. During this operation, two Patriot reduced readiness batteries (RRB's) deployed from the continental United States to fall in on pre-positioned equipment. This deployment freed up two batteries already in country, which were subsequently tasked to redeploy to alternate locations. One battery conducted a cross-border deployment while the second battery moved to protect the Air Force's relocated 4404th Wing assets.

Even in the midst of Operation Desert Strike, ARCENT-SA found itself conducting relocation operations for all Army personnel in both the Riyadh and Dhahran area in accordance with ARCENT directives. This mass movement of U.S. personnel and equipment to more secure areas, known as Operation Desert Focus, consolidated more than 5,000 U.S. military personnel on new bases in less than 45 days after the execution order was issued. Past rotations of Patriot soldiers know Khobar Towers and Eskan Towers quite well, since that is where they normally lived during their deployment to Saudi Arabia. Following

# TASK FORCE



XVIII Airborne Corps Commander, Lieutenant General John M. Keane, far left, and corps Command Sergeant Major Andrew McFowler, far right, visit A/2-43 ADA soldiers at Patriot Site I in Dhahran Saudi Arabia.

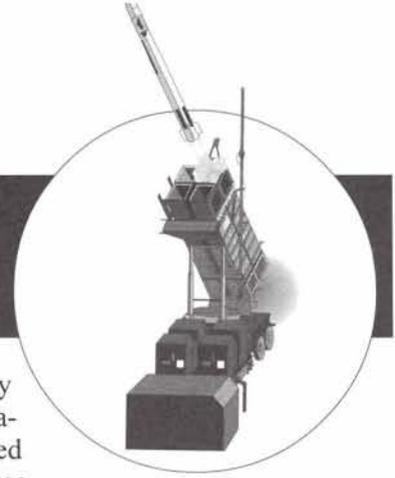
the 25 June 1996 bombing; however, this all changed. Patriot task force elements in Riyadh moved from Eskan Towers to villas further within the Eskan perimeter as airmen of the 4404th Wing relocated to Prince Sultan Air Base in Al Kharj. In Dhahran, relocation led to the consolidation of Patriot soldiers to what is virtually a miniature city, known as Eagle Town, which is located in the heart of the King Abdul Aziz Air Base. Everything had to be virtually designed from scratch, yet the soldiers and leaders worked long hours to ensure that the move to more secure locations was completed on schedule. Throughout it all, Patriot soldiers continued to protect their sites and provide around-the-clock air defense coverage over Saudi Arabia.

Even before relocation was complete, the composition of ARCENT-SA began to evolve in response to the many changes taking place. The staff expanded in order to assume increasing responsibilities. ARCENT-SA stepped into the tremendous vacuum caused by the departure of 5,500 U.S. Military Training Mission and Air Force personnel from Dhahran. ARCENT-SA inherited a number of new responsibilities as a result of the relocation. These included the establishment of an ARCENT-SA Army post office on King Abdul Aziz Air Base, the opening of a finance center and the assumption of all aerial port of debarkation operations at King Abdul Aziz Air Base. ARCENT-SA also

established an Army and Air Force Exchange System facility for deployed Army forces and assumed civil engineering, operations and maintenance, and site security responsibilities for all Dhahran area facilities operated by combatant forces. It also assumed control of morale, welfare and recreation operations, including the Oasis Recreational Center. ARCENT-SA has stepped out from the shadow of the 4404th Wing and has virtually become the Central Command's executive agent for U.S. forces in the Eastern Province of Saudi Arabia.

Procedural and physical changes to the ARCENT-SA footprint in Saudi Arabia that occurred as a result of the Khobar bombing have caused major revisions to the ARCENT-SA Operation Plan 10-93, *Patriot Task Force Relief in Place*. This operation plan was totally overhauled in December 1996 as a result of relocation operations that took place between September and December 1996. The revision addresses security requirements at heightened THREATCONs in greater detail. These changes have a significant impact on airflow planning and must be addressed at the earliest stages of pre-deployment planning.

At the recent request of the host nation authorities, all strategic airlift missions into Saudi Arabia will land at Prince Sultan Air Base in Al Kharj. This air base houses the relocated 4404th Wing (Provisional) and is more than 300 air-miles southwest of Dhahran. The host nation has



granted three exceptions to this policy since it was imposed, each of which was specifically for Patriot task force relief-in-place aircraft. Each request for an exception was coordinated at least 90 days in advance. Advanced party personnel and equipment will normally be flown from home-station into theater on two C-5 aircraft. This process is fully understood by the host nation and exemptions to the prohibition placed on King Abdul Aziz Air Base, though not necessarily automatic, are easy to obtain. As a result, the load plans for these aircraft should be configured to specifically support either the northern cluster in Dhahran or southern cluster in Riyadh. All main-body commercial chartered flights will fly into Al Kharj, unless a request for exemption is approved. The request for exemption will only be made in cases where the incoming and/or outgoing passenger manifest for a specific aircraft is heavily weighted (at least 70-percent) in support of the Dhahran cluster.

A large percentage of the task force augmentee package requirement found in earlier versions of OPLAN 10-93 has been deleted. The June 1995 edition specified that the Patriot task force would deploy with a minimum number of critical military occupational skills and grades. This package, which totaled 49 soldiers, resourced the additional manning (15 personnel) for the Patriot task force's second operations center, but was also intended to provide 34 soldiers for ARCENT-SA staff sections tasked with administrative, communications and logistical support for the task force.

As part of an effort to minimize personnel turbulence, as well as lessen the burden on major commands tasked to fill this requirement, the number of additional key personnel has been reduced from 49 to 13 soldiers. This reduced requirement includes a transportation officer, surgeon, physician assistant, Protestant chaplain, three tactical directors, three assistant tactical directors, intermediate support element warrant officer, electronic intelligence analyst and supply-support officer. All of the other spaces, such as switchboard operators, supply personnel, light vehicle mechanics and power generation systems mechanics, have been absorbed by ARCENT-SA.

Security manning requirements for each Patriot site, on the other hand, have increased. Personnel requirements are laid out for each site for every THREATCON level. The most critical difference is the requirement for a company-size security force (77 personnel) for Riyadh that did not exist in the previous versions of the OPLAN

10-93. This company and/or battery organization must be deployed with the Patriot task force when Saudi Arabia is at THREATCON Charlie or Delta. The Patriot task force must be able to conduct site security for sustained periods even at the highest THREATCON level without degrading the task force's capability to provide tactical ballistic missile defense. The Patriot task force, however, is not required to provide installation security in Riyadh or Dhahran. Security police assets provide perimeter security at Prince Sultan Air Base, where the southernmost Patriot battery is located. At Eskan Village in Riyadh, the U.S. Air Force also provides interior and perimeter security. In Dhahran, both Site 12 and Eagle Town on King Abdul Aziz Air Base are guarded by an airborne, air assault or light-infantry company that rotates every 120 days from the United States. These infantry companies are attached to ARCENT-SA and constitute the primary ARCENT-SA force-protection asset in the Eastern Province of Saudi Arabia. They have also been called upon to conduct a number of related missions within the area of responsibility. Last fall, Infantry security soldiers were deployed to Qatar and Kuwait to provide force protection to U.S. military facilities and units. The host nation has expressed sensitivity to U.S. forces visibly conducting force-protection related activities outside of the physical perimeters of our installations. While this does reduce the range of options security forces can exercise, it does not degrade the degree of protection provided to our soldiers where they live and work.

Host nation sensitivities to Western presence has also resulted in more stringent procedures being required for King Abdul Aziz Air Base entry, as well as crossing the Bahrain causeway or Kuwaiti border. The Eastern Province will approve travel and official passes for all permanent party personnel, but reserves the right to limit the number of official passes for deployed soldiers. Visitors, on the other hand, can no longer obtain border passes issued by the Eastern Province due to concerns expressed by the Saudi Ministry of Immigration in December 1996.

Patriot soldiers conducting a Southwest Asian rotation will find that, while their mission to conduct tactical ballistic missile defense of critical assets in Saudi Arabia has not changed dramatically, the freedoms which air defense soldiers experienced in the past while stationed in Saudi Arabia have been curtailed. Today's situation bears no

# TASK FORCE



At left, Colonel Peter Deperro, ARCENT-SA Commander, briefs General Binford Peay III, ARCENT Commander. At right, a Task Force 2-43 soldier mans a desert security post to guard against terrorist attacks.

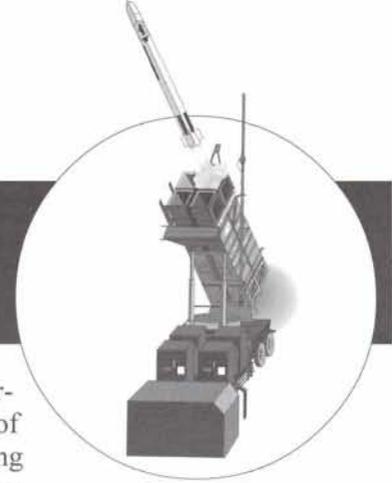
resemblance whatsoever to the less-restrictive situation air defenders enjoyed during previous rotations. As a consequence of force-protection measures in place and a heightened awareness of cultural restrictions placed on U.S. personnel serving in a Muslim country, a number of important ARCENT-SA policies have been recently updated to provide each incoming task force with clear and definitive guidance for a successful tour in post-Khobar Towers Saudi Arabia.

*Policy Letter Number One - Prohibited Activities.* Largely unchanged since the Gulf War, yet even more important because of the wave of Muslim fundamentalism that has been credited with creating recent domestic unrest within Saudi Arabia. Some restrictions include intentionally observing Muslim religious ceremonies; watching punishment directed by Muslim courts; running, biking, roller-blading or skating, or otherwise engaging in physical activity anywhere except within the confines of a U.S. installation; possessing a privately owned firearm or entering a host nation billeting area except on official military business.

*Policy Letter Number Five - Wearing Uniform and Civilian Clothes.* Once again, the fact that we are guests in a country where Islamic law and custom predominate prohibit certain modes of dress. Soldiers who fail to abide by this policy letter contribute to the claims of fundamentalist radicals who proclaim Americans, and Westerners in general, have little or no regard for Islamic culture. When not in uniform, female soldiers in Riyadh or any other Saudi Arabian location (other than Eskan Village or Al Kharj) outside of the Eastern Province must wear the

abaya over their clothing, with the front closed at all times. When male or female soldiers travel outside of U.S. installations, they should wear loose-fitting, opaque clothing. Any apparel that could be considered sheer, transparent or tight fitting is prohibited. T-shirts, shorts, cutoffs, bathing suits, body suits, tank tops and similar type clothing will not be worn off of U.S. installations. Clothing offensive to Saudi Arabian community standards, which depict alcohol, scantily clothed females, religious themes, national flags or any derisive comments about Saudi Arabia, are not permitted. In addition, U.S. soldiers will not wear any part of traditional male Saudi garb. There are a number of other restrictions that commanders should ensure their soldiers are intimately aware of prior to deploying to Southwest Asia.

*Policy Letter Number Six - Driving Policy.* Soldiers are prohibited from driving alone, except when they have been issued a single driver's pass or they are in the grades of E-7 and/or O-3 and above. There is also a seven-day waiting period before newly arrived soldiers are authorized to drive either nontactical vehicles or military vehicles. Incoming task forces are reminded to ensure critical vehicle operators are deployed early so they are eligible to drive once mission assumption is completed. Maximize employment of nontactical vehicles when driving off of a U.S. military installation. The off-post use of military vehicles is discouraged since it provides clear evidence of a Western presence that the host nation seeks to minimize. It also clearly identifies occupants as U.S. personnel and makes them potential targets for terrorist attacks. Female soldiers may not drive alone in the Eastern Province unless they are in



uniform. Female soldiers in Riyadh are not permitted to drive regardless of whether they are alone, in uniform or civilian clothes. These restrictions reflect the generally more conservative Muslim attitudes prevalent within the capital.

*Policy Letter Number Nine - Passport and Saudi Immigration Policy.* Personnel deployed to Saudi Arabia can use their identification cards to enter and depart the Kingdom. They will not process through Saudi Arabian immigration authorities, although their baggage will be inspected at the Prince Sultan Air Base aerial port of debarkation upon arrival and departure. Task force personnel are prohibited from traveling on commercial airliners into or out of Saudi Arabia. In instances of time-sensitive Red Cross emergencies where travel via U.S. Air Force commercial chartered rotator is inadvisable, task force soldiers can be booked out of Bahrain on commercial aircraft using approved ARCENT-SA travel documents.

*Policy Letter Number Fifteen - Eagle Town Standards.* The majority of Patriot task force personnel stationed in Dhahran will live in Eagle Town, a temporary billeting facility on King Abdul Aziz Air Base. These temporary billets, formerly known as Camp Jill, were occupied by U.S. military personnel during the Gulf War, but abandoned soon after that conflict concluded. In addition to Patriot task force, personnel from the ARCENT-SA Headquarters Company, Security Company, 54th Signal Battalion (-) and the U.S. Air Force's 4415th Intelligence Squadron reside in Eagle Town. This policy letter is designed to delineate billeting allocation, define police call areas, provide guidance for preserving and sustaining morale, welfare and recreational facilities, as well as provide guidelines for company and battery commanders concerning the maintenance of billets and grounds.

*Policy Letter Number Seventeen - Travel to Downtown Areas and Local Western Compounds.* Due to the very nature of the terrorist threat directed against U.S. personnel in Saudi Arabia, recreational travel in all parts of the country is prohibited unless it is approved by the ARCENT-SA commander. Official travel to downtown Riyadh, Dhahran or any other place in Saudi Arabia is prohibited for all deployed and permanent party personnel, including visitors, unless approved by the ARCENT-SA commander or by the commander's designated representative. Travel to Western compounds for recreational purposes is possible, although restricted to no more than 10-percent of a unit's assigned strength at any one time.

The latter is waived during selected periods of the year (Thanksgiving and Christmas) to accommodate command-sponsored programs in which Western families take soldiers into their homes to celebrate the holidays.

Has Saudi Arabia changed since Khobar Towers? The answer is undeniably yes. Ask the soldiers of the 2nd Battalion, 1st Air Defense Artillery, or 2nd Battalion, 43rd Air Defense Artillery, or 1st Battalion, 7th Air Defense Artillery. Has it changed for the better? That depends on your definition of "better." It is clear that the freedoms our soldiers enjoyed before the 25 June 1996 bombing no longer exist. While ARCENT-SA is continually striving to improve quality of life with new basketball and volleyball courts, swimming pools, recreational and other morale, welfare and recreational facilities, force protection will not be sacrificed for comfort or convenience. We are working on a number of initiatives, however, including regular access to the Saudi Cultural Center on King Abdul Aziz Air Base, to provide soldiers an opportunity to truly absorb local culture and truly experience the Middle East. What a Patriot unit's tour of duty in Southwest Asia does guarantee is an unmatched opportunity for soldiers to train under challenging conditions. As each Patriot task force accepts the Southwest Asia rotation challenge, it experiences a rigorous test of individual and collective mettle in a demanding environment very similar to what ground-maneuver units experience when deployed to Fort Irwin's National Training Center. Deploying to Southwest Asia does mean units will be faced with challenging conditions for four and a half months, but the training benefits and technical knowledge gained have a much longer lasting effect. The motto of ARCENT-SA truly sums it up: "ALWAYS FIRST, ALREADY THERE".

---

**Lieutenant Colonel Mark J. Reardon** is the Deputy Commander, Army Forces Central Command-Southwest Asia.

# TASK FORCE



*"A Patriot task force, like the Patriot system, is made up of many moving parts. A good plan and lots of patience is the key to success."*

## TASK FORCE COMMANDER'S PERSPECTIVE

*by Lieutenant Colonel Thomas W. Williams*

A Southwest Asia deployment is the best real-time training event that a Patriot air defense unit can have. It is the National Training Center and Joint Readiness Training Center for all deploying Patriot units. The training level of a task force after redeployment sits well above the mean in the band of excellence. Rotations challenge Patriot soldiers to execute every facet of force-projection operations. The stages of force-projection operations include pre-deployment activity, deployment, entry operations, operations, post-conflict operations and redeployment. This article focuses on these stages as executed by Task Force 2nd Battalion, 43rd ADA, 108th ADA Brigade, XVIII Airborne Corps. We hope that this article and the entire issue of this magazine will better prepare follow-on Patriot battalion task forces to meet the challenge.

*Pre-deployment Activity.* Task force pre-deployment activity is unique to each deploying task force due to changes in the conventional and terrorist threat and to the

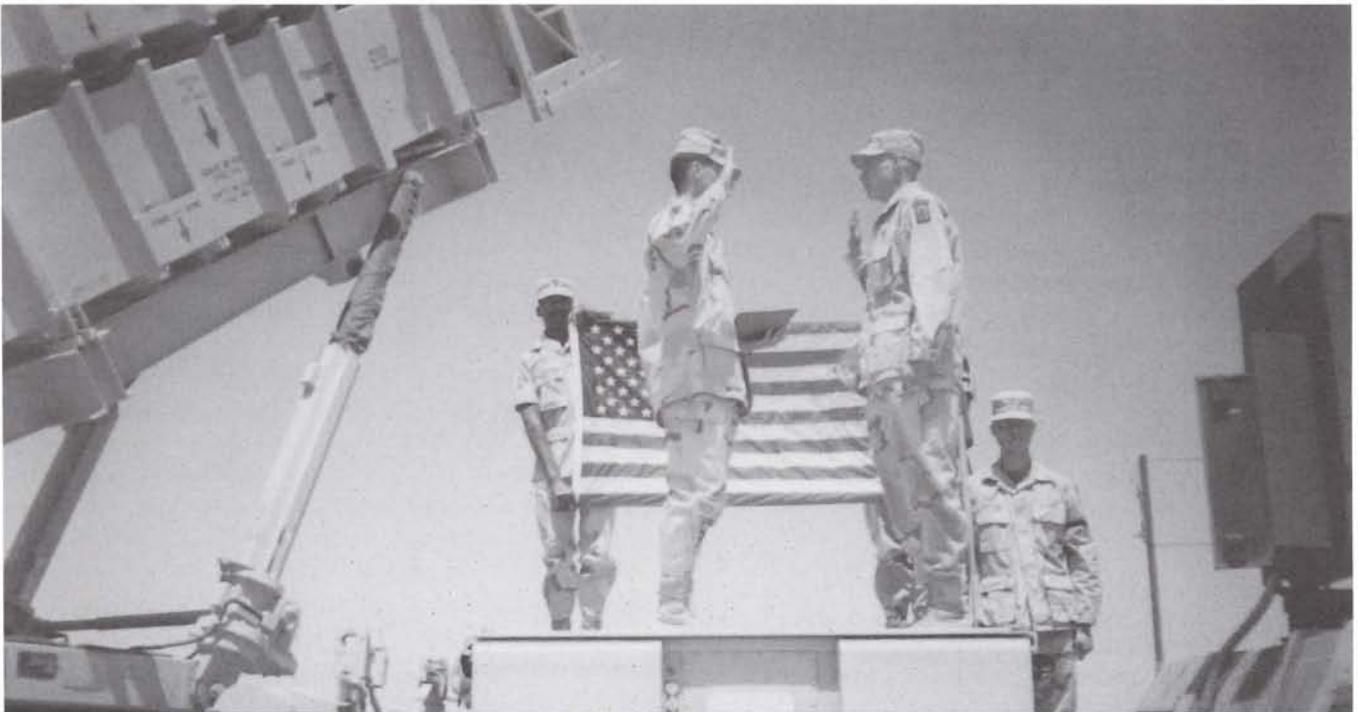
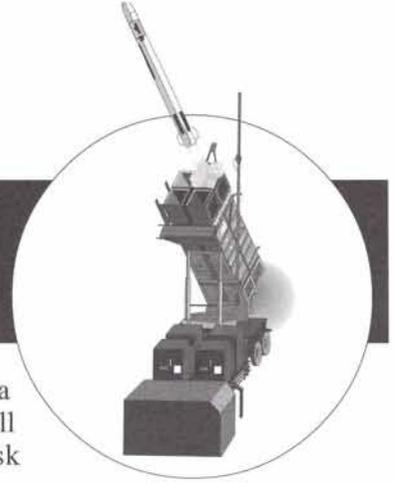
final end-state of Patriot task organization within the Kingdom itself. There are, however, some constants that remain unchanged for each rotation. For example, the equipment will always be pre-positioned except for split operational requirements. Patriot site locations are static, and the command and control architecture is in place. The logistical infrastructure is also in place to support the task force's maintenance operations with every class of supply and support. You might begin to wonder, then, what is so unique about pre-deployment activity with so many constants. The answer is that changing threat capabilities and developments within the area of operations require planners to plan Patriot deployments and tactical ballistic missile and air-breathing threat defense operations with care and deliberation.

The conventional tactical ballistic missile threat posed by Iraq and Iran is real. Both countries possess type B and C tactical ballistic missiles that may be positioned or

repositioned throughout an immense geographic area. Saddam Hussien's erratic decision-making and unpredictable actions force planners to prepare for any contingency. At present, the Southwest Asia threat condition (THREATCON) is at its highest level since the Khobar Towers bombing, and it will probably go higher before it is reduced again to normal levels. The Saudi Arabian government and our own government are still negotiating the midterm, long-term and end-state of the U.S. Patriot force in Southwest Asia. Therefore, planning must be ever fluid, and each task force will have to plan according to each of the aforementioned considerations. The major impact of factors affecting Patriot rotations is on the size of the deploying task force. Lessons learned from previous deployments under these conditions show that a task force must deploy with enough people to provide force protection, i.e., guard force, and, at the same time, allow the task force to conduct uninterrupted tactical ballistic missile defense operations, maintenance and sustainment training. A recent change to the Army Forces Central Command-Southwest Asia (ARCENT-SA) Operation Plan 10-93 has reduced augmentee support requirements due to an increase to the ARCENT-SA table of distribution

and allowances. This is a tremendous relief for all future deploying task forces.

Post and unit preparations and emergency deployment readiness standing operating procedures (SOPs) are critical to a successful pre-deployment. Rear-detachment SOPs and organization must be in place 90 days prior to deployment. Family support groups are another essential element that will contribute immeasurably to the pre-deployment, deployment and redeployment of the task force. We established these SOPs with the help of battalions that had recently deployed and from lessons learned during our previous deployments. Most of our soldiers had previously deployed to Saudi Arabia, in some cases, five or more times. Veterans of previous deployments have good ideas and lots of experience. Use them to help you avoid mistakes that have been made before. Our task force, with the support of the brigade, ensured all soldiers went through soldier readiness processing and preparation for overseas movement 90 days out. This allows soldiers to take care of physical and dental problems before deployment so that you maximize the number of deployable soldiers in the task



*"Numerous reenlistments ceremonies kept Task Force 2-43 ADA's ranks filled with wonderful, experienced soldiers."*

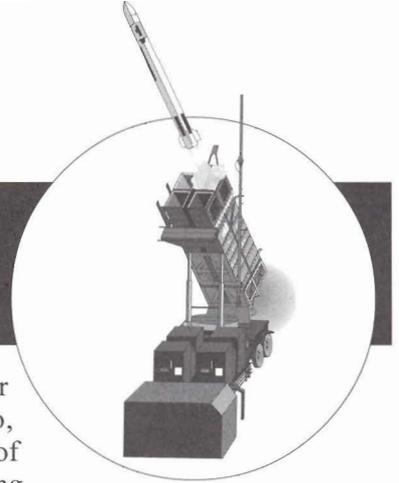
# TASK FORCE



*"One of the joys of being a task force commander is watching soldiers bask in the spotlight that shines on Patriot units. At top left, I stand by as the Chairman, Joint Chiefs of Staff, General John M. Shalikashvili, meets Captain Dean Larkins, E/2-43 ADA commander. Some of you may recognize Major Randy Buhidar, the Joint Chief's aide, who is an ADA officer. At top right, Senator Charles Robb greets Task Force 2-43 soldiers. Above, the XVIII Airborne Corps commander, Lieutenant General Jack Keane, shakes hands with one of our great Patriot NCOs, Staff Sergeant Paul Gosselin."*

force. Prepare to integrate augmentees from your post, corps and brigade. Their families will become your families and must be integrated into the task force team. Scrub your list for soldiers whose estimated time of separation dates fall within the deployment window or soon after redeployment. Pay special attention to soldiers who will be assigned to you fresh from overseas deployments such as Bosnia or Korea and, yes, just returning from Saudi Arabia. Identify soldiers who have not decided to reenlist but are critical to the mission. We reenlisted over 100 soldiers during our deployment, many with 3A and 2B bonuses. Remember, many of those would have left the Army had it not been for commanders and reenlistment NCOs doing their jobs.

We established a Family Action Center in the battalion headquarters and outfitted it with a food locker that was filled with everything a family could use. Most items were donated by the local commissary and local businesses in the area. The Family Action Center also provided three Pentium computers with access to the internet. We established a Task Force Home Page on the internet that allowed family members direct connectivity to their spouses in Dhahran, Riyadh and Al Kharj, Saudi Arabia. Instantaneous communications give the internet, which we used to post our monthly newsletter, an obvious advantage over the post office. The web page also provided each unit the



capability to provide information about the rotation, promotions, special events, newborns and other information of interest to the families of deployed soldiers. For us it was critical during the Thanksgiving, Christmas, New Year's and Easter holiday seasons.

The task force's Family Action Center also provided two commercial vans to transport families in need to the hospital or other facilities 24 hours a day. We also posted unit bulletin boards to keep families abreast of activities and events in the task force, brigade and family support group. The family support group organized a bowling league, Christmas parties, Easter egg hunts and outings to keep families entertained and updated on their spouses. The family support group held monthly meetings to plan these activities and prepare its members for the task force's deployment and redeployment.

We conducted pre-deployment briefs 120 days and 90 days out. This gives soldiers the opportunity to plan for transportation, housing, finance, legal and other personal affairs. An Air Force team from Eglin Air Force Base, Florida, conducted a culture brief for families and soldiers to help them understand Saudi Arabia and Islamic culture. The family support group provided baby sitters for families to allow them to participate in both briefings.

The Army Community Service Organization provided speakers who advised families how to handle separation and stress and inform us how their organization supports deploying units. We distributed brochures and a Task Force Deployment Handbook that provided information on all supporting agencies on post and included the family support group phone trees. Every soldier received a Saudi Arabia country handbook with useful information about the country.

Pre-deployment activity includes preparation for the tactical mission. Our battalion conducted a base realignment move from Fort Polk, Louisiana, and closed on Fort Bliss, Texas, just five months prior to our Southwest Asia rotation. Planning for the move and for tactical operations were conducted simultaneously almost 12 months out. After the Khobar Towers bombing and the resulting increase in the THREATCON level, we focused our external evaluation and Army Training and Evaluation Program efforts around force protection.

With the help of the great soldiers from Task Force 2-1 ADA, we were able to mirror Southwest Asia operations in the deserts surrounding Fort Bliss. Our evaluation concluded with a magnificent live fire of three Patriot

missiles from McGregor Range, New Mexico, thanks to the support of the U.S. Army Training and Doctrine Command Systems Management Office for High- to Medium-Altitude Air Defense and the 1st Combined Arms Support Battalion. Our soldiers conducted Scud drills, vehicular searches and 19 terrorist scenarios required for guard force certification. At the conclusion of the pre-deployment training, we were ready for the deployment phase.

ARCENT-SA Operation Plan 10-93 requires task forces to send two site survey teams to the Southwest Arabia area of responsibility. The first survey is for the task force commander, S-2, S-3, S-4, command sergeant major and maintenance company commander. The focus of the survey is to ensure that all 10-93 issues are on the table and responsibility is fixed to the proper staff element or command.

As an example, we were able to let the ARCENT-SA commander know exactly how many augmentees we could fill out of the number required. We were also able to work the flow of soldiers moving in and out of living quarters in Dhahran, Riyadh and Al Kharj. You must know the exact number of female and male room assignments because they vary with each rotation. The S-3 uses this time to line up resources for the ranges and ensure that the G-5 has all requirements for land used for field training exercises and mobilization exercises. The S-4 receives a copy of the hand receipts and provides these to the battery commanders who, in turn, break them down and provides them to each sub-hand receipt holder. Now commanders know where to put these key personnel in each of the four movement bodies.

Maintenance company commanders will find out that they support more than the task force. They also provide support to two Infantry companies and to ARCENT-SA drivers (88Ms) who are key to the operation even though they are not on the modified table of organization and equipment. The ARCENT-SA table of distribution and allowances is authorized 88Ms; however, the maintenance company will make hundreds of trips between AL Kharj and Riyadh and between Riyadh and Dhahran. Our 88Ms traveled over 50,000 accident-free miles during our deployment. The S-2 will get the latest THREATCON updates and a first-hand look at the guard requirements based on the THREATCON.

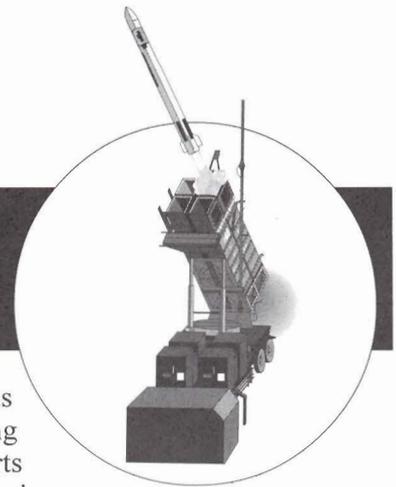
# TASK FORCE



"Morale literally soars! At top left, I'm presenting a plaque to Specialist Scott Duble, the 108th ADA Brigade's 108th reenlistee, at Prince Sultan Air Base. His reward was a joyride in an F-111, courtesy of the U.S. Air Force's 4404th Fighter Wing. At bottom, Task Force 2-43 ADA soldiers receive decorations for a job extremely well done."

The second site survey is for the executive officer and commanders. As commander of the Riyadh Patriot cluster, the executive officer must meet the key members of the Eskan Village chain of command. The Joint Task Force Commander Southwest Asia and his Joint Staff treat all Patriot task forces as part of the family. The battery at Al Kharj is a team player with the U.S. Air Force's 4404th Wing. The commanders meet with their counterparts to make final preparations as their units prepare to conduct the relief-in-place.

*Deployment and Entry Operations.* Deployment obviously is conducted unopposed in a mature theater. Task forces enter the theater peacefully with some assistance from the host nation. High THREATCON levels add a distinctive flavor to Southwest Asia deployments and affect how the Patriot task force organizes the advance party and follow-on main bodies. Each relief-in-place is unique and must be tailored to current terrorist threat conditions. The advance party must consist of key hand receipt holders and operational missile system crews along with guard force personnel. The advanced party is quickly certified on the Patriot system, meets force-protection requirements at each Patriot tactical site and signs for property to allow the outgoing task force to exit and prepare for the remaining incoming personnel. Don't forget that before the deploying Patriot task force enters the area of responsibility, a deploying Infantry task force made up of two companies replaces the redeploying Infantry task force; their relief-in-place operation is almost simultaneous with the Patriot task force operation.



The advance party deploys on two C5-A aircraft that support deployment of personnel and equipment for split operations in Dhahran and Riyadh. The information and coordination central deploys on the first aircraft, along with associated equipment, to facilitate quick integration and connectivity in the Riyadh operational area. Once this is achieved, and the outgoing information and coordination central and associated equipment is positioned for redeployment, the rest of the deployment operation is dependent on the flow of incoming and outgoing personnel, as the rest of the equipment is already in place. Soldiers are required to acclimate for 48 hours prior to train-up. The indigenous task force must have a deliberate training and certification plan to ensure the incoming force wastes no time assuming their new roles and signing for property. As the remainder of the incoming task force hits the ground and acclimates, its soldiers will quickly adapt and close on three locations to complete the relief-in-place.



*"Each deploying Patriot task force builds on the accomplishments of the redeploying Patriot task force. Here, I pass the torch to Lieutenant Colonel Mike Locke, the Task Force 1-7 ADA commander, whose soldiers are currently carrying on the Patriot tradition of excellence in Southwest Asia."*

A commercial air bus deposits the incoming main body at aerial ports of debarkation in Al Kharj and Dhahran. Armored Suburbans transport personnel between Al Kharj and Riyadh, a route exposed to terrorist attack. Buses ferry personnel between Dhahran and Eagle Town, since the Eagle Town living area is on the air base. As one main body arrives, the outgoing task force simultaneously moves their main bodies out to make living space available. The same commercial air bus flies the outgoing task force back to home station. A Patriot task force is made up of many moving parts. This increases the probability that something will go wrong. A good plan and lots of patience is the key to success. From a Patriot task force commander's perspective, it's easy to see that constant Southwest Asia deployments are making the U.S. Patriot force one of the most combat-ready forces in history. They are making Patriot units, Patriot soldiers and the weapon system, itself, "all they can be."

Southwest Asia rotations create the sort of unit cohesiveness that's normally forged only under combat conditions. They are tremendous confidence builders that make soldiers believe in themselves and their ability to accomplish the mission under trying circumstances.

If Patriot soldiers were robots rather than human beings, I, for one, would want Southwest Asia rotations to go on forever. But Patriot soldiers are human beings who get homesick. Married soldiers miss their families; their families miss them. Single soldiers who once had only "Jody" to worry now worry about "Jodie" as well.

Dealing with the adverse impact of frequent Patriot rotations to Southwest Asia while making the most of the tremendous opportunities that rotations offer is a challenge all task force commanders face. Future task force commanders will discover, as I discovered, that we can rely on the enduring professionalism and unflinching dedication of ADA soldiers to meet any challenge that awaits them in the deserts of Southwest Asia.

---

**Lieutenant Colonel Thomas W. Williams** commands the 2nd Battalion, 43rd ADA, 108th ADA Brigade, XVIII Airborne Corps, Fort Bliss, Texas. He commanded Task Force 2-43 ADA during its recent deployment to Southwest Asia.

# TASK FORCE



## PATRIOT TASK FORCE

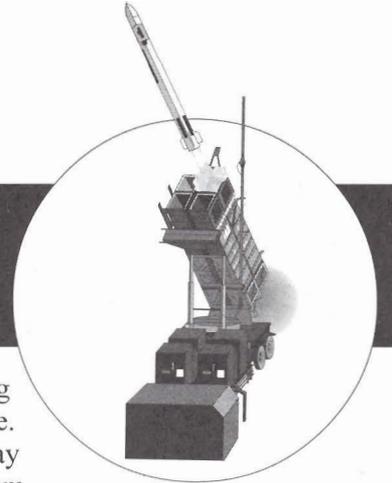
### *OPERATIONS, TRAINING & COMMUNICATIONS*

*by Major Joe Pouliot and Captain Kevin Ciocca*

The horn blares three times, the disembodied voice on loud speaker announces: “SCUD ALERT! SCUD ALERT! SCUD ALERT!” All the soldiers on the Patriot site don their masks and run for cover to the nearest bunker. Crews work furiously inside the engagement control section and battery command post to identify, classify and defeat the incoming Scud. At the same time, miles away in the Dhahran Operations Center, the crew “up-orders” the rest of the Patriot task force to the appropriate state of readiness or state of emission control to protect critical assets by countering the incoming tactical ballistic missile. Success or

failure hinges on the crew’s performance and their level of training. Lives hang in the balance! So far, it’s only been training, but the threat is very real.

Frequent Scud drills are routine for any Patriot task force stationed in Saudi Arabia. In fact, each battery and the operations center and information and coordination central (ICC) at each Patriot cluster are required to perform at least three drills a day. They often execute more. Life in a Patriot task force that defends the Kingdom against tactical ballistic missiles (TBMs) and air breathing threats (ABTs) can best be described as similar to life in one of the



32nd Army Air Defense Command's surface-to-air missile battalions that defended Europe against Soviet missiles and bombers during the Cold War. Site routines, crew change-overs, operational readiness exercises, battle books, site surveys, contingency sites, ground-defense plans . . . the list goes on and on. This section is designed to paint a small picture of typical daily operations and training procedures performed by a Patriot task force in Saudi Arabia.

Prior to its December 1996 deployment to Saudi Arabia, the 2nd Battalion, 43rd Air Defense Artillery, 108th Air Defense Artillery Brigade, Fort Bliss, Texas, received the following mission statement: **"Task Force 2-43 provides tactical ballistic missile defense of critical assets in the Kingdom of Saudi Arabia utilizing split operations of command and control from Dhahran and Riyadh IAW CINCCENTCOM'S priorities. Be prepared on D-Day, H-Hour, to provide TBM/ABT protection of further contingencies in the area of responsibility in accordance with Constant Vigil Oplan."** This mission statement became Task Force 2-43 ADA's charter, and the task force commander focused all operations and training events to support the mission.

Task Force 2-43 ADA did not engage a single tactical ballistic missile or aircraft, but its rotation was, nevertheless, a tremendous success. For example, our soldiers devised new solutions to problems within the existing theater communications architecture. They also participated in ground-breaking tactical TBM and ABT defense exercises with the U.S. Navy and Air Force that established important new communications and control links. However, training and tactical operations in the Kingdom, due to total isolation and freedom from "distractors" often found at home stations, are virtually synonymous; so let me begin with training, the foundation for a successful Southwest Asia rotation.

## TRAINING

*Daily Site Routines.* All units, including operations centers and ICCs, established strict site routines and crew change-over procedures. This allowed outgoing crews to pass up-to-date, mission-essential information and equipment status reports to incoming crews. This policy was not limited to the air defense mission; all security and guard crews established policies and procedures to fully brief incoming and outgoing crews with the most current information. In addition to crew change-over briefs, the task force incorporated system checks, scheduled mainte-

nance and daily training into the daily site routine. Soldiers knew every day what was expected of them and what the standards were. Specific weekly training events made up a large part of daily site routines. Most of these are common back at home station, but in the Kingdom, they were totally uninhibited by the usual training distractors.

*Sergeant's Time.* This is nothing new to anyone who has been in the Army more than a few years. It consisted of five hours of uninterrupted NCO and soldier training that started each Thursday with physical training. It's interesting to note that five of seven participating battery-size units were awarded the coveted U.S. Army Forces Central Command-Southwest Asia (ARCENT-SA) Gold Streamer Award for physical excellence during the rotation. Sergeant's Time laid the foundation for all training and operations during our rotation. No training can match one-on-one interaction between an NCO and his or her soldiers.

*Warrior Wednesdays and Tactical Saturdays.* Each Wednesday and Saturday the entire task force simulated TBM and, sometimes, ABT attacks and engagements. The task force usually executed three to four scenarios at both Patriot clusters. This produced a complete "ring out" of all aspects of command and control from operations centers and ICCs down to unit-level command posts and engagement control stations. It also generated continued tactics applications for our battle crews. Detailed after-action reviews, that were attended by all the participating crews, followed each Warrior Wednesday and Tactical Saturday.

*Tactical Seminars.* Each Thursday, all battle crews attended tactical seminars in which designated unit-level instructors gave classes on battle tactics. This served as refresher tactics training and introduced new tactics, techniques and procedures that resulted from systems upgrades, such as Patriot Advanced Capabilities-3 Post-Deployment Build-4 (PDB-4) software, which was fielded during our rotation. Tactical seminars can be likened to a modified version of sergeants time for crews rather than individual soldiers. ARCENT-SA Circular 44-100-1-2-3 served as the "bible" for our tactical seminars. We considered this three-section publication the task force's tactical standing operating procedure. It details how to fight, fix or fight, and how to train. The task force helped completely rewrite the circular as a result of the software upgrade.

# TASK FORCE



Task Force 2-43 ADA Patriot soldiers balanced theater missile defense operations with anti-terrorist operations.

*Miscellaneous Training Events.* In addition to routine daily and weekly training, the task force also planned and executed numerous unannounced and one-time training events. These events further enhanced the routine training described above and proved invaluable in preparing the task force to execute its mission.

*Table VIII Certification.* Even though the task force had qualified all firing batteries at the home station prior to deployment, individual certifications were starting to expire; therefore, the task force certified all firing batteries and both ICCs at the battalion-level while in the Kingdom. The task force commander directed that recertification results be counted as part of the best battery competition. This generated a real spirit of competition between units that produced stellar Table VIII results.

*NBC Lane Training.* Since weapons of mass destruction are a constant threat in Southwest Asia, we decided early on to make nuclear-biological-chemical (NBC) training a high priority. Despite restrictions, we were able to conduct an NBC lane training event that challenged individual soldiers and unit teams to perform their mission in an NBC environment. The lane training vastly increased NBC proficiency across the task force. Our soldiers emerged strongly confident that they could, if necessary, accomplish their missions under NBC conditions.

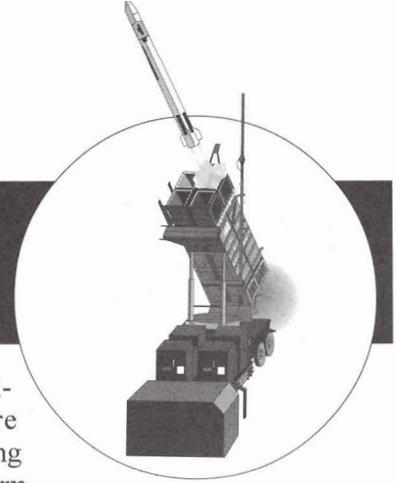
*Weapons Qualifications.* We put forth great efforts to ensure that all our soldiers qualified on their weapons prior to deployment, but last-minute personnel changes, augmentees and qualification expirations forced the task force to conduct both individual and crew-served weapon ranges. You have not scheduled nor run a weapons range until you have done it in the Kingdom. Resolving the many

scheduling, planning and host nation issues that had to be resolved taxed our planning skills and taught us more about the true meaning of persistence. However, we did prevail and successfully ran M-16, M-24 and M-2 ranges, and all our soldiers qualified with their weapons.

*Operational Readiness Evaluations.* To ensure that all our operations crews, both at the battery and battalion level, remained proficient, the task force's electronic missile maintenance officer and S-3 conducted unannounced tactical evaluations on crew performance and system validation. Initially, the success/pass rate wasn't as high as it should have been, but after nearly five months and more than 130 evaluations, the overall pass rate was over 90 percent. The evaluations kept the training level and crew proficiency at an all-time high and ensured our Patriot systems were constantly in a high state of readiness.

*Aerial Port of Debarkation and Deployment Operations.* One of the primary missions of the 108th Air Defense Artillery Brigade is strategic deployments. The task force got plenty of opportunities to train for that mission while in the Kingdom. For our deployment to Saudi Arabia, the task force managed and/or deployed more than 1,800 soldiers on six C-5As, 50 C-130s and numerous C-12 sorties. This kind of training just can't be found back at home station.

*Force Protection and Task Force Security.* While the defense of the Kingdom against TBMs was our paramount mission, protecting the force and its soldiers against terrorist attacks, in the aftermath of the Kobar Tower bombings and increased terrorist activities, took on increased importance. The task force went to great lengths and conducted extensive training at home station and in



Saudi Arabia to ensure that all our soldiers were well-trained in force protection techniques. Additionally, the task force was augmented with 72 soldiers whose sole reason for deployment was to provide security. To ensure our security force maintained its edge, the task force conducted a “Best Guard” competition that was evaluated by Infantry security forces assigned to ARCENT-SA. The intense competition produced a more highly trained security force, an invaluable asset in the volatile Southwest Asia region.

*Theater-Wide Exercises.* The task force had ample opportunities to participate in numerous theater-wide exercises that challenged all our operations crews. Some were no-notice, while others, such as Arabian Skies, required detailed planning and coordination between sister services. However, all clearly demonstrated the task force’s ability to fully integrate its capabilities in a joint environment and execute its TBM defense mission.

Operations in the Kingdom, as stated earlier, equates to training in a real-world environment where the threat, TBM or terrorist, is very real. There is no greater environment short of war for air defenders to learn their profession. The key to all the operational successes this task force enjoyed was a combination of super soldiers, inspired leadership, a finely tuned battle-staff planning process, and taking full advantage of the training opportunities a rotation to the Kingdom offers.

### **Communications in the Kingdom**

One of many challenges Task Force 2-43 ADA faced during its deployment to the Kingdom of Saudi Arabia was the theater communication architecture. This architecture has been in place and working for quite some time. However, the previous Patriot task force, in a response to recent terrorist activities, had moved a reduced readiness battery to Al Kharj. This relocation made it necessary to revamp the Riyadh communications structure and created some terrain and encryption challenges. Restructuring the communications systems and solving the related terrain and encryption problems, became our first order of business.

Our next task was to fully integrate our home-station equipment, the ICC and battalion tactical command system into the existing communications structure. Successful integration was critical to support split operations between the Patriot cluster at Riyadh and the Patriot cluster at Dhahran.

Soon the communications systems were fully integrated, enabling the task force to perform its TBM defense mission. Our next venture was to expand the communication structure by tapping into the theater sensor system to enhance to our TBM cueing and early warning capabilities. Task Force 2-43 ADA accomplished this by participating in a series of theater-wide joint exercises that involved U.S. Navy and Air Force assets and some of their remote sensor platforms. Participants included the *USS Kitty Hawk* and *USS Theodore Roosevelt* Aircraft Carrier Battle Groups and 4404th Wing airborne warning and control systems (AWACSS) based at Prince Sultan Airbase. Navy and Air Force sensor platforms are common in the theater, but are seldom exercised with Patriot forces. Security classification permits only a general discussion of theater command and control architecture, but even a limited discussion requires a basic familiarity of system components.

*TADIL-B.* The heart of the existing Southwest Asia theater command, control, communications and intelligence architecture is the data exchange medium known as the Tactical Digital Information Link-B (TADIL-B). The TADIL-B network links the Patriot task force with U.S. Air Force units in Saudi Arabia. The TADIL-B “pipeline” also is the main conduit for theater air-track management and exchange between ground-based air defense platforms.

The TADIL-B network uses a secure, point-to-point, full-duplex data link between land-based units. The term “full-duplex” means that participants at each end of the point-to-point link can simultaneously transmit and receive the theater air picture. TADIL-B networks are established across both wire line and microwave links throughout the theater.

*TADIL-A.* The sister link that complements TADIL-B is called TADIL-A but is commonly referred to as Link-11. In Southwest Asia, it primarily is used to link ground-based forces, such as Patriot, to U.S. naval forces. TADIL-A links are also used to connect AWACSS to TADIL-B ground stations. TADIL-A is different from TADIL-B in that it employs secure, netted communications for exchanging digital information among multiple users. It is a half-duplex, netted link, which means that net participants transmit and receive alternately, rather than simultaneously. While one member transmits, the other members may only listen.

# TASK FORCE



Theater-wide field training exercises demonstrated the task force's ability to fully integrate its capabilities in a joint environment.

TADIL-A communications can operate in high- or ultra-high frequency bands. In the high-frequency band, TADIL-A provides omni-direction coverage in excess of 300 nautical miles. In the ultra-high frequency band, TADIL-A provides omni-directional coverage up to 25 nautical miles ship-to-ship, 150 miles ship-to-air and 100 nautical miles air-to-ground.

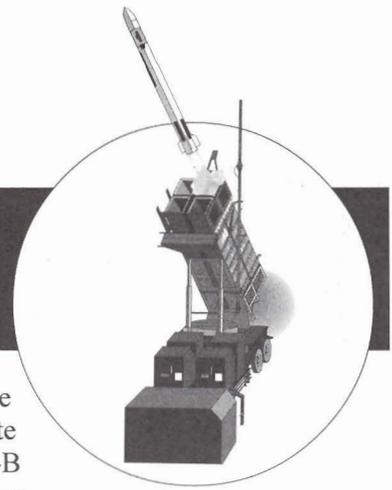
*Air Defense System Integrator.* TADIL-A and TADIL-B provide forces in Southwest Asia complete and timely tactical data communications to relay information on TBMs and ABTs. The existence of two separate data networks makes it necessary to translate and integrate both links into a single consolidated air picture that permits air defense forces to effectively correlate air tracks and manage resources. The air defense system integrator makes this possible.

The air defense system integrator is a compact and rugged data-link device with a variety of tactical planning, training, simulation and testing applications. In Southwest Asia, the Army and Air Force uses the device to translate and consolidate both the TADIL-A and TADIL-B air pictures for user display and theater distribution. The Patriot task force uses the air defense system integrator to extend its cueing and early warning by consolidating input from remote theater sensors and national intelligence assets into critical, near-real-time data.

*Patriot System Integration.* Patriot soldiers use a variety of systems to integrate the task force into the theater-wide communications architecture. The primary organic systems used for integration are the tactical command system and ICC. It is the synergistic relationship between these two command and control systems that make integration possible, and they must be used as a complimentary set.

Formerly known as the battalion tactical operations center, the tactical command system is a task-force-level command system. The Patriot Advanced Capabilities-3 PDB-4 equipment upgrade to Task Force 2-43 ADA's tactical operation center enables the task force to directly interface with a wide variety of in-theater communications systems. This upgrade added two ARC-187 radios to the tactical command system that permitted the task force to transmit and receive TADIL-A and voice traffic. This TADIL-A information, which was forwarded to Patriot ICC personnel, greatly enhanced the task force's air battle effectiveness.

The Patriot ICC is the primary means by which the task force commander exercises control over his forces. Prior to the PDB-4 upgrade, the ICC could only directly link with units using TADIL-B, Army Tactical Data Language-1 and Patriot Digital Information Language. The upgrade permitted the ICC to receive critical information from



TADIL-A sources, such as AWACSS, through an external unit, such as a U.S. Air Force control and reporting center. This connectivity scheme can now be enhanced by capitalizing on the increased TADIL-A feed the ICC and tactical command system combination makes available for battalion-level command and control functions.

It is important to view the tactical command system and ICC as a singular command and control asset rather than as separate assets. Used as a set, the tactical command system and ICC give Patriot an organic capability to directly interface with both TADIL-A and TADIL-B participants. Operationally, this direct connectivity trans-

lates into a more reliable and much more complete TADIL-A and TADIL-B picture. This, in turn, gives Patriot commanders and soldiers the precise information they need to make correct and timely decisions while executing their mission in Southwest Asia.

*Satellite Voice Communications.* A discussion of command and control in Southwest Asia would not be complete without touching on the voice network that compliments the data links discussed above. A voice network is necessary because air defense operations allow for no margin of error. The enhanced data picture provides operations personnel with substantial information about the current state of the air battle. However, our confidence that air defense operations will be carried out effectively and efficiently can be absolute only when data links are complemented with a voice network that provides positive control.

The voice network that provides Patriot with that positive control is the Commander, Joint Task Force-Southwest Asia Air Operations Network. As the area air defense commander for Southwest Asia, the joint task force commander is responsible for the overall conduct of air defense operation in the theater. The Air Operations Network, a satellite communications system, links the joint task force commander to air defense units scattered throughout the theater. The voice connectivity the network provides gives him positive control of his forces.

#### *Joint Exercises*

Task Force 2-43 ADA participated in a number of theater-wide, joint exercises that primarily served training purposes but also allowed us to effectively stress and validate the theater's complex command and control architecture. The most notable of these exercises were the Arabian Skies TBM Defense Exercise and the Patriot-AWACS Interoperability Exercise.

Arabian Skies was the first of what we hope will become many more joint TBM defense exercises in Southwest Asia. Task Force 2-43 ADA and *Kitty Hawk* personnel conceived, planned and executed the exercise. Air Force and Space Command elements added realism to Arabian Skies. Jim Sullivan, ARCENT-SA's resident communications expert, also was a major player. He helped the task force establish a solid baseline to effectively interface with our sister services.



A Task Force 2-43 ADA soldier pulls preventative maintenance checks and services on a Patriot launcher.

# TASK FORCE



At top, the Task Force 2-43 ADA operations center crew poses in front of the USS Theodore Roosevelt's Phalanx air defense system. Above, Private First Class Pendleton Than prepares to board a Navy Sea Lion on the aircraft's carriers flight deck.

Arabian Skies' objective was to validate the task force's and Navy battle group's ability to pass and receive TBM data over the TADIL-A link. The five-day exercise helped both services identify capabilities and limitations that, in some cases, greatly affected mission performance. Armed with this information, both positive and negative, we were able to put measures in place to capitalize on lessons learned.

With Arabian Skies an overwhelming success, Task Force 2-43 began working on a sequel. Patriot task force members met with experts from the *Theodore Roosevelt*, which had replaced the *Kitty Hawk*, and representatives from Joint Task Force-Southwest Asia and Space Command at the U.S. Navy Central Command Headquarters in Bahrain to plan Arabian Skies 2-97. The second exercise, which once again put personnel and the communications architecture to the test, was a complete success that increased the gains made during the initial exercise.

As we prepared our soldiers for the long-awaited trip back to Fort Bliss, Texas, our replacement, Task Force 1-7 ADA, eagerly prepared to carry the Arabian Skies baton. These types of joint exercises will continue to expand our knowledge of our sister services' personnel and equipment

and teach us how to fit Patriot more perfectly into a truly joint environment.

*Patriot-AWACS Interoperability Exercise.* A second, equally valuable exercise undertaken by Task Force 2-43 ADA tested the interoperability between the Patriot tactical command system and Air Force AWACS. As stated earlier, PDB-4 gives Patriot an organic capability to directly interact with elements, such as AWACS, that employ TADIL-A. This capability is tremendously important, since the AWACS becomes the controlling authority for the Southwest Asia Patriot task force when they execute their hostile aircraft defense mission. The close proximity of the Task Force 2-34 ADA's tactical command system in Riyadh to the U.S. Air Force 4404th Air Control Squadron provided an excellent opportunity to validate the TADIL-A data and voice link between Patriot and the AWACS.

Prior to the exercise, members of Task Force 2-43 ADA and the 4404th Air Control Squadron sat down at the drawing board to discuss details. Each service provided the other with a capabilities and tactics seminar. This provided both Patriot soldiers and AWACS personnel with a better understanding of how the other service executes the hostile TBM and ABT mission. Once system capabilities and tactics were exchanged, the specifics of how the Patriot-AWACS link would be established was outlined. The primary obstacle identified in the planning process was the range limitation of the UHF data and voice link. The tactical control system radios can transmit data and voice for 150 nautical miles; however, the standard

mission orbits for Southwest Asia AWACSs exceeded the system's transmission range. Therefore, the link between the tactical control system and the AWACS needed to be established either just after takeoff or just before landing. This gave us a window of 15 to 20 minutes to link the two systems.

The Patriot-AWACS TADIL-A Interoperability Exercise was conducted during a two-week period in March 1997. Despite the limited window of opportunity, the exercise was a complete success. We met, actually exceeded, the exercise's objective of successfully passing voice and digital data between the tactical control system and the AWACS. About 80 percent of the air tracks that passed from the AWACS to the tactical control system were correlated and forwarded by the ICC to Patriot firing batteries. Based on this initial success, the scope of the exercise was expanded to include the forwarding of vital air battle commands from the AWACS directly to the Patriot systems.

The Arabian Skies and Patriot-AWACS TADIL-A Interoperability exercises are unqualified success stories. In some cases, they confirmed expectations; in other instances, they revealed new knowledge. The two exercises enhanced Task Force 2-43 ADA's understanding of command and control capabilities in Southwest Asia and helped it accomplish its mission during the last five and a half months of its rotation.

Southwest Asia rotations permit Patriot task forces to press the boundaries of current capabilities, opening our eyes to new and better processes and procedures that will enable us to employ our systems at full potential. Seizing the tremendous training and experimentation opportunities inherent to Southwest Asia rotation prepares us to accomplish our 21st-century mission, a mission not only to defend against the air and missile threat in the skies of Southwest Asia but the skies of the world.

---

*Major Joe Pouliot is the S-3, 2nd Battalion, 43rd Air Defense Artillery, 108th ADA Brigade, XVII Airborne Corps, Fort Bliss, Texas.*



*Increasing interoperability with the Air Force and Navy ranked as one of Task Force 2-43 ADA's most significant achievements.*



# TASK FORCE



## BATTERY OPERATIONS

*Patriot battery operations within the Kingdom of Saudi Arabia are challenging and rewarding. Since the Khobar Towers bombing incident and the increase in the threat condition level, force protection has moved to the forefront. It is now as important as the tactical ballistic missile mission conducted daily at each Patriot site. Following are vignettes from several of the units which participated in Operation Desert Watch, the deployment of Task Force 2-43 ADA, from December 1996 through April 1997. These vignettes provide lessons learned and experiences from the commanders of Task Force 2-43 ADA who successfully executed both missions.*



### DELTA

CAPTAIN ANGELA HOLMES

Delta Battery, 2nd Battalion, 43rd Air Defense Artillery, was located on the King Abdul Aziz Air Base in Dhahran, the site where Gulf War Patriot batteries recorded history's first intercepts of hostile tactical ballistic missiles. My soldiers, supplemented by augmentees from our sister Avenger battalion, the 1st Battalion, 2nd Air Defense Artillery, provided air and missile defense for the critically important air base as well as force protection of our Patriot site against the growing threat of terrorist attack. Unfortu-

nately at the high threat condition (THREATCON) level we were unable to provide three separate guard crews.

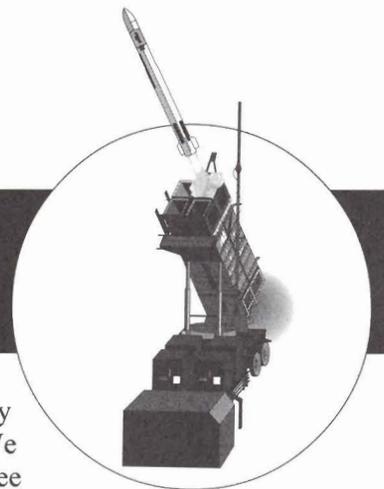
Our guard crews pulled day on/day off shifts throughout the entire rotation. We rotated fire control and launcher crews to guard duty to break up the guard force routine and keep every soldier tactically and technically proficient in their military occupational skill. Security personnel were very busy each day improving the entry control point, preparing individual fighting positions, building the far overwatch and staying alert for an unannounced reaction evaluation by the S-2. Our guard force also participated in the "Best Guard Force" competition, which was held during the Haj, the pilgrimage of Muslims to Mecca. Our alert status was at its highest level, and the competition

sharpened every soldier's situational awareness. Because of its location on the King Abdul Air Base, our site was probably one of the most secure in the Kingdom because, as mentioned above, it is on an air base. There are two gates with Saudi guards that must be passed prior to getting to the entry of the Patriot site. Our soldiers provided the final level of protection, and they did it well.

We were the first battery to conduct a mass casualty exercise with the Troop Medical Clinic (TMC). We prepared for the exercise by recertifying all combat lifesavers. Our doctor ordered the manuals to teach the combat lifesaver class. We all took advantage of this rare opportunity and trained more combat lifesavers at every level. The scenario was as realistic as you could get with moulage kits and plastic wounds. Our soldiers reacted appropriately and exercised good accountability and command and control. The evacuation was accomplished as quickly as you could expect by ambulance; there were no air medical evacuation assets until we prepared to rotate out of the Kingdom. Recently an air medical evacuation team located at Prince Sultan Air Base, AlKharj, was sent to U.S. Army Force Central Command-Southwest Asia (ARCENT-SA). I'm sure they will be integrated into



*2-43 ADA Command Sergeant Major Harold Howell inspects Headquarters and Headquarters Battery soldiers.*



future mass casualty training exercises. We were located about three miles from the TMC. This expedited further care for the wounded. The Saudi Arabian Ministry of Defense and Aviation hospital is also located on the base and has enough beds to facilitate our needs. We worked very closely with the host nation to share facilities, especially in emergency medical situations.

A prime benefit of this deployment was the unique, distraction-free training environment. Tactical control officers, tactical control assistants, launcher hot crews, fire control crews and 31-M communications personnel were continuously evaluated during no-notice operational readiness evaluations (OREs). This enhanced their tactical knowledge and skills and contributed to their Table VIII certifications. We gave written tactical and practical application tests to the crews after each evaluation. A score of at least 90 percent was required to pass. OREs check crew proficiency and weapon system readiness. It is the vehicle by which the commander assesses the state of readiness of each tactical site.

One event that helped improve Delta Battery's readiness, not to mention the entire battalion's, was the "Best Battery" competition. It included command inspections, best ORE, "Best Guard Force" competition, Table VIII certifications, ARCENT-SA Gold Streamer Physical Training test, and of course, nuclear-biological-chemical lane training. Every unit was able to exploit their strengths and improve their weaknesses. The Best Battery Competition was very encompassing and thorough; it made our battery the best it could be. We were fortunate to walk away with the Best Battery trophy, but as a battalion, we all walked away as the best trained Patriot task force in the Army.

**BRAVO**   
CAPTAIN JAMES RICHARDSON

Bravo Battery, 2nd Battalion, 43rd ADA, was located in Riyadh on the Riyadh Military Air Base. Our battery provided air and missile defense for the air base and for Riyadh, the capital city of Saudi Arabia.

Most mornings started with a 25-minute ride in an armored Suburban from our living quarters in Eskan

# TASK FORCE



*Ruins left by the Khobar Towers bombing are a constant reminder that the Southwest Asia terrorist threat is very real.*

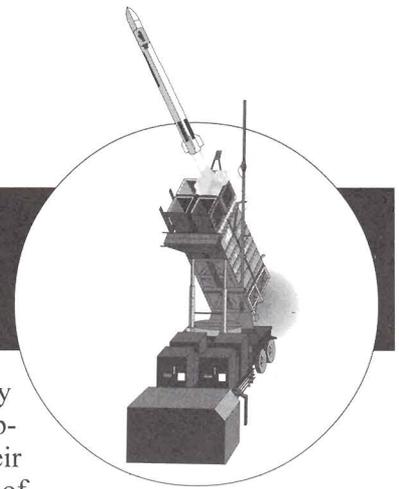
Village to work. Since the Kobar Towers bombing, a 25-minute trip has become more than a simple commute. At times of heightened threat condition (THREATCON), we wore armored vests. We sometimes observed suspicious activity and reported it quickly to the battalion operations center. There the S-2 checked them against the priority information requirements established by the commander and reported them to the U.S. Army Forces Central Command-Southwest Asia (ARCENT-SA) G-2 to add to the collection of activities that may someday help us put a face on the enemy.

But our Patriot site was nestled behind the runway inside the gates of the Riyadh Military Air Base. Once we passed through the gates, we shared the same level of protection as our sister battery in Dhahran. The majority of my guard force was provided by the Avenger soldiers of Alpha Battery 1st Battalion, 2nd ADA. Captain Mark Watkins task-organized his battery to provide force protection of all Patriot sites in the Riyadh cluster. His "Silent Stalkers" provided deadly force protection of our site and never failed to respond exceptionally during all unannounced reaction evaluations. I provided soldiers to Cap-

tain Watkins to supplement his soldiers and to break up the day on/off routine that his soldiers endured each day. Every 30 days I provided soldiers to the guard force. In every Bravo Battery section at least one soldier spent time on guard beside the Silent Stalker soldiers.

Eskan Village provided my soldiers with superb quality of life facilities. Our soldiers had the best living arrangements of all Task Force 2-43 ADA soldiers. The villas provide space for four soldiers. Each villa has a full kitchen, at least two baths and a washer and dryer. The dining facility provides four meals per day with a decent variety of foods to choose from. The U.S. Air Force runs the Eskan Village dining facility; however our cooks were responsible for "mermiting" all meals to the Patriot site. Our site had a small mess building with refrigerators, tables and chairs. We were able to keep fruits, cold cuts and bread to satisfy those hunger pains on late duty nights or early duty mornings.

The Eskan Village gymnasiums are top notch with world-class state of the art equipment. Runners compete every weekend in 10- and 20-kilometer runs and even marathons. During each rotation, Patriot task force teams



compete in organized basketball and volleyball leagues and tournaments. The morale, welfare and recreation building at Eskan Village has all the games and snacks you would expect to find. The small post exchange and commissary will be replaced with a larger, more modern facility that is currently under construction.

Since visits to off-post Western compounds in the Riyadh area are banned, we took full advantage of the Eskan Village facilities. The Eskan Village Bazaar is always a big hit. Vendors sell everything from leather goods, gold and perfumes to rugs and camel rides. Live bands entertain occasionally. We enjoyed the Air Force's hospitality, but our soldiers organized the most successful event of the rotation — the "Saudi Slam." Our Junior Enlisted Council reserved the morale, welfare and recreation building and athletic facilities and organized the Saudi Slam as a giant party for all junior enlisted soldiers. Task Force 2-43 ADA soldiers had a blast.

Despite the heightened emphasis on force protection, the maintenance and improvement of our Patriot site was also a priority. Our soldiers improved roads, bunkers, buildings, missile storage areas, far overwatch posts and other facilities. Air Force support units at Eskan were invaluable to this effort. Our soldiers used their heavy equipment to reinforce bunkers, repair launcher berms, grade roads, and construct our missile storage area. We could not have accomplished so much without their support.

In addition to providing equipment and materials for self-help projects, the Eskan civil engineers responded to

work orders for every situation. Though supporting us is part of their mission, the soldiers of the 4409th Civil Engineer Squadron went the extra mile to help us. Teamwork is the name of the game.

The soldiers of Bravo Battery met every challenge that our Southwest Asia rotation presented. Our experience at our Patriot site provided us a good example of what we can accomplish together. We gained a greater appreciation and respect for the soldiers of our sister battalion and a chance to work and play with members of other services.

## ECHO

CAPTAIN DEAN LARKINS



Echo Battery, 2-43 Air Defense Artillery, defended the Prince Sultan Air Base, 60 miles south of Riyadh at Al Kharj. The air base is the newest addition to the Kingdom of Saudi Arabia. It was constructed at a remote site as a security measure in response to the Khobar Towers bombing.

The Prince Sultan Air Base is the home of the U.S. Air Force's 4404th Wing. About 4,000 U.S. Air Force, 250 British Royal Air Force, 300 French Air Force, and 97 Army personnel are housed there in a tent city. Home was Harvest Falcon tents that accommodate eight personnel. They have wooden floors and doors. We outfitted the climate-controlled tents with wall lockers, beds, televisions, VCRs and foot lockers.

Some great soldiers, supervised by our battery first sergeant, made our living area livable. Using a standard-issue sand bag "motif" and natural landscaping material — sand — that was readily available in amazing abundance, they gave our living area an authentic desert decor. They attached the unit's banner to the roof of the orderly room tent and built a rock monument, which they decorated with the ADA insignia and the inscription: US ARMY PATRIOT.



*U.S. Patriot soldiers of Bravo Battery, 2-43 ADA, zero in their M-16 rifles.*

# TASK FORCE



*Second Lieutenant Ryan Fox puts the finishing touches to Echo's orderly room mural.*

Prince Sultan Air Base afforded our Patriot site a high level of force protection. The Air Force Quick Reaction Security Force augmented my quick reaction force, thereby reducing my overall guard requirement. Echo was the only battery whose soldiers did not have to pull day on/off guard shifts. We conducted monthly drills with the Air Force to coordinate actions and to refine our drills.

Our site was the newest Patriot site in Saudi Arabia. It was still under development as we replaced the previous task force. The soldiers of the 2nd Battalion, 1st Air Defense Artillery, 35th ADA Brigade, got us off to a good start. We were able to take over where they left off and,

with help from the Air Force, build an awesome site. Our soldiers procured HASCO Concertina (Sand Grid) from the Air Force and built the most formidable bunkers and overwatch positions in the Kingdom. Today, the most impressive Scud bunker on Prince Sultan Air Base is on the Patriot site. It was built by Alpha Battery soldiers. Over the course of two months, we built a double perimeter with triple-strand concertina, two entry control points bunkers using HASCO sand grids, one HASCO sand grid Scud bunker that could accommodate the entire battery, a second Scud bunker in the launcher area, two elevated .50-caliber machine-gun positions, a listening/observation post and numerous individual fighting positions.

Our greatest challenge was maintenance. Prince Sultan Air Base was approximately a 90-minute drive from our direct support unit in Riyadh; driving requisition disks to the direct support unit became a difficult task. Parts flow also created a unique situation. Even though parts flew into the aerial port of debarkation at Prince Sultan Air Base, they were long-hauled to Riyadh or flown to Dhahran to be processed and logged before distribution. This added several days to the wait on a critical part. This process will be greatly improved this summer with the addition of Standard Army Retail Supply System-Objective and the establishment of a maintenance company central receiving point at Prince Sultan Air Base. Conducting maintenance in the sand with no motor pool in the sand can be

On the wall of the orderly room tent entry way, one of my artistically as well as martially gifted lieutenants painted a mural, with a launcher, brigade patch and unit designation — the same design that appears on our battery T-shirts and web page. You can have a look at our Web page, which was designed and published by one of my great soldiers with the help of her mother at [WWW.IHLA.COM](http://WWW.IHLA.COM). Our soldiers created a recreational area that included a wide-screen television, foosball table and card table, which provided soldiers with some great and memorable times.

The quality of life at Prince Sultan Air Base was not as “up town” as the quality of life at Eskan Village and Eagle Town; however, the air base did have a 31 Flavors ice cream parlor, Burger King and Pizza Hut right around the corner. Brigadier General Daniel Dick, the 4404th Wing commander, was very proud of our soldiers and their “Hard Work,” which is our motto. He used our tent area as the example for all areas on the compound.

We share the benefits of team spirit along with other Task Force 2-43 ADA batteries. The U.S. Air Force and the soldiers of Alpha Battery, 1st Battalion, 2nd Air Defense Artillery, helped us endure the toughest five months of any site in the Kingdom. Alpha’s soldiers were attached to me because of the distance from their battery headquarters in Riyadh. They became my soldiers, a part of the Echo Battery family, and they made the difference in force protection.

Our greatest challenge was maintenance. Prince Sultan Air Base was approximately a 90-minute drive from our direct support unit in Riyadh; driving requisition disks to the direct support unit became a difficult task. Parts flow also created a unique situation. Even though parts flew into the aerial port of debarkation at Prince Sultan Air Base, they were long-hauled to Riyadh or flown to Dhahran to be processed and logged before distribution. This added several days to the wait on a critical part. This process will be greatly improved this summer with the addition of Standard Army Retail Supply System-Objective and the establishment of a maintenance company central receiving point at Prince Sultan Air Base. Conducting maintenance in the sand with no motor pool in the sand can be

in the sand with no motor pool in the sand can be

challenging. We were finally given a maintenance tent that provided much needed cover and protection from the elements.

Echo Battery built on the foundation laid by our predecessor. Today, the recently deployed soldiers of Task Force 1-7 ADA, which replaced Task Force 2-43 ADA, continue to improve the Prince Sultan Air Base Patriot site. The soldiers of Echo Battery are proud to have played their part in the unbroken cycle of successful Patriot task force deployments.



## ECHO 1-1 ADA

SECOND LIEUTENANT KYLE MYERS

As Task Force 2-43 ADA's Reduced Readiness Battery (RRB), Echo, 1st Battalion, 1st Air Defense Artillery, 11th ADA Brigade, had a very challenging mission. We were responsible for preparing and maintaining a battery's worth of equipment with an immediate readiness posture to deploy, on order, to any one of many contingency

locations. We executed this mission with only 18 personnel, knowing that in 52 hours or less the remainder of the battery will be on the ground if alerted. It was good knowing that we were prepared at any time.

Although we had minimum personnel, the job that we executed the same tasks other firing batteries performed. We were able to get Table IV certifications for a command post crew, fire control crew and launcher crew. I was also certified to work as a battle captain in the Dhahran Operations Center, a type of professional development opportunity that a junior ADA officer finds only in RRBs. Preparing for the command inspection was my most challenging endeavor. Although we had only 18 soldiers, we were inspected in all areas, and believe me, there are many areas. We received exceptional ratings in most areas. Focusing on needed improvements made us a better battery. The inspection prepares you for the transition. It was a good idea to conduct it in the middle of the rotation.

One advantage the RRB enjoyed was the maintenance facility that we worked in. Unlike the other batteries, which had a clam shell or maintenance tent, we had two K-span



*Task Force 2-43 ADA soldiers discovered there were no obstacles that couldn't be overcome with patience, finesse and a bulldozer.*

# TASK FORCE



*No-notice, on-site inspections kept Task Force 2-43 ADA Patriot air defense missile systems always ready for instant action.*

buildings that was ours, and we shared another, when needed, with the Raytheon technicians. All of our equipment was on a hard stand, which made it easy to maintain. We were also able to work every day with the Raytheon technicians. As a result, our soldiers are able to experience maintenance at the highest level of repair, and they learn an unbelievable amount about the missile system.

The RRB structure, with a few exceptions, is much like a typical battery. The team is broken down into skeleton crews representing each platoon in a normal Patriot battery. A typical SWA Patriot RRB is organized as follows:

- Maintenance Platoon NCOIC
- Maintenance OIC/Warrant Officer
- Launcher Platoon NCOIC
- Fire Control Platoon NCOIC
- Headquarters Platoon NCOIC
- RRB Commander/LT
- RRB 1SGT/E-6 or E-7

When you add three or four soldiers to each section, you have the authorized end-strength for the RRB.

Our daily routine consisted of physical training from 0530 to 0630. After breakfast, we traveled by non-tactical

vehicles to Site 12, where we conducted maintenance and training operations until 1700 hours. On several days our soldiers continued operations for 24 hours due to equipment state-of-readiness requirements. There was always lots of maintenance to conduct, but training was the best I've seen in the short time I've been in the Army.

Every week contained two tactical days, Wednesday and Saturday. We brought our systems up and fully integrated them into the battalion each Wednesday and Saturday. We conducted troop proficiency trainer airbattle scenarios to train all battle crews in air defense operations against air breathers and tactical ballistic missiles. We trained under Mission-Oriented Protective Posture-IV conditions, which became very challenging at times. "Sergeants Time" allowed us to prepare for the common-task training and validation in the coming months. We really enjoyed the tactical seminars for tactical crews. Taught by the battalion's most experienced officers and NCOs, they made a big difference for all crews.

Experience, military occupation skill training, cross training and leadership development were the greatest career benefits that our soldiers gained from their Southwest Asia deployment. We used the small-group concept

to help prepare younger enlisted soldiers for their future as NCOs. NCOs mentored them in preparation for the Primary Leadership Development Course. Almost all our soldiers took college courses. More than 75 percent of our battery took the College Level Examination Program (CLEP) and Defense Activity For Nontraditional Education Support (DANTES) tests. Two of our soldiers deployed with about 45 college credit hours. With the assistance of the education counselor, both soldiers took courses and CLEP tests, and the counselor converted their years of military experience into credit hours. Both soldiers returned from Southwest Asia only 30 credit hours short of having a bachelor's degree.

Our battery's success was built on team work, professionalism and total dedication to the mission. We were challenged to accomplish more with less, and we did. But most of all, the RRB mission brought forth many great rewards that were the direct results of the efforts and commitments of all 18 soldiers from Echo Battery, 1-1 ADA. Our soldiers took tremendous pride in their work, their mission, themselves, their unit and their country.

# REAR DETACHMENT

CAPTAIN ANNA McCANNA

As with any Army deployment, someone must stay behind to keep the home fires burning. During Task Force 2-43 ADA's deployment, this rather unenviable job fell on the broad shoulders of the rear detachment battery. With

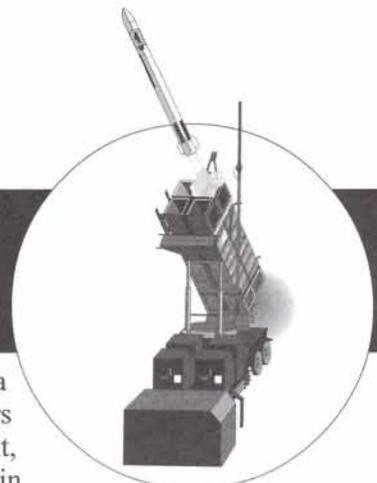
the determination of a questing knights, soldiers of the rear detachment, commanded by Captain

Amanda McCanna, maintained nearly the entire fleet of 2-43 ADA vehicles, which had been left behind when the task force deployed. In addition to this Herculean task, rear detachment soldiers handled numerous family assistant issues that arose during the deployment. They conducted information briefings, arranged emergency leaves and even created a web page to keep the families up to date on how their loved ones were doing in Saudi Arabia. They also maintained the privately owned vehicle storage facility for deployed soldiers and carried out day-to-day security duties to secure 2-43 ADA's vacant buildings and facilities.

Besides soldier and equipment care, rear detachment soldiers were tasked to execute several post-support missions. Some, but not all, were mundane. For example, the rear detachment provided soldiers to serve with the opposing force during Exercise Roving Sands '97. Their important contribution to the success of the giant theater and missile defense exercise earned the praise of U.S. and multinational forces that participated in the exercise.

The superb efforts exerted by the rear detachment made the redeployment and reunification of Task Force 2-43 ADA smooth and painless. Except for their support, the stress and strain of deployment would have been many times greater. As a result, the deployed soldiers of Task Force 2-43 ADA were able to concentrate on their mission, knowing that the equally dedicated soldiers of the rear detachment were "watching their back" while they were away.

— Lieutenant Colonel Boyce K. Buckner



Enhanced morale, welfare and recreation facilities and programs help offset new travel restrictions in the Kingdom of Saudi Arabia.

# TASK FORCE



All great Patriot task forces have one thing in common — a great maintenance company. Task Force 2-43 ADA was no exception. Above, Colonel Pete J. Depesso, ARCENT-SA commander, presents the ARCENT-SA Army Physical Fitness Test Gold Streamer to Captain Mary Abrams, 555th Maintenance Company commander.

## LOGISTICS AND MAINTENANCE

by First Lieutenant Ling Rothrock

In December of 1996, Task Force 2-43 ADA deployed to Saudi Arabia to conduct a relief-in-place of Task Force 2-1 ADA and assume responsibility for tactical missile defense of critical assets. Task Force 2-43 ADA consisted of five firing batteries, headquarters and headquarters battery and one reduced readiness battery. The 555th Maintenance Company also deployed as a part of the task force to provide intermediate support maintenance, direct support maintenance and Class IX support.

The task force conducted split operations with the main element located in Dhahran and the forward element pushed out to Riyadh. The main element consisted of two firing batteries, the reduced readiness battery and the headquarters battery (Main). The forward element was made up of three firing batteries and the headquarters battery (Forward). In all, the Task Force consisted of more than 750 soldiers and 130 major pieces of Patriot equipment.

The 555th Maintenance Company consists of seven support sections. The *Shop Office* provides customer assistance and coordinates direct and intermediate support. The *Supply Support Activity* issues Class IX repair parts, conducts repairable exchange with customer units and receives unit Class IX turn-ins. It also coordinates transportation assets to move parts from aerial ports of debarkation to customer locations. The *Automotive Section* provides direct-support-level wheeled vehicle repairs. The *Engineer Section* provides direct-support-level generator and air-conditioner repairs. The *Service Section* provided small-arms repair and welding capabilities. The *Communications and Electronics Section* provides AM, FM and UHF systems repairs; fiber optic and wire communications; communications security; facsimile capabilities; and single channel, ground and air radio system repair capabilities. The *Intermediate Support Element* provides missile system diagnosis and repair capabilities.



To conduct direct and intermediate maintenance and Class IX supply operations in support of the task force, the 555th Maintenance Company needed to split its operations. The Company Main was situated in Dhahran with two-thirds of the company's manpower and equipment. The remaining third was pushed out to Riyadh as a maintenance support team.

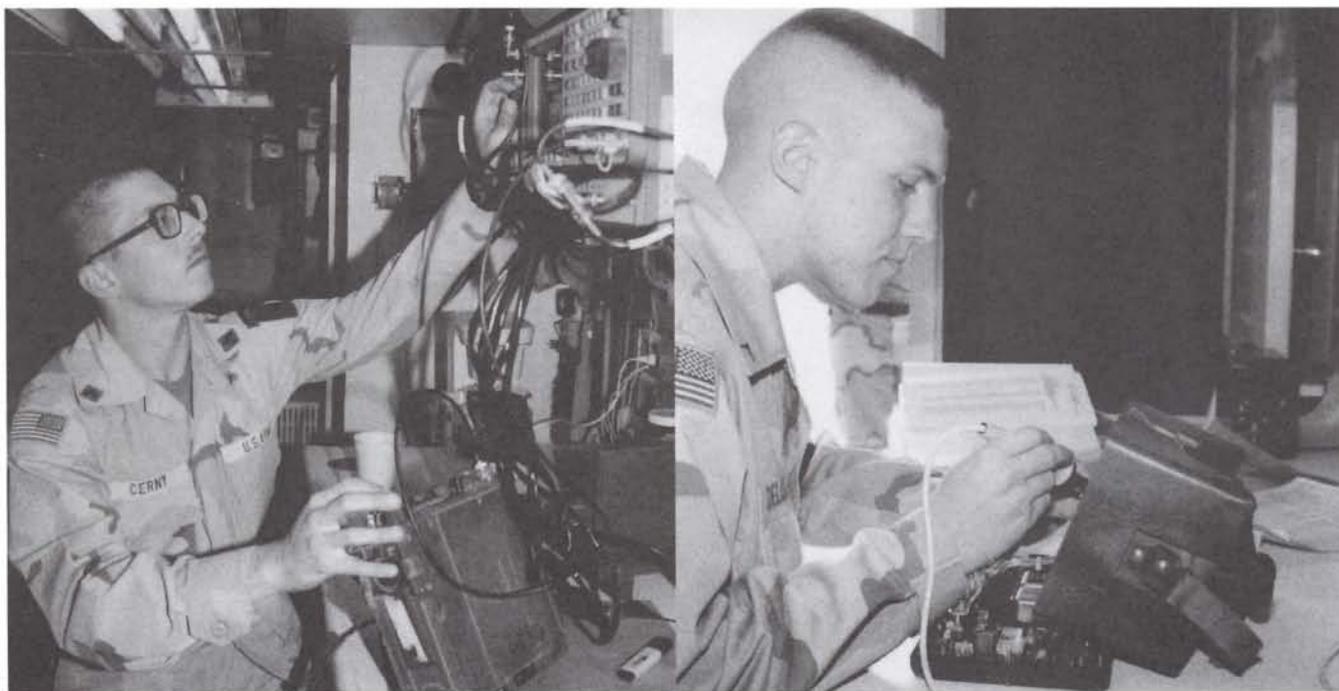
The 555th Maintenance Company conducted direct-support maintenance consistent with the Army Maintenance Concept explained in AR 750-1. The concept describes an Army maintenance systems that is mobile, flexible and responsive enough to keep up with the rapidly moving forces on the modern battlefield; capable of supporting the new, high-technology systems being fielded; and, through the use of modular replacements, able to support as far forward as possible.

Task Force 2-43 ADA's mission in Saudi Arabia required mobile, flexible and responsive maintenance support. Pre-deployment planning sessions prepared the 555th Maintenance Company for possible contingency support missions directed by the task force commander. To ensure battle readiness, we allotted a one-hour response time to all high-priority Patriot system faults. To

accomplish this, we placed the Intermediate Support Element on call at all times.

Although the maintenance company was not fully equipped to repair all newly fielded systems, the company did have ready access to civilian contractors. Cooperation between Patriot system contractors, logistic assistant representatives, the Battalion Readiness Center and the Shop Office made support for new, high-technology systems possible. For example, the Configuration-2 Patriot system software upgrade made the radar noise-detection system more sensitive. The Battalion Readiness Center and the 555th Maintenance Company's Shop Office and Intermediate Support Element worked with representatives from Raytheon, the prime Patriot contractor, to troubleshoot the problem and eliminate noise sources to meet the new tolerance.

A maintenance support team and highly mobile contact teams made it possible for the 555th Maintenance Company to support the task force as far forward as possible. We pushed the maintenance support team, manned by personnel from each support section, forward to Riyadh to



Sergeant Peter Cerny, left, and Private First Class Brian Delossier of the 555th Maintenance Company conduct equipment repairs.

# TASK FORCE

support the Forward Element of Task Force 2-43 ADA. The team occupied a recreational area in a corner of Eskan Village. It converted two basketball courts into an automotive bay and a Supply Support Activity dock. Placing the maintenance support team forward allowed the company to replicate its operations in two location.

In Dhahran and Riyadh, the company used contact teams to diagnose and isolate module malfunctions on mission-critical jobs. A team usually consisted of two or more soldiers with the necessary troubleshooting and repair equipment. Because of the terrorists threat in the area of responsibility, each team traveled in non-tactical vehicles. Although contact teams reduced the response time to repair pieces of mission-essential equipment, many jobs required repair tools or facilities available only at the 555th maintenance site. Thus, time required, mission criticality, and tools and facilities available determined the course of action for any job.



*Specialist Jeremy Harder overhauls an engine.*

## **Class IX Supply Operations**

Key to the success of the maintenance mission was the responsiveness of the Supply Support Activity. The activity was tasked to support both the Task Force Main and Forward Element with one consolidated authorized stockage list consisting of more than 2,400 lines. The Supply Support Activity was also responsible for the movement and distribution of Class IX parts from the aerial port of debarkation at Al Kharj.

Incoming parts could be processed and stored at Dhahran or Riyadh. The Dhahran Supply Support Activity, with a 2,400-line authorized stockage list, supported the Main Element, while the Riyadh Supply Support Activity, with a 500-line authorized stockage list, supported the Forward Element. The authorized stockage list was managed through the Standard Army Retail Supply System-Interim. At Dhahran, the Logistics Automation System Support Office used the Direct Support Unit Standard Supply System to cross-level the authorized stockage list lines at zero-balance and fill customer requests. When the Logistics Automation System Support Office was unable to fill a request within the 555th Supply Support Activity, the request went up to the corps-equivalent supply system at Kuwait City through the Standard Army Intermediate Supply Subsystem.

The 555th Maintenance Company's Supply Support Activity's success can be measured, in large, by two performance standards. First, the order-ship time was 2.75 days across both authorized stockage lists. In other words, there was an average of 2.75 days between the date a request for a non-back-ordered item is made and the date the receipt of that item was posted to the Supply Support Activity record account. Second, demand satisfaction, defined as the percentage of all valid demands for authorized stockage list items completely filled upon request, for the Forward Element Supply Support Activity stood at 95 percent, which was 20-percentage points above the Department of the Army objective set in AR 710-2.

The 555th Maintenance Company's Supply Support Activity had to plan and coordinate the transport of supplies by airfreight or line-haul from the Al Kharj aerial port of debarkation to Riyadh. Supplies entering the area of responsibility at Al Kharj could be flown to Dhahran or driven to Riyadh. The Main Supply Support Activity processed supplies destined for Dhahran and lined-hauled other parts to the Forward Supply Support Activity at Riyadh. The Forward Supply Support Activity processed

parts dedicated to customers in the Riyadh and Al Kharj area and line-hauled other parts, when necessary, to the Forward Supply Support Activity in Dhahran. The forward Supply Support Activity averaged three line-haul round trips between Dhahran and Riyadh a week. In all, the company's truck drivers logged an average of 1,800 miles per week.

### **Obstacles and Solutions**

In accomplishing its mission in Saudi Arabia, the 555th Maintenance Company encountered three obstacles that did not exist at its home station: How do you support a Patriot task force when you lack all the required tools and facilities? How do you assume a line-haul mission? How do you coordinate support between the Company Main and the Maintenance Support Team?

Because of split operations, the company was not able to allocate all of its equipment assets to a single location. Therefore, the Main and the Maintenance Support Team had to support the ADA mission without all the required tools and equipment. For instance, the modified table of organization and equipment authorized the company one 10K forklift, which was heavily utilized by the Company Main in Dhahran. To compensate for the lack of a forklift, the Maintenance Support Team coordinated with the Air Force Transportation Office, which agreed to dispatch a forklift as demands surfaced. The forklift arrangement was only one of many examples of ways that close coordination and complete cooperation with other units in the area of responsibility were necessary to accomplish the maintenance mission.

Another challenge that faced the company as it assumed the support mission was the line-haul requirement associated with the transport of Class IX parts. As a rule, maintenance companies in the continental United States rarely conduct line-haul missions on a regular basis. To effectively execute line-haul missions, the company cross-trained its attached transportation specialists, i.e., truck drivers, with Supply Support Activity personnel. Supply Support Activity leaders worked with the task force transportation officer and the company truck master to establish efficient line-haul schedules.

A third obstacle that confronted the company was coordinating maintenance and supply assets between the Company Main and the Maintenance Support Team. In a few low-density military occupational skills, the company had only one soldier stationed at Dhahran. There,

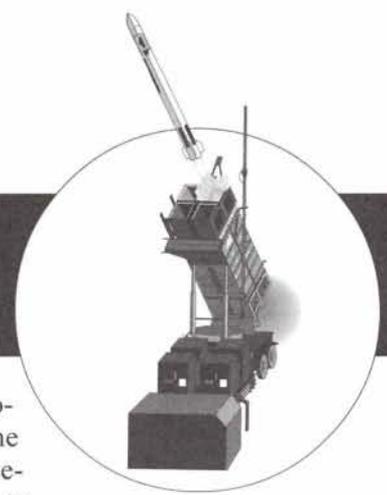
certain jobs required coordination between the Main and the Maintenance Support Team to transport either NMC equipment to the repairer or the repairer to the equipment. For example, the company had only one mechanic qualified to repair forklifts. When a forklift located at the Al Kharj Patriot site became non-mission capable, the company sent the mechanic to Al Kharj to make repairs. In another instance, when a radar in Al Kharj became non-mission capable, the task force electronic missile maintenance officer at Riyadh coordinated with his counterparts at Dhahran and the 555th Main and the Maintenance Support Team to perform an operational readiness float transaction with a float radar located at Dhahran. The entire operation took less than two days and resulted in a operational radar at Al Kharj.

### **Future of Logistics and Maintenance Support.**

The efficiency of logistic and maintenance support in Southwest Asia should improve in the future. The Standard Army Retail Supply System-Objective will be fielded within a year. The significant difference between the interim system, currently in place, and the objective system is that the objective system features total asset "visibility." Once the objective system is in place, the Riyadh and the Dhahran Supply Support Activity will be able to search all Supply Support Activities in the area of responsibility that are equipped with the new system to fill customer requests before resorting to the next higher source of supply. The objective system will improve order-ship times.

Plans are also being prepared to build a permanent maintenance facility in the Riyadh area. With fixed overhead cover, temperature-controlled work areas and a larger ammunition supply storage area, productivity should improve greatly.

Supporting Patriot task forces in Saudi Arabia offers direct-support units many exciting challenges. To accomplish the mission of supporting split Patriot task force operations, rotational direct-support units must meet these challenges by continuously employing innovative support techniques.



---

*First Lieutenant Ling Rothrock is the executive officer of the 555th Maintenance Company, Fort Bliss, Texas.*

# TASK FORCE



## TRANSPORTING TASK FORCE 2-43

### *Getting There Is Half The Fun*

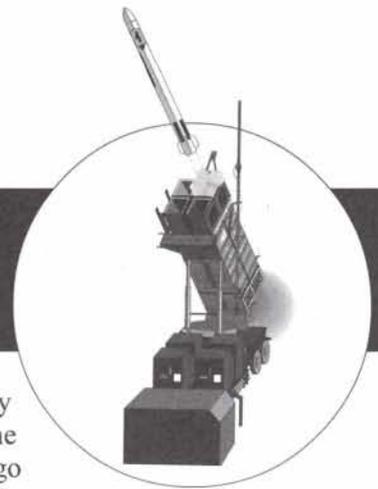
It's often said that "getting there is half the fun," but I suspect the people who repeat the adage have never been responsible for moving a Patriot task force from the deserts of the American Southwest to the deserts of Southwest Asia. As a Transportation Corps officer assigned as an augmentee to Task Force 2-43, I was responsible for deploying an amalgamation of 750 soldiers on three commercial L1011s, along with two C-5s and one C141 carrying Patriot command and control equipment. Careful planning with the help of the battalion unit movement officer, Sergeant First Class James Lussier, was critical to the successful and safe deployment of our task force without any major road blocks. I handled all tasks from the brigade level to the installation agencies while Sergeant First Class Lussier coordinated all battalion-level tasks.

Our advanced party consisted of 140 personnel, an antenna mast group, battalion tactical operations center, information and coordination central, shop van, integrated sight unit 90s, nuclear-biological-chemical equipment and enough office supplies to get us started and sustain us through the deployment. I departed on the first

advanced party C-5 so I could begin my transition with the outgoing task force's transportation officer. Once on the ground I began to learn everything I had read about in the continuity book I received after our second site survey. I started to integrate with the G-3 Air for U.S. Army Forces Command-Southwest Asia (ARCENT-SA) Air and the ARCENT-SA G4-Transportation staff officers. Basically I observed operations for Main Body 1. Arrangements for Main Body 2 was a joint effort between both task forces, and I got to add a bit of planning to the deployment process.

When Main Body 2 arrangements were complete, I felt confident that I could do the mission. I learned a very important lesson: an excellent benchmark to measure whether you were successful at your job is if you were able to train yourself out of a job and then take a step back and watch your replacement continue the mission without missing a beat.

I officially assumed operations responsibilities with the C-141 cargo flight. We received all of our crew-served weapons with the remainder of all of our equipment and had the majority of the personnel on the ground. Helping



coordinate Main Body 2, as well doing all the coordination on the cargo flight, really prepared me for Main Body 3 operations. My success was largely attributable to my predecessor's training himself out of a job and me into his job. Once Main Body 3 was on the ground, I was very confident that I could move anything in Saudi Arabia by any mode.

Once in country, my duties changed quite a bit. My missions included redeploying the Infantry Security Force, 2nd Battalion, 187th Infantry ("Rakasans"), 101st Air Assault Division. I established a long-haul plan, coordinating C-12 and C-130 flights and operations center operations. With six 88M truck drivers we had brought with us, we moved all types of cargo ranging from perishable medical supplies to Patriot repair parts a total of 50,000 accident-free miles. This was a testament to professional NCO's such as Staff Sergeant Debra Hanna, our truck master, and Staff Sergeant Roger Phillips, the 555th Maintenance Company's first sergeant. Under their professional leadership, this task force helped Task Force 2-43 ADA maintain a very high 90-percent readiness posture by moving parts anywhere in the theater and installing them on Patriot equipment in one day or less.



ADA's planners carefully tailored Task Force 2-43 ADA's deployment to Southwest Asia to accommodate soldier requirements. At top, Lieutenant Colonel Thomas W. Williams leads Task Force 2-43 ADA down the ramp upon its return to Fort Bliss, Texas.

# TASK FORCE

These innovative leaders put drivers in civilian trucks rather than tactical vehicles to prevent them from being targeted by terrorists and attacked on public roads. Their drivers maintained these civilian trucks to fully mission capable military standards.

Task Force 2-43 ADA spearheaded the fielding of the third-generation Guardian satellite tracking system. Our task force vehicles were tracked by satellite as they traveled between Dhahran, Riyadh and Al Kharj. The Guardian gave them a panic button to push, letting everyone in the theater with a satellite tracking monitor know they were experiencing difficulty. When the panic button was pushed, it would not allow the monitor we had installed in the Riyadh Operations Center to make any inputs until the message was acknowledged. It also sent out a computerized telephone message that kept calling until the phone message was received; plus it instantly emailed short messages to key personnel to keep them abreast of the situation. Topping off all of these warnings, it sent a facsimile message to alert both of the task force's operation centers to alert them to any pending problems. The Guardian also offered email transmission via satellite.

Soldiers equipped with a Guardian could send or receive an email message to anyone on the planet! One of our driver teams, which had a flat while long-hauling supplies from Dhahran to Riyadh, emailed this information in to the Riyadh Operations Center. Our contact team delivered the needed repair parts and tools to get our truck back on the road. While we were in Southwest Asia, we also armored all of our long-haul tractor-trailers to further protect our long-haul drivers so they could safely continue delivering supplies. C-130 aircraft, which made three trips a week, transported perishable food supplies. Between the C-130 flights and the long-haul trucking operations, we were more than able to sustain operations, even when one mode of transportation was temporarily down. Sergeant First Class Linda Terry, Staff Sergeant Robert Wade and Staff Sergeant Pearl Winkey utilized their vehicles and some ARCENT-SA G-4 transportation vehicles to transport our monthly food supplies from the Dhahran aerial port of debarkation to the Eagle Town dining facility.

The C-12 executive aircraft kept all VIPs and task force personnel on the move. Lieutenant Colonel Thomas W. Williams, the task force commander, used the aircraft to rapidly move his commanders and staff around for task force meetings, future Patriot site surveys in Kuwait and troop inspections. When general officers wanted to visit

the Patriot sites, the task force commander was able to roll out the red carpet in style, offering executive flights to high-ranking Army and civilian leaders. The C-12 proved a highly useful asset throughout the rotation, transporting key players where they were needed most when they were needed most.

Redeploying this highly dedicated and very professional task force back to Fort Bliss, Texas, was as challenging as deploying the task force to Southwest Asia. Working under Lieutenant Colonel Williams' guidance, Major Joseph Pouliot put together a synchronized matrix that meticulously pulled all the movement pieces together in one concerted effort. Our redeployment was a joint effort from three major parties: ARCENT-SA, Task Force 2-43 ADA and Task Force 1-7 ADA, the replacement Patriot task force. We all put our heads together and discussed everything from specific dates to exactly when to phase each and every person into and out of Southwest Asia. We initiated the process by supplying a very detailed manifest denoting each individual soldier, his or her job description, rank, unit and final destination in Saudi Arabia. We met the special needs of our soldiers with newborn children or family situations by sending them home on the initial flights without any disruption to the transition. These soldiers were identified and taken care of early in the redeployment. We knew what rooms to assign each person once they arrived in country.

Once both advance party C-5s arrived, we met our counterparts, and after a day of badly needed rest, I began to train myself out of a job. We had 42 C-130 sorties prepared to support our operations. Once the deployment and/or redeployment operations commenced, they continued at a very fast pace as we worked to meet every time schedule. Each deployment felt like a marathon operation. Through the hard work of Sergeant Major Roger Freeman, Task Force 2-43 ADA's command sergeant major, in Riyadh, my efforts in Dhahran, the labor of many others and the support of the command and staff, we put together an outstanding plan that ensured a very safe redeployment back to the United States. Trying to get telephone calls through to Riyadh was a challenge each and every day, but with the help of all the battery commanders and first sergeants of both task force, we were able to make each phase a resounding success. When we reached Main Body 3, I was able to take a step back to observe and coach my replacement from Task force 1-7 ADA, who did an outstanding job.



I did not realize just how important a school-trained transportation officer was to Patriot's mission until I got my feet on the ground. I remained busy until the day I left, ensuring all transportation operations were taken care of. I was also given the opportunity to work as an operations center officer-in-charge, watching the skies and doing my part to defend against the air threat. Working with soldiers in the Patriot operations center gave me a new respect for Patriot units and a keen appreciation for just how hard Patriot soldiers work on a daily basis. Not only was I able

to do my job, but I learned some new skills that I have incorporated into plans to better logistically support Patriot operations. If it were not for the help of key players in our forward element who assisted me with detailed coordinations in Riyadh, ensuring our movements went smoothly during the operation would have been extremely difficult for one person to handle. Staff Sergeant Junard Alsop, a Patriot launcher station enhanced operator/maintainer who worked out of the S-4 shop, traveled from Dhahran to Riyadh to help put together an outstanding plan under the guidance of Major Bruce Russell and Sergeant Major Freeman.

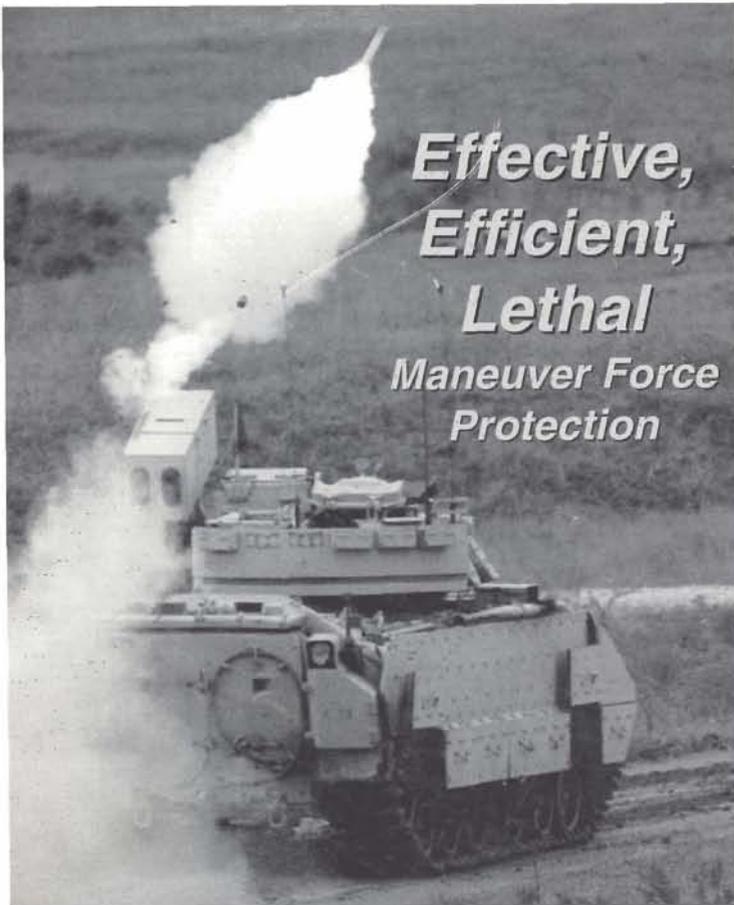
Successful operations required extensive team work, flexibility, and patience. I was proud to be a part of a world-class command and staff whose underlying theme was dedicated teamwork. If it weren't for the help of each and every soldier, NCO and officer, the transportation officer's job would be next to impossible. This was my second deployment, and the best deployment I have ever had the honor and opportunity to be a part of. If I were given the opportunity again, I would deploy back to Southwest Asia with 2-43 ADA without a second thought.



**First Lieutenant Michael A. Smith** served as Task Force 2-43 ADA's transportation officer.



*Mission accomplished, Task Force 2-43 ADA celebrated its Fort Bliss homecoming with rituals of reunion as ancient as warfare.*



*Effective,  
Efficient,  
Lethal  
Maneuver Force  
Protection*

# Bradley Linebacker

## Mission

The Bradley Linebacker provides mobile, short-range air defense (SHORAD) protection to heavy maneuver forces, including heavy divisions and armored cavalry regiments.

## Characteristics

Chassis:	Standard Bradley Fighting Vehicle.
Armament:	4 ready Stinger missiles 25mm cannon
Sensors:	FLIR/TV/Optical.
Communications:	EPLRS/SINGARS.
C <sup>3</sup> Link: hand-	FAAD C <sup>3</sup> via simplified held terminal unit (SHTU).

## When Second Best Won't Do For Force XXI

The **Bradley Linebacker** is the Army's first successful warfighter rapid acquisition program (WRAP) system and it will fight on the Force XXI battlefield. Based on proven components from the Avenger and the Bradley Fighting Vehicle, the Linebacker is the first weapon system to give true mobile air defense protection to the heavy maneuver force. With its shoot-on-the-move capability coupled with slew-to-cue (STC) technology, the Linebacker is capable of killing the broadening spectrum of 21st century threats, including cruise missiles (CMs) and unmanned aerial vehicles (UAVs). With Bradley Linebacker, the Force XXI soldier is more effective, more efficient, and more lethal.

**FORCE**



**XXI**

# Air Defense Artillery

TSM-SHORAD Fort Bliss, Texas (915) 568-6546 DSN 978-6546