Operation *Anaconda*
Lessons for Joint Operations

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Executive Summary

Operation *Anaconda*, conducted in the Shahikot Valley of Afghanistan during early March 2002, was a complex battle fought in rugged mountainous terrain under difficult conditions. The battle ended as an American victory at the cost of eight U.S. military personnel killed and more than 50 wounded. But the difficult early stages of the battle provide insights for thinking about how to organize, train, and equip U.S. forces for future joint expeditionary operations and how to pursue transformation.

Intricate and exact details of the battle are hard to determine, as often is the case when participants have differing memories and insights. Post-facto observers derive differing interpretations from the same information, while newspaper accounts sometimes report wrong information about the particulars. Because "truth" is a function of one's angle of vision, this battle will be debated for a long time, and interpretations of its lessons will remain controversial.[1]

Anaconda did not conform to theories of information-age battles. It was conducted at a time when U.S. military operations in Afghanistan were undergoing a transition. Earlier, the U.S. ground presence had been limited largely to special operations forces, which worked with friendly Afghan units and helped spot ground targets for U.S. air strikes. By contrast, Operation *Anaconda* marked the initial use of U.S. Army battalions performing ground maneuvers against enemy forces that required significant air strikes in supporting ways. At the time, the U.S. joint military presence and infrastructure in Afghanistan were not fully mature for these new operations. This situation, coupled with the congested and difficult terrain of the Shahikot Valley, played a major contributing role in the problems experienced during *Anaconda's* initial days.

U.S. forces in Operation *Anaconda* were commanded by Task Force (TF) MOUNTAIN, which was established by the 10th Mountain Division. Seen in hindsight, many of *Anaconda's* problems stem from a key triggering mechanism: the breakdown of TF MOUNTAIN's battle plan and preparedness scheme on the first day. Historians may debate whether TF MOUNTAIN was trying to do too much with too little and made questionable force employment decisions, or instead was victimized by a cascading sequence of improbable events that would have strained any battle plan. Both explanations seem partly true. Regardless of the causes, U.S. ground and air forces were compelled to fight a different battle than anticipated, and they initially did not possess the full assets needed. Had TF MOUNTAIN anticipated the battle actually fought and made command decisions accordingly, both the ground and air forces doubtless would have been better prepared from the onset and would have won the battle more quickly.

Yet, analyzing *Anaconda* involves more than fingering a battle plan and initial command decisions that went awry. While an obvious lesson is that the U.S. military should strive for better performance in this arena, valuable additional lessons can be learned by identifying *why*

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[1] This paper is based on a series of workshops and interviews with participants in Operation *Anaconda*, from commanders to non-commissioned officers. We have chosen not to footnote individual comments because they come from serving officers.

this plan went awry, *why* initial U.S. forces operations were not as effective as desired, and *how* they rapidly assembled the assets and operations that ultimately brought victory. An adage attributed to 19th century German Field Marshall Helmut von Moltke holds that no battle plan survives initial contact with the enemy. Analyzing the lessons of *Anaconda* in these areas may help U.S. forces be better prepared for surprises next time.

The U.S. battle plan for *Anaconda* employed forces, tactics, and procedures that reflected earlier successful experiences in Afghanistan. The early stages of the battle, however, produced stronger enemy resistance and a more adverse combat environment than expected, and major adaptations had to be made to the initial plan. In particular, joint air forces had to be quickly called on to provide a large volume of close air support**.** Because such changes had not been expected or prepared for, U.S. forces initially had some difficulties integrating their service-component actions into true joint operations; allied contributions and agency cooperation were also lacking. The battle was predicted and planned to last 2 to 3 days. In the event, U.S. forces adapted repeatedly and achieved their goals over 14 days.

The early frustrations of *Anaconda* were partly caused by events beyond the control of U.S. forces. Nevertheless, the U.S. joint command structure in Afghanistan was not well established, and the gears of U.S. joint force operations did not mesh well in the initial stages of the battle. For these and other reasons, the lessons of *Anaconda* should be taken seriously, with regard to both what went right and what went wrong. *Anaconda*, of course, should be kept in perspective. It was one brigade-size battle, not a full war. After *Anaconda*, the U.S. military made improvements aimed at preventing its problems from reoccurring. One year later, the U.S. military waged a major theater war (MTW) against well-armed Iraq and employed joint operations to win quickly a stunning victory during the phase of major conflict operations. While the lessons of Operation *Iraqi Freedom* have not yet been determined (as of this writing), they will need to be fully taken into account in ways that integrate the lessons of *Anaconda* into a broader appraisal of contemporary U.S. force operations.

Both conflicts show that joint expeditionary warfare in the information age requires great U.S. military skills at the operational and tactical levels. *Anaconda* shows that, while these skills already exist in major ways, an approach to joint operations and transformation aimed at making continuous improvements will remain necessary. DOD needs to ensure that effective forward command structures are created, battle planning is truly joint and adaptive, committed forces are fully prepared and jointly trained, ground and air fires are properly integrated, and transformation is carried out with sound operational concepts in mind.

Equally important, the fact that *Anaconda* ended victoriously reaffirms the importance of continuing to equip U.S. ground and air forces with potent weapons, C4ISR systems, and other assets. Modern weapons and information systems were employed to considerable advantage during *Anaconda*. Their presence played a major role in the victory; had they been absent, the battle might have taken a less favorable course. The need to ensure that U.S. ground and air forces remain properly armed for future battles, including against well-armed enemies, is a compelling reason for pursuing the modernization plans and other improvement programs being sought by DOD and the services. The bottom line is that *Anaconda* was a victorious battle that

was won by ground and air forces working together under surprising, adverse conditions. The reasons why it was won deserve to be remembered as transformation unfolds.

Purpose of Study

This study is not an official history of *Anaconda* but an analysis of lessons that can be learned from that battle and applied to future joint operations. It is a product of lengthy preparations aimed at making it as accurate, insightful, and useful as possible. Initially, the Center for Technology and National Security Policy (CTNSP) at the National Defense University (NDU) prepared a draft based on available written material. Then, CTNSP held a series of roundtable discussions with knowledgeable, field grade officers from the Joint Staff, the Army, and the Air Force, many of whom participated in the battle, as well as with several NDU students and faculty members. After their insights were absorbed, CTNSP held an all-day conference with these individuals and other experts. Detailed discussions also were held with commanding officers of *Anaconda* forces. The Army, Air Force, and U.S. Central Command (CENTCOM) were invited to review the draft and many of their comments were incorporated.

This study's intent is not to criticize, but instead to offer observations for joint operations, multinational operations, and expeditionary warfare in austere settings. Although all U.S. forces fought well during *Anaconda,* setbacks did occur at the beginning. This battle was a departure from the way that U.S. forces were intending to fight. Eventual success followed as participants learned and adapted to the situation. Issues concerning initial setbacks and their implications merit careful analysis. The observations on complex tactical battles in austere settings, during which things unexpectedly go wrong and U.S. forces must adapt quickly to initial misfortune, are critical to improving future joint operations.

While this study focuses primarily on early frustrations of the operation, a fair-minded appraisal must include the positive observations on practices that DOD should sustain. During the 1980s, the Russian military fought two similar engagements in the Shahikot Valley of Afghanistan and was badly defeated both times. Apparently, al Qaeda was aiming for a similar victory. Although U.S. forces struggled at first to handle a surprising situation when allied Afghan forces failed to perform critical missions, they adapted faster and better than could have been done by any other military. By the end, American forces had effectively integrated joint operations between ground forces and air forces. Ultimately, U.S. objectives were met: U.S. forces killed many al Qaeda fighters and drove the remainder from the Shahikot Valley.

How the Battle Unfolded

An anaconda is a large constricting snake of the boa family that coils around its victim and crushes it to death. Thus, Operation *Anaconda* was appropriately named. Military planners conceived the idea of surrounding the Shahikot Valley with several concentric rings that would block enemy entrance to and exit from the valley. Within the valley, the inner ring was to take the form of a classical hammer-and-anvil operation to destroy al Qaeda fighters located there.

Before the battle, the U.S. intelligence estimate that was used for battle planning was based on ambiguous information and significantly underestimated the total number of al Qaeda fighters

and misconstrued their tactics. As the battle unfolded, an early removal of friendly Afghan forces (the hammer) compelled U.S. forces to modify their tactics and discard the hammer-and-anvil tactic. Withdrawal of the friendly Afghan forces removed about 50 percent of *Anaconda*'s planned ground forces for the valley battle and exposed U.S. ground forces to the enemy's full blows. Al Qaeda declared jihad on the first day, and its forces subsequently were reinforced by fighters from outside the Shahikot Valley. In addition, bad weather prevented insertion of approximately half of the U.S. Army infantry forces planned for the first day. The remainder arrived by the next day. Further disruption occurred when planned interdiction strikes by the U.S. Air Force were halted because special operations forces (SOF) were present in the area. All these factors were compounded by the fact that besieged Army infantry forces and SOF (the anvil) initially lacked enough organic firepower and air support to complete the mission successfully, resulting in more casualties than anticipated.

Additional air support from the air component (Air Force, Navy, and Marine forces) was committed, but, at first, close air support (CAS) and other airstrikes were constrained by the lack of anticipatory pre-battle joint planning. Multiple other constraining factors were also at work, for example, proximity to SOF, a confused ground picture, and a modified operation that levied unanticipated requirements on an air posture and air command architecture that was not fully prepared for the intense, simultaneous CAS missions of the initial battle. In addition, mountainous terrain adversely affected all components and made identifying and striking targets more difficult. Lateral, vertical, and horizontal command and control (C^2) and forward air controller (FAC) procedures sometimes did not work well. Enemy tactics and mobile targets were aimed at diluting the effectiveness of U.S. ground and air fires. While emergency close air support strikes were conducted quickly, the stringent Rules of Engagement (ROE) and misunderstandings flowing from it sometimes resulted in a time-consuming process for gaining CENTCOM permission to strike other enemy targets during the initial three days. Afterward, this particular problem was resolved through modifications in command and control procedures and in how the ROE were applied.

On the positive side, U.S. air forces flew about 65 combat sorties per day, were aided by up to 200 combat support aircraft, and delivered sizable munitions with effect throughout the 2-week engagement. In addition, air assets were effective at sustaining logistical requirements and reinforcing TF MOUNTAIN's forward staging base at Bagram Airfield, Afghanistan. These air operations played a major role in ultimately securing control of the Shahikot Valley. Ground forces fought bravely, quickly adapted to enemy tactics and the challenging conditions, and, working jointly with air forces, eventually overwhelmed enemy forces. After *Anaconda*, the U.S. military made changes that addressed the problems encountered with ground and air operations, including emphasis on integrated joint planning from inception onward. The result was better preparedness for subsequent battles, including Operation *Mountain Lion*. From then onward, the enemy sought to avoid pitched battles with U.S. forces that transparently were capable of defeating them.

Anaconda thus was a battle that began with one tactical plan that had to be quickly adjusted to fight the enemy and adapt to the evolving combat environment. While tactical adaptations to initial plans are a regular feature of war, the substantial changes that took place during *Anaconda* probably exceeded the norm. The original plan was dominated by U.S. and allied ground

maneuvers assisted by 2 to 3 days of limited support from air forces. The executed plan featured fewer allied ground forces, an increase in air support that included strikes in and around the Shahikot Valley, and a resulting air-ground effort that lasted nearly 2 weeks. The frustrations encountered mainly took place during the period when this transition was being made. (A time line for *Anaconda* is presented in Appendix I. A list of specific problems encountered during *Anaconda* is provided in Appendix II.)

Key Lessons

The lessons of *Anaconda* for joint operations fall into six categories, each of which has several subordinate lessons, as developed below. These six lessons are based on valid general principles. The U.S. military needs to improve in all six areas as it prepares for future battles and joint expeditionary warfare.

Lesson 1. Joint forces must continue to improve efforts to create unity of command, joint command structures, forward-deployed joint staffs, and joint planning processes for expeditionary operations.

For expeditionary warfare, joint operations using a robust combination of all service components and SOF will be the norm. Unity of command and a properly equipped joint C^2 structure, with robust networking and interoperable assets, are necessary. Forward-deployed joint staffs, with appropriate delegated authorities, are needed. *Anaconda* shows that challenges will arise when trying to execute a distant war from a displaced headquarters with a fragmented on-scene command staff that lacks unity of command yet tries to engage in demanding joint operations. In theory, modern information networks enable combatant commands to control key aspects of force operations at long distances. However, there is still a requirement for a forward C^2 structure that ensures proper resources are deployed, situational awareness is maintained, and tactical operations are conducted effectively. While air and naval forces arguably can be commanded and controlled from long distances, demanding ground force operations involving complex tactical maneuvers and intimate air-ground coordination may be another matter.

The need for joint forward C^2 staffs is important in the early stages of a U.S. force intervention, especially where missions and operations are steadily expanding. Force commanders must have adequate authority over the joint forces employed in battles. Clear-cut command structures and command relationships must be established and understood by participating component units to ensure proper integration and compliance with planning directives. Although one service component may have the primary lead in crafting the concept of operations, the battle planning process for joint operations must be truly joint, involving the full participation of each of the functional or service components that furnish needed capabilities. In future battles led by ground forces, the combined forces land component command (CFLCC) and the local commander must coordinate closely, and they must involve the combined forces air component command (CFACC) and other air component staffs in joint decision-making. Each of the functional or service components participating in the operation must be included at the start of the planning process in the ways needed for all of them to carry out their missions in the joint battle. *Anaconda* shows that improvements are needed to ensure integration of joint forces. Recent advances, such as creation of Deployed Joint Task Force Augmentation Cells (DJTFAC) or a

Standing Joint Force Headquarters (SJFHQ), with a forward-deployable staff, may significantly contribute to the effectiveness of combat command execution of combat missions.

Lesson 2. Accurate intelligence estimates, well-constructed battle plans, and jointly prepared branches and sequels (adaptive plans), which continue to be critical for successful joint combat operations with small mobile forces, remain a necessity.

Accurate threat estimates, well-constructed joint battle plans, and jointly prepared adaptive plans for unexpected developments are needed because they can spell the difference between failure and success. While these observations are true for virtually all battles, *Anaconda* helps illuminate their continuing importance in the Information Age. *Anaconda* shows how problems in initial intelligence estimates and tactical plans can have blossoming effects on the battlefield. *Anaconda* also shows that providing adaptive plans with the full resources needed to carry them out is imperative. Integrating all-source intelligence to get better threat assessments, and understanding how the enemy can employ asymmetric tactics are vital to the small, mobile U.S. force operations often pursued in expeditionary warfare. Dispersed force operations are key components of evolving battlefield doctrine, yet *Anaconda* suggests that U.S. forces will encounter challenges if they do not quickly fracture enemy cohesion and if they do not profit from tight integration of air and ground fires needed to ensure proper maneuvers. Equally important, assembling required resources, properly tasking organizing forces to carry out the mission, getting the air-ground interaction right, and coordinating conventional-SOF integration are keys to winning such battles. To the extent that *Anaconda* foreshadows future challenges, improvements are needed both in developing joint plans for such battles and in ensuring that these plans can be altered quickly by local commanders when the situation requires.

Lesson 3. U.S. Joint forces need improvements in conducting integrated air-ground operations in such battles. Improvements are needed in creating a common understanding of joint force employment concepts, establishing effective information networks and joint communications systems, as well as in ensuring appropriate command and control of airstrikes in support of ground force operations.

Operation *Anaconda* shows that the joint command structure should distribute authorities and responsibilities so that operational and tactical decisions are made effectively; a sound balance must be struck between centralized control and decentralized execution. Modern information networks do not eliminate problems in communicating between command staffs and committed forces. *Anaconda* also illustrates the importance of establishing a proper C^2 system for handling airstrikes, including CAS, in support of ground operations. During *Anaconda*, the air component and the ground component interpreted differently the processes to be employed for close air support, interdiction, and time-sensitive targeting, even though joint doctrine provides authoritative guidance in this area. Some airstrikes against targets had to be vetted through CENTCOM to ensure ROE enforcement, thereby delaying their timely effectiveness. Likewise, some ground commanders failed to grasp the discretionary authority given to them when they had visual sight of targets, thereby resulting in their seeking CENTCOM authority when they could have authorized strikes on their own. Future joint force operations must be guided by a common understanding of how airstrikes, including CAS and interdiction, can best be conducted for difficult battles in congested spaces.

In addition, CAS may require unique assets that differ from interdiction, and these are best assembled and allocated before battle begins, not improvised or brought into the theater as battle is underway. Because CAS and interdiction will play a role in future expeditionary warfare, deploying U.S. forces must be tailored for both missions. Owing to advances in technology, the elaborate air architecture of the Vietnam War is no longer needed. For example, fighter pilots today can perform many of the functions previously performed by the airborne battlefield command and control centers (ABCCC) and airborne forward air controller (FACs). Even so, reliable command, control, and communications (C^3) systems and FAC assets remain important to CAS. Ground FACs require a full complement of global positioning system (GPS) assets, laser target designators, and maps. Army fire support personnel should be closely linked with air liaison officers (ALOs) while having a well-developed procedure and capacity to call for CAS strikes themselves in an emergency. Ground and air forces should develop a clear understanding of how CAS and interdiction strikes are best integrated to provide the effects desired by the commander. In particular, *Anaconda* showed that in modern mobile battles, interdiction strikes against fleeting targets may be conducted close to U.S. ground forces. Prompt authority to conduct them and adequate graphic control measures can be important to success.

Lesson 4. U.S. forces in battle require adequate mission orders, rules of engagement (ROE), and associated fire restrictions that give clear guidance and exert proper controls while providing force commanders the authority and latitude to execute their missions.

Mission-type orders can clarify joint battlefield goals and actions, while providing for a proper balance of centralized direction and decentralized execution. To the extent possible, a common understanding of complex ROE, as well as other guidelines for fires and operations, must be established before battles begin, not as they are unfolding. Such measures help exert proper controls while giving force commanders necessary latitude and reducing delays in gaining fire authorization from central command staffs. Improvements in these areas can lessen many of the frustrations encountered during the first 3 days of *Anaconda* and reduce the risk that unwise constraints will delay prompt fires against critical targets.

Lesson 5. Joint forces must be fully equipped and jointly trained for impending combat operations and (to the extent possible) surprises. Multilateral operations with allies must be well construed. Joint forces must understand the implications for training, equipping, and operating forces.

For many reasons, manpower and force caps likely will be a regular feature of future joint expeditionary operations and limited wars in austere settings. Scalability and tailoring, in fact, are desired capabilities within the joint force. *Anaconda* shows that tactical commanders should adopt battle plans that can be carried out with the forces at hand. Yet *Anaconda*'s problems also show that commanders must still retain the ability to build the required forces based on mission analyses of the best ways to defeat an enemy. Ground forces and air forces lose capability if key assets are withheld, widely distributed geographically, or not deployed to the area of responsibility (AOR). Even if battle plans and adaptive plans are well constructed, they may not accomplish their objectives if the forces intended to carry them out are not fully equipped and prepared. Multilateral operations will also be a key feature of such operations, but the *Anaconda* experience with friendly Afghan forces that withdrew from the battle shows care must be taken

to ensure that allied and friendly forces are reliable and capable of performing assigned missions. Close training with allies and coalition partners can help ensure that they have the necessary tactical capabilities for operating with U.S. forces.

In close-combat battles, the ground commander sometimes requires responsive, persistent, all-weather fires on a 24/7 schedule. This especially can be the case when U.S. ground forces are surrounded by an attacking enemy and cannot dictate the course of battle. Current U.S. joint doctrine calls for a mutually supporting blend of ground fires and air-delivered fires, and *Anaconda* showed that, at a minimum, one of these fires must be present in adequate doses if the other is lacking. During *Anaconda*, the absence of Army artillery and additional mortars reflected tactical choices as well as lack of greater helicopter lift support. The effect was to put added pressure on the air component to deliver a higher volume of fires than originally anticipated. It also compelled the air component to overcome constraints to perform missions that may have been more easily performed by Army organic fires. For most battles, a properly balanced *combination* of ground and air fires will be needed, although the exact mix will vary as a function of the situation. A key problem during *Anaconda* is that in the initial days, the former was lacking and the latter was not fully prepared in advance to make up the difference.

Operation *Anaconda* suggests that the Army faces a challenge in ensuring that its light forces will be sufficiently well-armed and agile for such encounters. When dismounted infantry is used, it must have adequate fire support and radars for directing counter-battery mortar fires and must be equipped with adequate radios and communications systems, with multiple channels and broad bandwidth, for long-haul communications and direct access to aircraft performing CAS missions. Most ground operations also need artillery support and backup reserves, including attack helicopters, armor, and mechanized assets. During *Anaconda*, additional heavy mortars and a few artillery tubes, with the cargo helicopters to lift them, could have made a big difference by greatly enhancing the firepower of the ground forces. Their absence owes mainly to the caps on AOR manpower and equipment at the time as well as to the inability of lift helicopters to function with full effectiveness at high altitudes.

Likewise, the Air Force, Navy, and Marines face a challenge in ensuring that their committed forces are sufficiently resourced with agile assets to permit responsive changes and are well trained for joint operations involving integration of air-ground fires. During *Anaconda*, the air component re-rolled air assets from interdiction to CAS, and vice versa, and had the capacity to generate more sorties using aircraft assigned to Southwest Asia. Still, there were impediments to more rapid delivery of ordnance, including C^2 architecture, ROE issues, horizontal and vertical communications, interoperable radios, proximity of friendly forces, lack of airborne FAC (FAC–A), and more. The air component must be able to surge quickly additional sorties armed with the right munitions, concentrate airstrikes at critical places, and ensure FAC procedures are capable of delivering effective CAS strikes. Additionally, all components should ensure that when key personnel are scheduled for normal rotation, their tours are extended to cover contingency operations. During *Anaconda*, some key personnel were removed at key junctures, resulting in inexperienced replacements.

Special operations forces face the challenge of conducting demanding operations directed by higher authorities that are thoroughly integrated with the overall effort and keep conventional

forces fully informed. This applies to both military and other SOF assets and operations. Joint doctrine must more thoroughly address command, control, and employment of SOF in increasingly integrated battlespaces. Clearly, SOF forces can greatly help ground and air forces perform their missions, and vice-versa. But for this goal to be accomplished, SOF forces must be integrated into the overall joint battle plan and commanded accordingly.

For all services, fast-paced joint operations in the information era require well-honed skills that can be developed only through joint training and exercises, including exercises involving air-ground integration of fires. U.S. military training is already joint in many respects. *Anaconda* suggests that adding rigor to current joint training practices at training centers and in exercises would help to foster the special tactical skills needed for joint expeditionary warfare. Strengthening of joint training centers and programs in the continental United States (CONUS), animated by "train as we fight" exercises, is a logical reaction to *Anaconda*'s lessons. Above all, air and ground forces must train closely together so that they can fight effectively together in battles where their fires and maneuvers must be closely coordinated.

Lesson 6. Defense transformation should be pursued with joint operations, as well as mastering the air-ground interaction down to the tactical level, clearly in mind—including the areas of matériel and nonmatériel solutions as well as joint training transformation.

A major element of the new theory of military transformation and new-era operations is that small, dispersed ground units can rely on inorganic firepower from other services for protection and that massed long-range fires can take the place of massed forces. Operation *Anaconda* illuminates the conditions under which this theory can come unraveled when battle plans must be altered and U.S. forces are not initially well-prepared to execute necessary adaptations. Conversely, the experience of Operation *Iraqi Freedom* may show that this theory can work when the conditions are right, including well-armed ground forces and fully prepared air forces. Perhaps the enduring lesson is that successful application of this theory depends on the composition of the forces committed to carrying it out.

The transition to integrated joint operations is a work in progress. Pursuit of such enabling concepts as network-centric warfare, rapid decisive operations, and effects-based operations will continue to contribute to evolving joint operational concepts across the wide spectrum of military operations. *Anaconda* is a case in which the new-era concept of using dispersed, lightly equipped ground forces backed by air-delivered precision firepower did not work as well as desired owing to a multiplicity of factors, including lack of fully integrated joint planning before the battle. In future battles, the idea of using distant fires to support dispersed ground forces could work only if great care is taken—in advance—to prepare fully for the operation. In other cases, this idea might not be viable at all if it is carried to the point of not equipping the ground forces with organic fires of their own.

Although *Anaconda* was only a brigade-size battle, it shows that planning for joint operations, including air-ground operations, should extend down to the tactical level. It also shows why care should be taken to preserve legacy assets that still will be needed on the modern battlefield. *Anaconda* was a battle in which the effectiveness of air strikes with precision weapons was dulled by rugged terrain and other factors. Accordingly, Army forces there would have benefited

greatly from more mortars, as well as from some artillery, tanks, and infantry fighting vehicles, the so-called "legacy assets." *Anaconda* reinforces the judgment that, in carrying out transformation, DOD should not view air power as a substitute for adequately armed ground forces. Nor should it view ground forces as a substitute for air forces. Both components have their roles to play on the modern battlefield. DOD should emphasize joint planning, training, and execution in ways that integrate balanced contributions from all components. Modern information networks, well-armed infantry, and smart munitions are certainly important enablers, but they cannot win battles by themselves. Mastering the interaction of ground, air, and SOF (as well as naval forces) in difficult joint expeditionary operations should be a focal point of defense transformation—as should information operations, interagency cooperation, and coalition warfare.

The Lessons of Operation *Anaconda* for Joint Operations

A retrospective analysis has value mainly as a guide to identify enduring lessons. In future battles, the challenge facing U.S. commanders will be to anticipate battlefield dynamics and to react to surprises so that they might improve the effective application of U.S. joint military forces. Contributing to better plans, and to better performance of U.S. forces, is the value of a retrospective analysis of *Anaconda*.

This text provides details on the six lessons from the initial days of Operation *Anaconda*. Many additional lessons could be derived from the strengths of U.S. forces and their successful performance in a victorious battle. Indeed, had it not been for these strengths, Operation *Enduring Freedom* itself would not have been possible, much less *Anaconda*. Every effort must be made to derive lessons from *Anaconda*'s problems, as well as its successes, so that U.S. forces can perform more effectively in future battles.

After a brief overview of the events of *Anaconda*, the analysis is divided into the six categories of observations and associated lessons learned. Because the six lessons are covered in the Executive Summary, the following discussion does not repeat them in detail. Instead, it describes them briefly and then provides details on the multiple sublessons that form the basis for drawing these observations. Each sublesson begins by portraying the *Anaconda* experience in the relevant issue-area, then discusses associated lessons, and finally concludes with actionable recommendations.

It is important to remember that, while air assaults were performed regularly in Viet Nam, they were not useful models in Afghanistan. *Anaconda* was an unusual battle, not only in the type of operation attempted, but also as a case study in how things that reasonably were expected to go right sometimes went awry:

- That a sizable allied ground force withdrew on the first day of battle without performing its mission, thereby exposing U.S. ground forces to attack, was an atypical experience for modern multilateral warfare.

- That 400 U.S. Army troops found themselves widely dispersed along the foothills of a mountain—with enemy forces firing at them from front, back, and above—was hardly a normal event.

- Increased air assets and strikes during the opening days helped ground and air forces adjust and ultimately saved the situation. However, after over 2 weeks of bombing with smart munitions and 900 combat sorties (in theory enough to destroy an enemy armored division), U.S. air forces had trouble quickly wiping out one or two light infantry battalions. This does not reflect the ability of modern-era air power to kill multiple targets per sortie in different situations.

Notwithstanding the challenges encountered, a de facto joint command staff was assembled before the battle and, in a short period, planned the operation. During the battle, U.S. forces initially struggled but then showed a capacity to improvise with available resources. During

Anaconda, U.S. Army forces fought well and performed their missions with fewer casualties than might have been the case. U.S. air forces operated under disadvantageous conditions, but while their airstrikes may not have been efficient in an economic sense, they were effective in an operational and strategic sense. The combination of ground power and air power ultimately got the job done.

Perhaps Operation *Anaconda* provides neither a general model to follow, nor a battlefield strategy to be avoided on all occasions, nor an indictment of U.S. joint force doctrine and operations. *Anaconda*'s lessons, however, should be taken for what they are worth. They provide input into U.S. defense planning and preparations for both joint combat operations and defense transformation. *Anaconda* involved a combined joint task force in an operation led (de facto) by a single-service headquarters stretched thin by other duties, carried out by an ad hoc composite ground force that was under-equipped, and supported by air forces that initially were not fully prepared for the battle that transpired. While the battle was ultimately won, the challenge is to avoid such impediments in the future.

Setting the Stage: Why *Anaconda* Encountered Problems in the First Few Days

Operation *Anaconda* can be understood only in the context of earlier phases of Operation *Enduring Freedom*. These phases were aimed at removing the Taliban from power and destroying al Qaeda. Earlier combat operations involving integration of SOF, air power, and Northern Alliance forces had worked well. Following the earlier main battles, which were won decisively, raids and sensitive site exploitations had also worked well. One disappointment, however, was the Tora Bora battle of December 2001, which resulted the escape of many al Qaeda fighters and their leaders to Pakistan. *Anaconda* was driven by the operational goal of destroying a major concentration of al Qaeda, while preventing another escape à la Tora Bora. This concept played a key role in determining how *Anaconda* was planned, including the estimates of the enemy threat and the tactics that shaped the foundations for the main battle plan.

Operation *Anaconda* was conducted by Coalition Joint Task Force (CJTF) MOUNTAIN (10th Mountain Division) located at Bagram Air Base in Afghanistan under the control of Combined Forces Land Component Command (CFLCC) in Kuwait. The 10th Mountain deployment came at a time when it was also conducting operations and had forces deployed in Bosnia, Kosovo, and the Sinai. Its original air support operations squadron (ASOC) was not deployed with it, and its senior intelligence officer arrived after the headquarters had already begun to deploy to Uzbekistan. Despite its designation as a CJTF, TF MOUNTAIN was not a formally constituted joint task force with full representation from the other services. The title of CJTF, and four preceding formal or ad hoc titles between November 2001 and March 2002, when Operation *Anaconda* was carried out, was intended to show command over disparate organizations, not to suggest a true joint task force in the doctrinal sense.

Although led by the commander of 10th Mountain, as of mid-February, TF MOUNTAIN had only about 50 percent of the personnel normally assigned to the 10th Mountain headquarters staff. During initial *Anaconda* planning, its authority over other elements of the growing Army presence in Afghanistan was unclear. Only after publication of CFLCC Fragmentary Order 2 to Operations Order 02–018 ("Establishment of CJTF MOUNTAIN") were formal command

relationships established. During *Anaconda*, the commander, TF MOUNTAIN, had control over Army forces and some SOF units engaged in the battle, but not control over all SOF, other governmental agencies, or the air component that remained under the Combined Force Air Component Commander (CFACC). By February 20, 2002, 10 days before execution of the plan, a small U.S. Air Force (USAF) liaison team and planning cell had been established on this staff. Although it was working through the battlefield coordination detachment (BCD), TF MOUNTAIN had not yet established direct coordination with CFACC, which directed U.S. air forces operating in Afghanistan, but itself had no forward headquarters there.

The fact that *Anaconda* was originally conceived to be primarily a ground operation (indeed, friendly Afghan forces were to perform much of the fighting) resulted in air forces being initially viewed as providing fires in support of the ground maneuver plan. The original battle plan called on air forces to provide limited strikes against enemy positions a few minutes before U.S. ground forces air assaulted into the valley and took positions along the slopes of the eastern ridgeline, where few enemy forces were expected. Shortly after the air assault, friendly Afghan forces were to advance past both the southern and northern edges of the western ridge, named the Whale, move onto the valley floor, and then ascend the Whale for the purpose of rooting out and destroying enemy units. To control maneuver and fires during the assault into the valley, TF MOUNTAIN established a series of graphical control measures and restrictive fire control measures. These intended actions would have rendered virtually the entire valley inappropriate or unnecessary for airstrikes. The air component task in the plan was to provide on-call CAS in support of ground operations in the valley and to strike against ingress and egress routes into the valley that enemy soldiers might be using. To an important degree, this intellectual formulation of the battle plan cast air forces into a secondary supporting role, rather than the primary role that ultimately unfolded and that required significant adaptations as the battle proceeded.

Operation *Anaconda* had its origins when SOF units realized on or about February 10 that al Qaeda forces were congregating in and around the Shahikot Valley, thereby creating the opportunity for a strike operation. TF MOUNTAIN was assigned to the impending operation and coordinated with the various ground participants per standard doctrine. Time was short, and TF MOUNTAIN was intently focused on integrating the complex actions of ground units from the 10th and 101st Divisions, friendly Afghan forces, and SOF, including other allied units that were to help block exit routes along the outer circles of the battlefield. During the battle, SOF from Australia, Canada, Germany, Denmark, France, and Norway were expected to help form *Anaconda*'s outer rings. On February 17, CFLCC and CENTCOM approved the TF MOUNTAIN plan for command structure and command relationships. On February 20, TF MOUNTAIN issued an operational order for *Anaconda* calling for the battle to begin on February 28. Air Force records show that this was the first time that CFACC was fully informed of the plan. Evidently, the combined air operations center (CAOC) did not become fully apprised of the impending battle until February 23, and the full fuel requirement was not defined until February 25.

Because of bad weather, the beginning of the battle was delayed until March 2. During the brief period before March 2, many things were being accomplished. TF MOUNTAIN was deploying from its original base in Uzbekistan to Bagram, and subordinate units were locating personnel there to work with it. CFACC was preparing for expected air operations to include assembling

the large volume of fuels needed to support the ground component. CFACC suspended all routine theater airlift and used every available asset, including wet-wing refueling of C–17s, to meet fuel requests. All of these activities, performed under time pressures against the backdrop of tight manpower and equipment caps, may have stressed the staffs and commanders of all involved headquarters. Even though TF MOUNTAIN amended the plan several times, time constraints may have affected the level of coordination between headquarters as the operation neared.

The main combat took place from March 2–16, 2002, in the Shahikot Valley of Paktia Province, an environment of complex terrain and steep mountain slopes south of Tora Bora. The battle area was a rectangle totaling about 70 square miles, but the zone where U.S. forces fought was smaller, only about 40 square miles. The weather during *Anaconda* was cold and hazy but clear enough for most air operations. But the high altitudes prevented U.S. attack helicopters from hovering, and the congested battlefield airspace constrained multiple combat aircraft from striking simultaneously. High altitudes and extensive distances from support bases also inhibited the Army from transporting heavy weapons and equipment aboard its limited number of cargo helicopters to support forces in the Shahikot Valley.

Forces initially committed to the plan included about 1,000 allied Afghan troops, 3 U.S. Army infantry battalions from 10th Mountain and 101st Air Assault divisions, and an aviation task force with 24 helicopters (8 AH–64s). Tactical command of Army combat forces in the valley was exercised by TF RAKKASANS, a brigade-sized unit of the 101st division under TF MOUNTAIN's operational control (OPCON). About 200 SOF troops from several countries were also attached to TF MOUNTAIN. Additional SOF personnel remained outside TF MOUNTAIN's operational control and conducted uncoordinated supporting operations while reporting to higher authorities. Other governmental agencies reporting to the Secretary of Defense were also conducting operations inside the battlespace of TF MOUNTAIN but outside its operational control. Other later reinforcements were attached, including a U.S. Army battalion, a Canadian battalion, and friendly Afghan reinforcements.

While *Anaconda* was planned by TF MOUNTAIN to be principally a ground operation, the task force did plan for a limited number of strikes by fighters and bombers immediately before U.S. ground forces entered the valley. The time available for these airstrikes was compressed to roughly 40 minutes to maintain tactical surprise. With no artillery preparatory fires and only limited airstrikes, U.S. ground forces entering the valley aboard helicopters encountered significantly greater opposition than anticipated. In response, the limited planned air support was increased to provide sustained force application against the enemy throughout the battle. A simple portrayal is that in addition to allied forces, Operation *Anaconda* employed a reinforced U.S. Army infantry brigade coupled with improvised air support from the approximately 200 to 300 strike and support aircraft operating from bases throughout the Middle East and Indian Ocean. The number of air combat sorties flown roughly equaled what a composite air wing supported by a limited number of strategic bombers normally would provide (that is, about 65 combat sorties per day).

Anaconda originally was planned to be a 3-day operation, and the commander anticipated a mix of fighting and capturing hostile personnel. The battle plan was fully consistent with U.S. Army

doctrine, incorporating established practices for mountain warfare with new-era operational concepts, and relying on recent experience in Afghanistan. While the major search and seizure operation was to be done by allied Afghan forces, the battle plan intended the employment of U.S. ground forces in a blocking mission to prevent the enemy from escaping, as had happened three months earlier at Tora Bora. After surrounding the Shahikot Valley in three concentric rings aimed at preventing the enemy from fleeing, the mission was to search and destroy an estimated force of several hundred al Qaeda and Taliban troops. Within the inner ring, a hammer and anvil operation was to take place. Several hundred friendly Afghan forces were to approach the Shahikot Valley from the west, bypass the western ridge (Whale) from the north and south, and advance into the valley to seize Objective Remington (the floor of the valley). Meanwhile, the anvil was composed of four companies of U.S. Army forces that were to form seven blocking positions, mostly at the base of the eastern ridge, to prevent enemy escape. A third battalion of two U.S. Army infantry companies was held in reserve to provide maneuver options.

Operation *Anaconda* faced challenges from the onset. Air Force records show that U.S. attack aircraft (bombers and fighters) were to strike a limited number of enemy targets (13 desired mean points of impact) out of a total of 22 enemy gun emplacements and over 40 enemy cave hideouts. Shortly before U.S. Army forces aboard helicopters assaulted, about one-half of these air sorties were cancelled when U.S. SOF reported their presence near the target area. When the ground fighting began, enemy forces proved stronger and maneuvered better than anticipated. Allied Afghan forces under General Zia were carrying out a viable plan that was no more complicated than many they had performed earlier. But as they advanced toward the Whale on March 2, under poor march discipline, they took enemy fire and accidental friendly fire from an AC–130 and halted their advance. This initial contact resulted in 21 friendly casualties, including 14 Afghans wounded, 3 Americans wounded, 3 Afghans killed, and the death of a U.S. Army Special Forces soldier. Frustrated and believing his attack plan was compromised, General Zia stopped his advance and began pulling back to covered terrain to regroup. Unable to continue the attack during the day, the Afghans withdrew to Gardez later that evening to reorganize. The main effort of Operation *Anaconda* thus was disengaged from the battle shortly after the operation had begun. This unanticipated withdrawal freed al Qaeda troops to direct their fires at the widely dispersed U.S. ground forces. Additionally, on Day 1, al Qaeda commanders declared a jihad. As a result, enemy forces steeled for a fight, and additional al Qaeda reinforcements began entering the valley.

Of the 400 U.S. Army soldiers originally scheduled for insertion on the first day, only 200 actually deployed; the rest were withheld until the following day because the bad weather and enemy fires prevented their helicopter assault. The forces that did deploy initially had only small arms and a few light mortars and lacked artillery and armor. While U.S. commanders had anticipated heavy fighting on the Whale and in the valley, they did not anticipate enemy strength along the eastern ridge, where U.S. ground forces deployed. Planners from TF MOUNTAIN and supporting headquarters had debated enemy location during mission analysis. At issue was whether al Qaeda would be found primarily in the villages or the caves. Some were expected to be in caves along the eastern ridge, but more were encountered than anticipated.

As a result, U.S. ground forces were compelled to fight multiple platoon-sized battles against enemy soldiers. Besieged Army units fought bravely and effectively but were temporarily

outgunned by fires from three sides and from advantageous terrain from above. Their limited number of attack helicopters provided supportive fires, but they were severely damaged, forcing withdrawal. Consequently, TF MOUNTAIN forces were left with limited organic firepower—insufficient to fix a nimble enemy familiar with the terrain. By Day 5, AH–1W Cobra and CH–47 helicopters from the 13th Marine Expeditionary Unit had been called back from the USS *Bonhomme Richard* to provide additional rotary lift and fire support reinforcement. An additional 24 AH–64 Apaches were also airlifted from CONUS and arrived within 36 hours of initial request to provide fire support later in the operation.

Air plans for *Anaconda* originally called on the air component to conduct primarily on-call CAS and interdiction missions, including strikes against time-sensitive targets. The initial bombing, before touchdown of U.S. ground forces, represented the only prefixed air targeting; the rest of the air operation was to be a flexible creation adjusted to the unfolding battle. Although specific USAF and Navy CAS strikes originally had not been planned, the air tasking order (ATO) listed committed air assets as XCAS—that is, assets available for CAS or nearby interdiction missions without preassigned targets. But air component commanders expected that most of these aircraft would not be striking inside the valley but instead be used against ingress/egress routes mostly outside the valley. An intense version of CAS and nearby interdiction inside the valley, and along its surrounding hills and ridgelines, was improvised when the ground battle took a bad turn. An ATO that originally was prepared for different missions was augmented and reoriented to provide CAS and nearby interdiction not for 3 days, but for nearly 2 weeks.

As the battle unfolded and the need for dedicated CAS became apparent, air assets were rapidly reconfigured and re-postured to support the operation. F–16s and F–14s trained for CAS, and FAC–A duties assumed FAC responsibilities on Day 1. Additionally, A–10s were flown in from the Persian Gulf to enhance air support and to provide positive direct control over the air battlespace. AC–130 gunship sorties were increased to support the operation, but most were under SOF control, not CFACC. Over the entire battle, fixed-wing strike aircraft, flying an average of 65 sorties per day, delivered considerable accurate firepower in support of the ground battle. However, difficulties were encountered during the initial days in integrating air and ground operations and in establishing C^2 architectures and procedures to support U.S. and coalition forces in the battle. In addition, the air operation encountered troubles in acquiring and striking targets on this rugged terrain in the face of clever enemy tactics designed to dilute the effectiveness of precision airstrikes. The main effect of air operations, nonetheless, was to reduce the higher risks encountered by American ground troops in what otherwise could have been a high-casualty situation.

Over the course of several days, U.S. airpower support grew, friendly Afghan forces reentered the battle, and additional U.S. Army reinforcements were provided. During the first day, Army forces were able to occupy only a portion of the seven blocking positions originally intended for insertion along the eastern slopes. But by Day 2, all scheduled Army units had been deployed into the seven positions, even though fierce fighting at the southernmost position, Objective Ginger, resulted in some temporary troop withdrawals and delayed the advance of U.S. forces there through Day 9. Once deployed, Army units showed good tactical skill in adapting to the situation and in providing target information to air forces performing strike missions. Benefiting from airstrikes and their own mortars, they secured the local terrain and then spread out to

enlarge their control and to destroy enemy positions. Initial problems in coordinating air-ground operations were overcome by Day 4, and better coordination of operations by conventional forces and SOF units was established.

By Day 7, enemy resistance was beginning to fade in the face of withering air-ground fires and maneuvers. At this juncture, friendly Afghan forces began reentering the battle in the valley. On March 12, additional friendly Afghan forces under General Gul Haidar (of the Northern Alliance) were committed. Working together, and supported by airstrikes, U.S. and allied ground fires steadily advanced into the valley, the eastern ridgelines, and the Whale during Operation *Harpoon*. Ultimately, Objective Ginger was secured once pitched fighting there died down and nearby enemy ingress routes were closed. In the meantime, U.S., friendly Afghan, and other allied ground forces held their positions on *Anaconda*'s outer rings, thus denying entrance and escape to al Qaeda fighters. During the second week, enemy resistance continued fading in the face of intense ground and air pounding, and U.S. and friendly Afghan forces progressively took control of the terrain.

Early in the battle, the fierce fighting at and near Objective Ginger resulted in the deaths of seven of the eight U.S. military personnel killed during Operation *Anaconda*. On Days 1 and 2, U.S. Army forces attempting to seize Objective Ginger were confronted by especially heavy enemy fire. Their initial efforts rebuffed, 10th Mountain units regrouped with plans to insert additional forces north of Ginger and then move south to attack. At the same time, on the night of March 3, U.S. commanders sought to gather a firsthand picture by placing a reconnaissance team atop a high ridge on Takhur Gar mountain overlooking Ginger and the entire Shahikot Valley. The battle for this ridge—thereafter Roberts Ridge (named after Chief Petty Officer 1st Class Neil Roberts, a Navy SEAL and the first SOF individual killed there)—began about 0300 hours on March 4 (Day 3) when a SOF helicopter approached the ridge. When the helicopter tried to land, it took heavy machinegun fire from nearby enemy positions. During its escape, Roberts fell out and was captured and later killed by al Qaeda fighters.

A short while later, three additional helicopters—carrying SOF troops with emergency tactical air controllers (ETACs)—approached the ridge in an effort to rescue Roberts and secure the site. In the savage firefight that ensued, with the sun rising, the second of these three helicopters was hit by a shoulder-fired antitank grenade launcher round and was forced to crash-land. Additional U.S. casualties were taken as its personnel exited the downed helicopter. The firefight raged for about 15 hours, until sundown on March 4. Numerous al Qaeda fighters were killed by U.S. forces, Roberts Ridge was secured, and Objective Ginger was reached and cleared on March 9 (see appendix I for timeline).

Total U.S. casualties for Operation *Anaconda* included 8 dead (all SOF) and about 50 wounded. Also, Afghan units lost three killed and numerous wounded. Estimates for the number of enemy killed range from 50 to 500. *Anaconda*'s early setbacks were a tactical reversal; coalition forces encountered numerous frictions, internal and external, as well as staunch resistance by al Qaeda forces. The battle was ultimately won when U.S. forces recovered their balance and mounted an effective, integrated joint campaign. By the end, air bombardment followed by ground assaults destroyed or dispersed the enemy, and the Shahikot Valley was secured. As of March 16, surviving al Qaeda troops had withdrawn. The battle was officially ended by CENTCOM on

March 19, with the Shahikot, the Whale, and nearby ridges fully taken by U.S. and friendly Afghan forces. The ultimate result thus was that American forces achieved their operational objectives in *Anaconda,* even though the battle took longer than originally planned.

After *Anaconda*, the U.S. military made important improvements in the conduct of operations in Afghanistan. The joint command structure was strengthened by establishing a true joint task force under a senior Army general. Artillery was deployed by British troops, and force operations were more thoroughly integrated, employing a combination of preplanned airstrikes, on-call CAS, and well-organized maneuvers. A USAF brigadier general was brought in to provide air expertise, and an air support operations center (ASOC) was put in place. Additionally, dedicated CAS assets were stationed in Afghanistan to provide more effective support of ground forces; six A–10s were forward-deployed to Bagram. As a result of these efforts, U.S. forces jointly performed better in subsequent operations, which succeeded without the initial frustrations during *Anaconda*.

Lesson 1. Joint forces must improve efforts to create unity of command, joint command structures, forward-deployed joint and components staffs, and joint planning processes for expeditionary operations.

Sub-Lesson 1A. Subordinate joint command and control structures are needed to meet the growing demands for limited combat operations in fluid situations where more forces are required to perform a larger number of missions. The forward U.S. command structure may have been too thin, fragmented, and preoccupied with other missions to plan and prepare for *Anaconda* properly and thoroughly.

Anaconda **Experience:** Prior to the Afghan War, recent CENTCOM experience in such Persian Gulf operations as *Southern Watch* had led it to establish strong central control and execution of operations from its command headquarters in Tampa, Florida, or from subordinate staffs in the Gulf. The evolving war in Afghanistan compelled CENTCOM to run a complex and growing operation from a long distance. This required an appropriate balance between central control and decentralized authority in executing operations in Afghanistan. At the time of *Anaconda*, central control and execution remained the dominant pattern, to the point that senior CENTCOM commanders were often passing judgment on battle plans and tactical decisions that, in earlier wars, might have been delegated to lower levels. This development helped magnify the problems of command and control that arose during *Anaconda*.

During the initial stages of Operation *Enduring Freedom*, the U.S. command structure was relatively small and flat, focused on coordinating actions by the CENTCOM CFACC through its CAOC with forces from the Special Operations Component, Central Command, which conducted national missions and supported air operations (for example, as spotters for targeting). The CFACC and CAOC were located in Saudi Arabia, not Afghanistan. Also located in the Persian Gulf was a CFLCC that had been established in November 2001. This headquarters, which also served as the Army component to CENTCOM and commanded numerous Army units throughout the CENTCOM AOR, later began directing ground operations in Afghanistan. As

larger Army forces began arriving in Afghanistan, including maneuver battalions, a forward Army command structure (TF MOUNTAIN) was established under the CFLCC in Uzbekistan, which helped direct subordinate units in the Afghan AOR. This forward Army command staff apparently was undermanned, dispersed, and overloaded with too many functions at the time of *Anaconda*. As a result, there was less time for the critical thinking and reflection that are needed in complex tactical battles.

Equally important, assets, plans, and procedures for integration of growing ground operations with ongoing USAF and Navy air operations had not yet been fully established in accordance with U.S. military doctrine as described in JP 3–09. There were deficiencies in or malpositioning of assets critical for connectivity, such as ground liaison officers (GLOs) and an ASOC. There were no GLOs or Army liaisons for air component wing units. A skeleton ASOC—a unit typically collocated with the corps or highest-level ground unit to provide C^2 over CAS requirements—was established just before the battle. There was no fully developed joint task force in or near Afghanistan that had been given the responsibility and authority to perform joint planning and guide joint operations there. A nascent joint command structure was beginning to take shape as *Anaconda* got under way, but it was not yet fully mature and functioning effectively. Hence, the Afghanistan command structure was fragmented and dispersed in ways that may have impeded effective planning and operations in *Anaconda*.

The coordination between TF MOUNTAIN and higher-echelon CENTCOM command staffs also did not work as predicted by modern theories of how advanced communications networks enable distant command staffs to control local battles. While communications flowed voluminously between the Persian Gulf and Afghanistan, and regular videoconferences were held, some in the AOR had the impression that the Gulf-located commands, as well as CENTCOM headquarters in Tampa, Florida, did not always understand the situation at the tactical level. The alleged result was circular reporting of information, coupled with a focus on tactical details at the expense of operational integration.

Anaconda raised questions about whether the command structure properly fostered jointness in planning and executing the operation. While the details are unclear, TF MOUNTAIN initially crafted the ground-oriented *Anaconda* battle plan without major involvement from the air component. TF MOUNTAIN published the operational order for *Anaconda* on February 20, about one week before the battle originally was scheduled to begin. Only then was the air component officially notified of the need for its support. The delayed start of the battle until March 2 provided more time to prepare. While the lead-time after initial notification was sufficient for CFACC to provide substantial air assets to meet requested air support, the battle plan was already well established and the supportive role of air power had been determined. The necessary C^2 architecture to support this plan was not yet in place, and smooth coordination between air and ground headquarters, including a two-way flow of consultations, was not fully established. Furthermore, CFACC was asked to prepare for a 3-day operation involving only minimal on-call CAS. The substantive change from anticipated air support requirements to larger actual requirements, combined with a lack of detailed integrated joint planning and component preparations, hampered initial operations.

Before and during the battle, interactions between TF MOUNTAIN and the air component reflected prevailing doctrines and procedures for a ground battle involving only limited air component involvement. TF MOUNTAIN did involve its small ASOC element in planning and targeting in the days before execution and during the battle itself. The TF MOUNTAIN fire support element submitted target lists to the battlefield coordination detachment prior to the 36-hour ATO cycle. TF MOUNTAIN operations and fire support element members also participated in daily targeting videoconferences with various headquarters to clarify priorities. By doctrine, BCD passed TF MOUNTAIN information to CFACC for inclusion in the ATO. Likewise, USAF records show that CFACC nominated numerous targets to TF MOUNTAIN, but only a portion were approved for preplanned strikes. Through this process, actual support requirements eventually became known but were only well understood a few days prior to execution. Because timelines were short for both components, details were sometimes sparse. This process reflected existing doctrine to access on-call CAS in support of brigade-sized ground operations, but the process was not oriented to the major air effort that transpired and would have been enhanced by a JTF structure and staff. This situation, coupled with communications breakdowns that may have occurred, adversely affected integration of air-ground operations.

When *Anaconda* began, CFACC-controlled assets were operating with an ATO that, being tailored to support the TF MOUNTAIN stated requirements, was designated XCAS, or "on-call CAS." Sorties were sometimes flexed when a high value target appeared in a time-sensitive target mode. The *Anaconda* battle zone was so compressed that all points in the valley, along its ridgelines, and astride ingress/egress routes were within enemy mortar range of deployed U.S. ground forces—thus ostensibly making them CAS targets. Yet the need to distinguish enemy targets from civilians and nearby U.S. forces compelled many targets to be subjected to the strict ROE enforcement mechanisms, which required CENTCOM authorization unless ground commanders had visual line-of-sight contact with the targets and could verify hostile intent.

Previous airstrikes during *Enduring Freedom* were listed as interdiction but in reality often took the form of CAS conducted in proximity to friendly Afghan ground forces. During *Anaconda*, the form of interdiction and CAS conducted was different from earlier efforts: in a more congested battlespace and in close proximity to U.S. ground forces. During *Anaconda*, CFACC was called on not only to commit more sorties than originally planned but also to engage in substantial true CAS strikes as well, which can require a different blend of combat aircraft, munitions, support assets, and C^2 procedures than normal interdiction missions.

Despite the rapid change in battlefield conditions, the air component was able to reorient air operations to support the ground forces. Over several days, additional air assets were deployed to provide better support (for example, A–10s and continued allocation of fighters and bombers). Because it lacked resources and plans in this area, however, the air posture and command architecture initially proved hard-pressed to handle *Anaconda*'s special requirements.

Solving the command and control, airspace management, and robust communications issues that accompany any such major air effort became critical. The situation was not routine. Requests for airstrikes by ground forward air controllers (GFACs) were often urgent and overlapping. Incoming fire and lack of adequate targets designators sometimes prevented precise target identification by GFACs and required adjustments in choices of individual munitions.

Dangerously close friendly fire situations and unknown adjacent unit locations sometimes added to the level of difficulty. The small battlespace inhibited numerous simultaneous strikes, which resulted in stacking of air assets, prioritizing of requests, and re-roling on Day 1 of F–16s to FAC–A status. Different sources of information fed to TF MOUNTAIN and the air component required vetting. Taken together, these factors contributed to the sense of frustration over applying airstrikes against a stubborn enemy.

None of these frustrations should obscure the special steps often taken by fighter aircraft to save soldiers on the ground. Some calls came from pinned-down ETACs who were unable to identify coordinates of targets. Other ETACs lacked maps. Sometimes two ETACs called in the same target, or they did not know the precise location of adjacent friendly forces. Visual identification of targets from the air—a precondition for airstrikes—was often difficult. Even so, the record shows that major efforts, including descents below 10,000 feet when necessary, were made by fighter pilots to suppress targets that were directly firing on U.S. troops.

Over the ensuing days, additional air assets were deployed to provide better support, including the deployment of A–10s and Cobras, to the battle. Better C^2 procedures were adopted for delegating CAS strike authority to the ground commander. The result was a lessening of frustration on all sides. But this process of adjustment took a few days, during which air support may not have been as effective as it might otherwise have been.

Accompanying Lessons: Unity of command, with clear lines of authority and responsibility, remains a valid principle of war. The local commander must prepare a sound battle plan, but he also requires the authority over participating forces to carry it out. For example, control of SOF forces to achieve integration with ground and air forces is needed. A joint operation cannot be effectively conceived, executed, and modified to deal with surprises unless planning is truly joint. Separate service staffs that merely coordinate at the margins without thoroughly analyzing the joint integration requirements of pending combat missions do not produce joint battle cohesiveness. A forward JTF may need to be formed to conduct even small-scale battles that are complex and require commitment of joint forces.

The U.S. military can no longer afford to designate Joint Force Commanders (JFC) or promote and assign other senior officers who are predisposed to a single combat medium, be it ground, air, or sea. A commander's adaptation to combat must embody a sense of integrated effort aimed at producing the desired effects by proper employment of the best available means. Joint commanders must be educated and trained in the integration of joint forces, and their skills must include understanding of how best to incorporate all components. Many such skills were shown at *Anaconda*; the point here is that joint skills will be required across all U.S. military efforts.

Jointly and for all components, three different C^2 functions are required: theater strategic-operational direction, joint operations planning, and tactical direction of force employment. All of these functions are demanding, necessitate adequate manpower, and require skills fostered through joint education, training, exercises, and experience. Such staffs as CFACC and CFLCC are appropriate for handling theater-wide operations, but when operations are launched at a distant location, these staffs may need to be supplemented not only by subsidiary staffs at that location but also by a local joint task force.

A properly functioning joint command structure can help analyze individual battle plans, specify the full spectrum of joint assets that are required, identify the additional or different assets that might be needed if the original plan has to be altered in significant ways, and help orchestrate the prompt commitment of these assets.

Should performance of these functions be separated or combined? Reduced layering makes sense, but if one staff must perform all functions, it risks becoming overloaded. Overall, the command structure must have sufficient assets and well-oiled procedures for getting the entire job done. In theory, flat command structures often are desirable in the information age. But as an expeditionary operation becomes more complex and demanding, the command structure may need to become more hierarchical and, above all, more diversified to perform multiple new functions.

Several organizations exist within each service that provide dedicated liaison to make the theater air ground system (TAGS) work, such as the Army BCD with its associated GLOs, and the Air Force air liaison officer (ALO) and its associated ASOC. These organizations need to be treated as critical assets. Consideration should be given to provide better integration of joint efforts with Special Operations Forces and maritime forces. Creation of more Army BCDs, and establishment of Air Force battlefield air liaison elements (BALE/ALE), is appropriate.

Integration of SOF operations with conventional air-ground operations is another important area for C^2 expeditionary operations. Fully five separate SOF task forces were involved in *Enduring Freedom*, including TF DAGGER. During Operation *Anaconda*, multiple SOF teams were operating in or around the Shahikot Valley. These SOF teams initially were not under the authority of the TF MOUNTAIN commander. It was a SOF team that called off the initial U.S. airstrikes, with only one-half of them complete, in the hour before U.S. Army forces touched down in the valley. Evidently, some SOF teams were located close to strike zones and had not incorporated appropriate graphic control measures to ensure force protection, or parts of the SOF C^2 structure were not aware that the airstrikes had been planned. On Day 3, when seven SOF personnel were killed on Roberts Ridge, neither the Army nor the Air Force had been sufficiently alerted of this mission to provide assistance. Afterward, all SOF teams were directed to advise the TF MOUNTAIN commander of their operations and the problem was resolved. But such problems could arise again if effective SOF-conventional force integration is not achieved.

Anaconda provides further insights on Army command staffs for conducting such battles. Basically, a divisional command staff, as provided by TF MOUNTAIN, but augmented as appropriate, seems necessary for such battles. Brigade staffs such as RAKKASANS lack the depth, redundancy, rank, and experience to plan and control deep, close, and rear battles involving joint and coalition forces.

Actionable Recommendations: Continue to ensure that joint doctrine, procedures, and assets exist for the joint integration of all functional components. Ensure that as U.S. operations in a crisis zone expand in size and scope and become increasingly joint, the local command structure has sufficient assets and joint procedures for performing all of its missions. Describe the considerations for creating a JTF in appropriate documents. Prior to battle, provide command

staffs with ample education, training, and exercises on the applicable joint doctrine and procedures, including theater air ground systems (TAGS).

Sub-Lesson 1B. Demanding joint force operations are best conducted by trained and experienced Joint Force Headquarters personnel. This can be achieved by employing the Deployed Joint Task Force Augmentation Cells—not the case during *Anaconda.*

Anaconda **Experience**: Although DJTFACs are part of joint doctrine, one was not available for *Enduring Freedom* and *Anaconda*. Component planning and operations were conducted by separate functional components, such as CFLCC, CFACC, the Combined Force Maritime Component Command (CFMCC), the Joint Psychological Operations Task Force (JPOTF), and the Combined/Joint Special Operations Task Force (C/JSOTF). Critics allege that the result was a stovepiped command structure that was intended to plan and orchestrate operations across the entire CENTCOM AOR but was hard pressed to conduct small-scale joint expeditionary operations at a long distance. Perhaps this criticism is exaggerated, but the need for integrated joint planning of tactical battles is clear.

Accompanying Lessons: Combatant commanders should consider establishing an organization like the U.S. Pacific Command DJTFAC and the European Command core JTF cell for planning and joint expertise. Joint Publication 5–00.2, *Joint Task Force Planning and Procedures*, outlines the responsibilities of a DJTFAC and how this 10–12-member team can enhance a JTF and help lead the initial phases of planning and execution.

Sub-Lesson 1C. Arguably, demanding joint force operations are best conducted by a Standing Joint Force Headquarters (SJFHQ)—which was not the case for *Anaconda.*

Anaconda **Experience:** Although SJFHQs are envisaged by current U.S. defense strategy, they were not available at the time of *Enduring Freedom* and *Anaconda*.

Accompanying Lessons: The idea behind a SJFHQ is that, while reporting to the parent geographical command, it can be detached and used separately to bring focused planning and direction to individual joint expeditionary warfare operations. The SJFHQ would not be cobbled together at the onset of a crisis. Instead, it would be a permanent organization that would train and exercise in peacetime and be immediately ready to assume command of an operation in wartime. For example, the North Atlantic Treaty Organization (NATO) recently has created three joint force headquarters that will operate combined joint task forces (CJTFs). These CJTFs will be used to command the new NATO Joint Response Force for expeditionary operations outside Europe. For the U.S. military, a SJFHQ could deploy to the location of a crisis, or it could remain at its headquarters and deploy a forward element to the location, which would report back to it for guidance. Ideally, a SJFHQ at a combatant command would have the capacity to deploy two or three mobile SJTF teams to local crisis zones, thereby giving the parent command a capacity for handling multiple contingencies.

During an operation, a SJFHQ must have authority and capacity to coordinate joint force operations, especially the interaction of ground, air, and naval forces as well as SOF troops. Without a SJFHQ, joint operations can be weakened by distant functional command staffs that

lack battlefield awareness and by separate service component staffs that employ uncoordinated operational concepts. The case for SJFHQs and forward SJFORs rests on four key premises, which the troubles encountered at *Anaconda* suggest are valid:

- Joint integration of fires, maneuvers, strike, intelligence information, surveillance, and reconnaissance (IISR), and sustainment is critical for modern combat operations.
- Agile battlefield responses are needed—rigid plans seldom survive contact with the enemy—and joint headquarters are best capable of providing them.
- Fostering a true joint culture—not jointness only when one's service is dominant—is essential.
- Traditional command structures, characterized by stovepiped service components trying to perform joint functions, cannot perform the new missions of joint expeditionary warfare.

Actionable Recommendations: The pros and cons of SJFHQs, and other changes in command structures, need continuing debate and analysis. SJFHQs may also need agile functional component staffs to implement joint operations at lower levels. As these issues are resolved, DOD should intensify preparations to establish STFHQs in geographic combatant commands that can carry out demanding joint expeditionary warfare. Future command arrangements should reflect these premises. SJFHQs, if created, must be vigorously exercised in simulated joint combat settings in ways that help determine the best way to achieve true air-ground tactical integration and to achieve combined planning for employing multiservice air operations to provide CAS for both Army and Marine forces.

Lesson 2*. Anaconda* indicates the continued need for accurate intelligence estimates, well-constructed battle plans, and jointly prepared backup branches and sequels (adaptive plans), which remain critical for joint combat operations with small mobile forces.

Sub-Lesson 2A: Accurate, joint intelligence estimates of threats are needed if modern battlefield operations are to succeed—*Anaconda* indicates the problems of obtaining accurate, actionable intelligence in murky situations where overhead sensors cannot pinpoint the enemy's strength and intentions, and human intelligence (HUMINT) provides data of uncertain reliability.

Anaconda **Experience:** Well before the battle, early intelligence estimates, which drew on HUMINT and other sources, claimed that nearly 1,000 al Qaeda and Taliban forces might be present in the Shahikot Valley but then were lowered to about 200 to 300 personnel. The intelligence debate centered on whether enemy troops would be on the valley floor or on the hills and how many were hard-core fighters. The number of troops actually encountered proved closer to the original estimate, and they fought harder than expected, many from ridgelines high above the valley. Because their intelligence estimate suggested a smaller and less capable enemy that could be suppressed by friendly Afghan forces, U.S. Army forces entered the battle not fully prepared for what unfolded and were initially caught off guard. Virtually all Army and SOF

casualties took place in the first 3 days. Once U.S. forces accurately understood the enemy, they reacted effectively and won the battle.

Accompanying Lessons: For U.S. forces, the mistakes of underestimating the enemy's capability, resolve, and worst-case responses can lead to commitment of inadequate forces and a flawed battlefield strategy. Sometimes, U.S. overhead intelligence and other technical means may not be able to provide a fully accurate portrayal of enemy forces and battle plans. HUMINT can be important, but it is vulnerable to being misleading or wrong. Future enemies will adapt to U.S. tactics and techniques and react accordingly. Battlefield plans must anticipate or at least address the uncertainties of intelligence as well as likely enemy tactics and U.S. forces must be prepared to adapt . This is a long-known truism, yet acting on it in concrete situations cannot be taken for granted.

Before an operation, the U.S. commander and staff should make every effort to reconcile disparate estimates of enemy forces and strategy and to carefully study the terrain. Sometimes uncertainty cannot be fully resolved, but lessening it and reducing U.S. vulnerability to unwelcome surprises is an important, achievable goal. Intelligence estimates should take into account enemy asymmetric strategies and tactics designed to slip the punch of U.S. precision fires. Estimates should not downplay the enemy's resolve, skill, and capability even if the enemy lacks modern weaponry—obvious, but true, and potentially fatal if neglected. If there is uncertainty about enemy forces and disposition, especially in rugged terrain, reconnaissance should be conducted before the battle by forces specially trained for that mission. During *Anaconda*, only a limited number of trained SOF reconnaissance forces were available; conventional reconnaissance forces, specifically long-range surveillance detachments, were not available. Some SOF forces conducted pre-battle reconnaissance but were unable to uncover all of the enemy's positions. For future operations, a combination of human reconnaissance and technical means will remain vital in developing a prudent regard for the enemy to help lessen risks of U.S. overconfidence and insufficient preparations before battle.

As *Anaconda* shows, use of all-source intelligence is key to getting accurate threat estimates of a fluid enemy. The need is not only for accurate threat data, but also for the ability of U.S. intelligence staffs to analyze it quickly and accurately. Predator is not a cure-all; it views the ground through a narrow focus like a microscope, and normally not enough of them are in orbit to provide full-time coverage of an entire battlespace. Maintenance problems and bad weather can keep some Predators on the ground when they are needed. *Anaconda* shows the liabilities of relying on questionable human intelligence and of trying to use communications intelligence (COMINT) when the enemy has good communications security. The best solution is often better "boots on the ground" reconnaissance by SOF and Army units, which was not heavily pursued at *Anaconda* owing to the desire to surprise the enemy.

Actionable Recommendations: Strengthen joint intelligence assessment procedures for making accurate battlefield intelligence estimates before operations are launched.

Sub-Lesson 2B. A sound operational concept on the battlefield is vital; without it, U.S. forces are vulnerable to reversals at the hands of determined adversaries capable of employing their own advantages. TF MOUNTAIN's original plan for *Anaconda* was

sophisticated, but it was also complex and fragile in ways that resulted in early reversals and the need for subsequent changes when friendly Afghan forces failed to perform their mission. Also, its primary reliance on ground forces did not take full advantage of the synergies that integrated air operations could have provided.

Anaconda **Experience:** The sophisticated U.S.-allied hammer-and-anvil strategy had to be modified when it encountered fierce enemy resistance. When the allied Afghan hammer was driven off, the U.S. ground forces, which formed the multiple anvils, were left vulnerable to counterattack and potential defeat in detail. The battle became a series of platoon-sized engagements with U.S. Army soldiers firing at enemy troops deployed above them in concealed mountain positions, and U.S. rotary and fixed-wing aircraft trying to provide CAS by striking small mobile targets on steep terrain that often defied swift, accurate targeting.

Accompanying Lessons: Dispersed operations can fracture the enemy's cohesion but can also leave U.S. forces vulnerable to attack by massed enemy forces and to defeat in detail. Sophisticated maneuvers requiring tactical mobility and adaptive operations can be hard to conduct with dispersed, dismounted infantry. Even a lightly armed but skilled enemy can exploit vulnerable U.S. battlefield tactics. If dismounted infantry are unable to concentrate, each cluster should be provided adequate organic mass and firepower to perform its missions. While the weaponry that accompanies dismounted infantry should be tailored to the occasion, a long-standing principle remains true: on its own, light infantry can lack combat power for fluid, offensive operations; armor and artillery give it added punch.

Anaconda shows that force networking and high-tech weaponry do not negate the classical principles of war that still endure in the information age. Precision strikes from long ranges provide important assets and synergies, provided they are employed properly and exploited fully. However, mass, mobility, maneuver, and up-close firepower are still vital. If complex maneuvers are attempted, they must be viable, and they should make use of sufficient enabling operations (psychological and information operations). Complex maneuvers should not allow the enemy to turn the tables on U.S. forces. Ready reserves—operationally mobile ground forces and agile air forces—for emergency reinforcements are often required and should be considered in battle planning as a hedge against unexpected surprises.

Actionable Recommendations: Ensure that *Joint Vision 2020's* emphasis on such operational concepts as effects-based operations (EBO) and rapid decisive operations (RDO) are translated into well-endowed skills for operational planning among the geographic commands and their forward-deployed command structures.

Sub-Lesson 2C. A well-prepared joint battle plan for impending operations is always needed, but in situations where unpleasant surprises can occur that necessitate changes, this plan should be supplemented by branch options or a backup plan for a different type of operation that enables the necessary adaptations. Such backup plans should be joint, not prepared separately by service components, for the reason that separate plans might not blend well to form an integrated backup plan. Regardless of whether adaptive plans are joint and sophisticated, they can be meaningless if they are not well supported by adequate reinforcing combat units and other necessary

resources. Unless such forces and assets are already mobilized, adaptability often cannot be improvised on short notice. *Anaconda* showed deficiencies in the early stages, even though adaptation ultimately succeeded.

Anaconda **Experience:** Per doctrine, TF MOUNTAIN conducted extensive planning before *Anaconda*. A backup adaptive ground plan was created with four branch options. It centered on committing another battalion of U.S. Army forces and/or a Canadian battalion in event of unexpected trouble. But TF MOUNTAIN and CFLCC did not involve the air component in a manner that later proved to be necessary. The air component was not fully involved in joint planning in ways leading it to prepare a backup plan anchored in major CAS operations of the sort actually carried out in the battle. Key air staffs were unaware of TF MOUNTAIN's branch plans; lack of knowledge about how the ground battle might change deprived them of a framework for determining how the air battle might have to change in response. Beyond this, in the days leading up to the battle, the main concern of the ground and air staffs was mobilizing the resources needed to execute the main battle plan, not the development of options in case this plan had to be greatly altered.

When the Army's tactical plan had to be changed because the battle unfolded in unforeseen ways, the lack of a backup plan capable of producing quickly arriving ground reinforcements and smoothly integrated air operations resulted in an improvisation that initially unfolded raggedly. Communications difficulties, coordination breakdowns, and lack of a common operational picture among the U.S. participants caused problems that slowed effective joint force integration during the first 3 days. As a consequence, a well-functioning, agile, adaptive plan took critical hours and days to become effective. By Day 4, airstrikes were unfolding more smoothly and effectively, Army reinforcements were beginning to arrive, and allied Afghan units were beginning to recover their balance in preparations for returning to the battle. The first 3 days were troubled partly because adaptive mechanisms did not unfold smoothly enough and fast enough.

It is important to emphasize that the problems initially encountered in mounting an effective adaptation did not stem from any wholesale lack of additional combat forces. Before it entered the battle, TF MOUNTAIN took steps to ensure that two additional battalions could be drawn on if necessary. It was deficient in mortars and artillery, but not infantry maneuver units. The air component had plenty of USAF/Navy fighters and bombers at its ready disposal to mount a bigger effort than contemplated by the main battle plan. Rather, the problems arose because the enemy resisted with greater ferocity than originally anticipated and because the new battle that actually unfolded with quick-breaking, explosive force was so different from the vision of the main plan. Specific kinds of additional capabilities were needed quickly. It was these specific capabilities, for both the ground and air components, that proved to be lacking in the initial stages.

Both components did a good job of mobilizing many of these capabilities within a few days—far faster than could have been done in earlier wars. Even so, the effect was to expose U.S. forces to greater danger and make them less effective during the early days. Would more intensive joint planning have resulted in awareness of the need for these specific capabilities, accompanied by steps to mobilize them before the battle began? Perhaps so. The interaction of the ground and air

components in a joint setting might have led one or both to realize the importance of such steps. As events turned out, the ground component did not anticipate additional requirements and the air component may not have understood the basic battle plan well enough to realize that such requirements could arise.

Yet it also seems true that, regardless of joint procedures, the need for such a major adaptation would not have been realized unless one or both components challenged the fundamental intellectual vision underlying the original plan and crystallized a clear forecast of the very different tactical battle that actually unfolded—a forecast clear enough to act on jointly at least a few days before Operation *Anaconda* got under way. Regardless of the many contributing reasons, the record suggests that such a searching appraisal was not accomplished by the joint process or by either component. To be sure, the ground component developed branches and sequels, but it is another matter whether these potential adaptations to the main battle plan produced keenly attuned conceptual awareness, by all components, of the full scope of joint adaptations that ultimately could become necessary. While participants in the battle have different insights on this issue, such a conceptual awareness does not seem to have taken hold across all command staffs. A searching reappraisal was conducted and quick adaptations were made after the battle began but not before it, when the time to assemble adequate resources was available.

One key point is that better use of joint planning procedures and component procedures can help safeguard against such troubles. Yet ,such organizational procedures are not necessarily adequate. What matters are the intellectual visions and associated battle concepts that animate these procedures and ultimately determine their analytical outputs. A third point is that, regardless of the intellect and experience of participants in battle planning, sometimes the future is so foggy and improbable that it cannot be predicted. Even in retrospect, *Anaconda*'s actual events come across not as an inevitable progression, but instead as a mounting, self-reinforcing cascade of improbable developments. Could *anybody* have been fairly expected to anticipate them? Perhaps not, but being caught unprepared by such surprises is something to be avoided whenever possible.

One safeguard against low-probability events and worst cases is battle planning that takes such potentialities seriously. But the best safeguard is commitment of U.S. forces that already possess the full set of assets needed to adapt in case world-class planning cannot forecast the unique capabilities that might be needed if events take a wrong course. While fielding a perfect insurance policy of adaptive assets is impossible, deploying a joint posture that has a reasonable range of flexible response options is achievable on a regular basis. Ground forces will be able to handle surprising changes if they are regularly equipped with the weapons and other assets (for example, artillery) to handle a full spectrum of tactical missions and are not dependent on battle planning to identify specific assets that might be needed in a particular encounter. The admonition to always be generally prepared also applies to air forces, which should be fully ready for CAS missions when ground maneuver units are operating near enemy forces, even if individual battle plans do not envisage close combat requiring air support.

Accompanying Lessons: Operation *Enduring Freedom* shows that effective planning and force deployment in the early stages of a buildup are critical. Adequate support assets for austere bases

and in-process monitoring of force flows are necessary. At the time of *Anaconda*, the Army had only small forces in Afghanistan and faced tight caps on its manpower and equipment levels. In retrospect, a decision should have been made either to deploy additional Army assets, including heavy weapons, before *Anaconda* began or to prepare a different battle plan that made better use of the joint resources actually available. But such a decision was not made. This constrained the battle plan's flexibility and necessitated reliance on allied Afghan forces for maneuvers that U.S. forces would have been better able to conduct. In retrospect, there seems little doubt that TF MOUNTAIN was under resourced for the mission it planned.

Anaconda also shows that fast-moving tactical engagements can require quick shifts in force operations, which are harder when a balanced mix of joint forces is employed. Battle plans are a means to an end. U.S. force operations should focus on defeating the enemy, not on pursuing the original plan. If the original plan no longer works, change it—a truism that, as World War I showed, is not automatically applied even in obvious situations.

Anaconda was a battle in which major changes in U.S. force operations became necessary quickly—not modest departures from the original plan, but wholesale departures. On short notice, about half of *Anaconda*'s ground forces—the friendly Afghans—was removed from the equation. Additionally, only half of the planned U.S. infantry could initially be inserted owing to bad weather. The original hammer-and-anvil operation quickly gave way to an operation anchored on air-delivered firepower, including major CAS strikes. Because this response had to be improvised, it took time to mount effectively.

The need for thorough, joint planning involving all services to create an integrated battle plan is well known. Less well known are the planning requirements for adaptive operations. Sometimes, these can be met by providing branch options to the original plan. Sometimes, when the original plan is no longer feasible, a radically different plan may be needed. Currently, branch planning and other forms of adaptive planning are the responsibility of joint staffs and service component staffs. The service components are mostly responsible for assembling the resources needed to make swift adaptation possible. Provided such resources are available, continuous anticipation of possible future operations and thorough coordination among all forces involved are critical to ensuring integrated joint operations. Yet it also is true that, regardless of adaptive planning, the twists and turns of individual battles cannot be predicted. For this reason, the joint forces committed into an AOR should have the capabilities for responding effectively across a wide range of situations before key battles begin. When such capabilities are already present, adaptations to unforeseen battle events can be made swiftly. When forces are not present and must be deployed from distant locations, adaptations will be harder and slower.

One risk is that, if the adaptation for a battle must be substantially different from the original battle plan, component branch plans may not add up to a coherent, potent whole. During *Anaconda*, the U.S. Army seemingly had prepared ample branch options but lacked the heavy weaponry needed to carry out the major adaptations that proved necessary. As a result, the USAF needed to perform major adaptations, and quickly. Although the USAF had plenty of combat aircraft and munitions in the aggregate, it initially lacked the assets in other areas (discussed later) that also were needed for the new, different battle that had to be fought. Had the ground and air forces worked more jointly on preparing branch options and adaptive plans, perhaps both

components might have responded more effectively and accomplished their objectives more quickly.

In summary, adaptive plans must have the required resources needed to carry them. These resources must be already mobilized and capable of entering the battle in a timely manner. Especially when major changes in battlefield operations are required, the necessary additional joint forces and other assets must be identified and mobilized before the battle begins, not as it is unfolding. Major changes often cannot be improvised overnight; they require joint adaptive planning and force preparations.

Actionable Recommendations: Improve structures and procedures for better joint adaptive planning at lower levels in geographic commands. Insist that joint and service planning staffs prepare joint flexible plans in ways that specify the full range of forces and assets that might be needed, including by adaptive operations. Create properly resourced backup plans when they might be needed.

Lesson 3. U.S. joint forces need improvement in conducting integrated air-ground operations in such battles. During *Anaconda*, improvements were needed in creating a common understanding of force employment concepts, establishing effective information networks and joint communications systems, and ensuring appropriate coordination of air-ground operations. Many such improvements have been made since *Anaconda*, but careful monitoring of continued progress will be needed.

Sub-Lesson 3A: Deficiencies in robust communications and information networking can damage the effectiveness of U.S. joint operations and multilateral operations with allied forces—as sometimes happened during *Anaconda.*

Anaconda **Experience:** Although battlefield communications and information networks worked satisfactorily within each U.S. service component, joint performance was less effective. Problems encountered in communicating and networking with allied Afghan forces were even greater. Evidently, long-range communications between TF MOUNTAIN headquarters and deployed forces in the Shahikot Valley at times were hampered by inadequate radios with narrow bandwidth and single channels, thereby requiring unusual connectivity procedures. Furthermore, communication between TF MOUNTAIN headquarters and component headquarters and CENTCOM was subjected to impediments. Army personnel could use their FM radios to communicate directly with overhead Navy and Marine Corps aircraft but not USAF aircraft, such as F-15Es and bombers. Lack of common understanding about the differing procedures governing CAS and interdiction strikes contributed to further problems in communication and understanding.

Because a full-fledged U.S. military presence in Afghanistan had not yet been established, the austere infrastructure affected the communications architecture. Headquarters data requirements outstripped the capabilities provided by assets in Afghanistan and forced reliance on commercial

variants. Theater-level signal assets supported communications from theater to tactical levels, thus creating incompatibilities with organic signal equipment used in the tactical headquarters. This reinforces the importance of deploying tactical headquarters with the organic assets needed to ensure compatibility and integration with higher headquarters and to provide for air-ground communications.

Accompanying Lessons: To carry out information-era operations, excellent joint communications at all levels are vital, as are communications with allied forces. Achieving success is not guaranteed because modern computers, communications systems, and sensors are available.

Modern information networks should operate in a manner that reinforces the time-honored practice of distributing authority and responsibility along the command structure so that effective operational and tactical decisions are made. Modern networks provide huge volumes of data that can be distributed quickly almost everywhere. Yet if not well managed, such data can overload the system. Information normally must be analyzed before it is useful. The task is to ensure that the right information gets to the right people and that distribution of non-essential information is limited to reduce overload. When big databases are used, provisions must be made so that personnel can easily download the portions of use to them. Providing instantaneous information to the Secretary of Defense and geographic combatant commanders has major advantages but does present liabilities if it results in undue intrusion from the top, inadequate discretionary latitude at lower levels, or delays as lower echelons wait for real-time decisions from above.

Distributed force operations across a big geographic area require interoperable radios, computers, and other assets that truly unite all forces in a highly effective, jointly integrated communications network. Since *Anaconda*, the 10th Mountain Division has acquired multi-channel, wide-bandwidth radios, but other Army divisions need them as well. Efficient battlefield communications between ground forces and supporting air forces is especially important yet often difficult. Multilateral communications can be impeded not only by technology that is not interoperable but also by security restrictions that prevent key battlefield information from being given either to participating allied forces or to other U.S. joint forces not originally intended to participate. Special mission SOF units especially keep operational information compartmentalized and unavailable to other headquarters.

Predator and other unmanned aerial vehicles (UAVs) do not automatically provide all of the overhead, real-time intelligence needed for combat operations at each level of warfare. Assets such as Predator were originally intended to operate in support of a theater collection plan. Currently, they are available only in limited numbers. As *Anaconda* shows, competing demands for limited surveillance and reconnaissance assets often create tensions among components and different command levels, each of which has its own requirements and priorities. For example, an air commander might want to survey the western part of the battlefield, and the ground commander might want to survey the eastern part. Likewise, the theater commander might want to survey enemy forces converging on the battle from distant places, and the tactical commander might want to survey immediate enemy dispositions on the battlefield itself. When all of these demands cannot be simultaneously accommodated, priorities must be established—but establishing them is not easy.

Even assuming wide-scale use of Predator, live-feed UAVs provide imagery of only a small slice of the battlefield. Their sensors have a narrow focus that results in users "looking through a soda-straw" while trying to assess a large area. Over-attention or fixation on these feeds can sometimes reduce overall battlefield situation awareness. Their use also can result in failure to respond to tactical imperatives. These considerations suggest that UAVs should be seen in perspective, and their use should be carefully prioritized. Perhaps the most important point is that because demands for UAV data feeds are growing, more of them should be deployed so that all key commanders with legitimate needs have sufficient access to their services.

Interoperable, multifrequency radios with adequate ranges and the capacity for cross-service communications are important. Whereas Army forces on the battlefield use frequency modulation (FM) radios that have limited range and rely on line-of-sight contact, air forces use additional frequencies, such as ultra-high frequency (UHF), very high frequency (VHF), and high frequency (HF), and often have long-range satellite communications. Army troops at *Anaconda* sometimes had trouble communicating with USAF aircraft flying overhead and with higher Army command echelons. They frequently had to resort to the more capable radios possessed by attached Air Force tactical air control parties. But this practice sometimes carried the risk of Army troops losing contact with their immediate tactical situation.

Actionable Recommendations: As transformation unfolds, strengthen U.S. military improvements in these areas. Remember that information networking is a means to an end, not a substitute for adequate planning or skilled force operations. The flow of information must be disciplined and channeled properly to be effective. The demands of security must be tempered by the necessity of conducting effective operations and maintaining agility. Accelerate acquisition of new, better radios for joint operations.

Sub-Lesson 3B. Reliable C^3 and FAC procedures are needed for coordinating tactical airstrikes in CAS support of ground forces. During *Anaconda*, these procedures evidently were uneven and ragged in the initial days. The lack of detailed, pre-assault planning and a fully operational Theater Air Control System (TACS) with an ASOC, plus a wide disparity in the equipment, theater experience, and procedures of tactical air control parties, added confusion to a complex and uncertain battlespace during the first several days.

Anaconda **Experience:** During the Vietnam War, after years of practice, CAS in support of ground forces was an everyday event; plans and procedures for employing it were well oiled. Since then, some observers claim, this talent has partly atrophied. Others point to the fast response time of many CAS sorties at *Anaconda* as validation of today's training and capability. While CAS planning is a routine part of many joint operations, critics say that CAS training is often of secondary importance in joint exercises and evaluation. Thus, there are conflicting interpretations of how CAS is treated in joint training and how it is practiced today. In USAF doctrine, CAS remains an important mission: the same applies to Navy and Marine air forces.

At *Anaconda*, several aircrews called on to conduct CAS strikes had minimal training in CAS operations. The emergency nature of the response and the dissimilar pattern of previous air

operations in *Enduring Freedom* help explain this phenomenon. Had an intense CAS campaign at *Anaconda* been anticipated, different aircrews might have been employed. Beyond this, because the nature of conflict during the past decade minimized the use of U.S. ground forces in close combat, the number of instances in which U.S. air forces conducted CAS in combat situations is exceptionally small. Yet the need for CAS as part of the integration of air-ground fires has always remained an important part of U.S. military doctrine. It is a mission that must be practiced on a daily basis. The *Anaconda* battle illuminates the criticality of ensuring that U.S. military personnel—ground and air—committed to particular battles have training in the specific operations of those battles. Otherwise, the lack of combat-experienced personnel and unrealistic training can add confusion and impede operations during battle.

At *Anaconda*, the battlefield was so congested that some participants may have lost sight of the practical distinction between CAS and interdiction, which is based on procedures and intent. As a matter of definition, *close air support* is "air action by fixed and rotary wing aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces." In this case, air fires and ground fires often overlap and must be coordinated and deconflicted. *Interdiction* is defined as "an action to divert, disrupt, delay, or destroy the enemy's surface military potential before it can be used effectively against friendly forces." Thus, interdiction strikes are normally conducted against enemy forces and other battlefield or near-battlefield targets that fall outside the physical zone of close proximity to U.S. ground forces and do not require the detailed integration of air-ground fires (for example, a decision on whether a target is to be struck by Army artillery or USAF fighters).

During *Anaconda*, there was no fire support coordination line. While CAS strikes often were conducted at the discretion of local commanders, interdiction strikes often had to be cleared by CENTCOM, a process that resulted in some delays. Strikes against ingress and egress routes outside the Shahikot Valley fell into the category of interdiction; strikes inside the valley fell into the category of CAS, but depending on the circumstances and the ROE, were subjected to different authorization procedures. For example, airstrikes against enemy targets on the Eastern Ridge were controlled by local commanders, but airstrikes on the western Whale initially were vetted through CENTCOM or CFACC when not done on an emergency basis.

Emergency requests by ground commanders for CAS strikes were always granted. Moreover, ground commanders had more leeway than many realized; the ROE permitted them to authorize airstrikes without prior CENTCOM clearance when they had visual contact with targets and could determine that the target had hostile intent. Sometimes U.S. ground forces did not take advantage of this authority, believing that CENTCOM approval was necessary. The CAS strikes themselves had to be subjected to command and control procedures to allocate priorities among multiple claimants on the ground and to ensure airspace safety.

To an important degree, ground and air planners may not have understood the definitions of CAS and interdiction during *Anaconda* and the different procedures for authorizing them. TF MOUNTAIN and its subordinate ground staffs viewed targets in the valley and along the surrounding ridgelines as CAS, primarily because these targets were often firing directly at U.S. ground forces. It viewed targets outside the valley as interdiction. By contrast, CFACC and

CAOC had an interpretation, based on their understanding of joint doctrine, that narrowed the scope of CAS targets and broadened the scope of interdiction. The difference proved important because, whereas CAS strikes could be ordered directly by ground commanders, interdiction strikes had to be approved by CENTCOM. Moreover, interdiction strikes were especially constrained by the ROE, which limited strikes to those targets where enemy forces were clearly present and there was no risk of collateral damage against civilians. This had the effect of delaying and constraining air interdiction strikes not only inside the valley but outside as well— for example, against roads leading to the valley that were being used by al Qaeda infiltrators.

Air component aircraft strove to act on emergency CAS requests immediately and largely achieved this goal. The response time of other strike missions, many of them urgent, is less clear. USAF data shows that the average time for CAS response was only about 5 minutes when the multiple passes and short response times of AC–130 gun ships are factored into the equation. Yet ground commanders complained that many strikes by fighter aircraft took 26 to 45 minutes and sometimes considerably longer. Apparently longer time periods mostly arose when interdiction strikes were made, which happened often at *Anaconda*, including against enemy positions firing on U.S. ground forces. The need to satisfy the ROE for self-defense influenced whether a CENTCOM vetting process was followed. Many of the interdiction strikes were against fleeting targets. During the interim time delay required to secure CENTCOM approval, the enemy troops often moved, especially if they sensed an airstrike coming. Army units sometimes were able to use their mortars to pin down enemy troops until airstrikes arrived, but even so, interdiction strikes of this type were frustrating missions for all involved.

During the initial 3 days, confusion over what constituted an interdiction or CAS target led to friction between ground commanders and the CAOC in responding to requests for air fires. Getting clearance from CENTCOM (or the CFACC for CAS), however, was only one of several factors contributing to delays in air responsiveness. Such factors included the constraining effects of CENTCOM rules of engagement and restricted fire zones, the need to prioritize CAS strikes, local air traffic control of stacked aircraft, problems in visually acquiring targets from the air, the need to select ingress and egress routes to maximize strike accuracy and reduce the risk of midair collisions, and, at times, lack of proper FAC equipment and radios on the ground. These factors are discussed in greater detail in the sections on Lessons 4 and 5 below.

Accompanying Lessons: Some critics allege that an effective air-ground operation requires harmonization of two different attitudes. To critics, the Army allegedly tends to see CAS as an extension of the ground battle, in which the ground force is the lead, supported element. By contrast, in the eyes of critics, the USAF allegedly sees CAS as only one form of precision strike in an overall theater air employment strategy that also includes interdiction and strategic bombardment. Critics suggest that both services understandably want to exert control over CAS assets, yet they often have different priorities in mind that can lead to troubled operations. Whether these allegations capture reality can be debated—any actual differences are not this stark, and official U.S. military doctrine aims at eliminating them. What *cannot* be debated is the fact that on the modern battlefield, ground forces must know how to take full advantage of the capabilities of air forces, and air forces must know how to provide a full range of support. At *Anaconda*, greater inclusion of the air component in early joint planning might have resulted in

better air-ground integration during the battle itself and in carrying out the emergency response that was mounted.

A major air bombardment campaign of the Shahikot Valley prior to insertion of U.S. and coalition ground forces undoubtedly would have greatly suppressed al Qaeda ability to mount a serious defense. The battle plan employed at *Anaconda*, however, was a *simultaneous* operation, not a *sequential* operation. The difference is important because in the future, simultaneous operations likely will be mandated by the tactical and/or strategic situation: as was deemed necessary at *Anaconda*. Indeed, recent U.S. joint operational concepts emphasize the growing likelihood of simultaneous versus sequential operations. Compared to a decade ago, the growing lethality of air power is reducing the time needed to carry out an effective preparatory bombing campaign. In the future, the decision between sequential and simultaneous operations will need to be made on a case-by-case basis: both strategies have advantages and drawbacks that can shift as a function of the situation. A key point is that when simultaneous operations must be launched in ways that remove the possibility of a big preparatory air bombardment campaign, the need for close integration of air-ground operations rises in importance.

During *Anaconda*, al Qaeda fighters demonstrated their ability to adapt by showing knowledge of tactics for diluting effectiveness of U.S. infantry, special operations forces, and airstrikes, including communications security, camouflage, dispersal, and use of protected cover. Concern for identified surface-to-air threats led CFACC to impose an informal altitude floor of 10,000 feet or more, unless there were extenuating circumstances. There were no cases in which CFACC denied requests to fly lower to employ ordnance for CAS strikes. Responsive U.S. capabilities and tactics likely will be needed in future combat operations against other adaptive adversaries.

Anaconda not only illuminated the need for tight integration of air and ground fires but also showed the complex challenges that can arise. The battlespace was very small, with dispersed nonlinear operations in which numerous small units were conducting independent engagements in rugged terrain, in an area in which a considerable number of tactical air control parties (TACPs) were operating. *Anaconda* illustrates the reasons for having a forward air command and control staff, plus airborne command aircraft and FACs, capable of handling responsively the demanding functions of air battle management and coordination with local ground commanders. The problems encountered during *Anaconda*'s first 3 days likely would have been less serious if such command and control considerations and assets had been part of initial *Anaconda* planning.

Ground-based USAF forward air controllers are a key part of CAS command and control,and should be allocated to all engaged ground units at the battalion level. In special circumstances, it may make sense to deploy them at the company or platoon level. *Anaconda* proved to be one such battle. Yet *Anaconda* also shows that too many ETACs can cause additional confusion over priorities and friendly locations and can overload communications and cause double-targeting. USAF data suggest that there was no shortage of TACPs and ETACs at *Anaconda*. About 37 ETACs supported U.S. Army and SOF forces there, but the desired standard of two-man teams sometimes gave way to one-man teams, and some Army units say they lacked an assigned ETAC at critical times. Also, some ETACs and Army units were short of laser/GPS target designators. Some ETACs lacked detailed maps and had to share with their Army commanders. It was

apparent that ETAC training, procedures, and equipment were not standardized across the force. Further, there was some confusion among Army personnel on the requirements and procedures for "emergency CAS" in a few instances when terminal air controllers were not present. It also is apparent that standardized CAS procedures need to be codified and understood by alliance partners and their ETACS. To facilitate timely attack of targets by all engaged forces, a system for certifying ETACS of alliance members prior to an operation needs further development.

The question arises: Are "universal targeteers" or "universal terminal attack controllers"—Army personnel who are empowered to perform the function of ground-based USAF forward controllers—necessary for the Army? Army and USAF senior officers made the case that Army artillery control personnel should get the training and authority to perform this function. Ground forces fire-support personnel who are not terminal-air-control qualified already have the authority and capability to direct CAS strikes in an emergency. They receive initial training for this function. However, they must be familiar with the procedures for, and requirements of, emergency CAS—not always the case at *Anaconda*. A concern is that dedicating additional CAS resources to train Army fire support elements could reduce training available for ETACs/GFACs, and FAC–As, who are the preferred terminal controllers. Also, use of an overall joint strike coordinator, or joint fires element as described in Joint Publication 3–03.9, is preferred to harmonize artillery, attack helicopters, and tactical airstrikes. In *Anaconda*, TF MOUNTAIN had an undermanned fire support cell and conducted limited prior air-ground training to facilitate such harmonization.

Airborne command and control is a critical component of CAS operations, especially in complex operations such as *Anaconda*. Because extensive CAS was not anticipated at *Anaconda*, and little true CAS had been conducted during Operation *Enduring Freedom*, few dedicated CAS command and control assets were in theater. Normally the principal assets used in this mission are FAC–As and airborne battlefield command and control centers (ABCCCs). The Air Force has been retiring the assets traditionally used for ABCCC missions, the EC–130E, and is transitioning this mission to the Joint Surveillance Target Attack Radar System (JSTARS; E–8C aircraft) with interim support from airborne warning and control systems. The lack of available FAC–As and JSTARS crews experienced in the ABCCC mission hampered early operations. There is general agreement that a FAC–A is a facilitator and essential to effective CAS in this type of operation. Air Force F–16s and Navy F–14s were re-roled as FAC–As on Day 1, but this mission had not been anticipated, and there were some gaps in coverage. Within 72 hours, USAF A–10s were deployed into the fight and assumed FAC–A duties, thus greatly improving command and control.

Because CAS will be a continuing mission that requires detailed force integration, the standardization of procedures and training for airborne command and control among the services is a critical element for future training and operations.

Actionable Recommendations: DOD should conduct a thorough review of joint FAC assets and procedures, and other C^3 dynamics, for coordinating multiservice CAS for Army ground operations. Consider the results of other DOD, CENTCOM, and service studies being conducted in this arena. As appropriate, resource additional joint training and certification of Army fire

support personnel for employment of joint fire support to include CAS and upgrade training of ETAC/GFAC/FAC–A.

Lesson 4. ***Anaconda* indicates that U.S. joint forces in battle require mission orders, rules of engagement, and associated fire restrictions that give clear guidance and exert proper controls while providing force commanders the authority and latitude needed to execute their missions.**

Anaconda **Experience:** *Anaconda* was conducted in a fluid setting where enemy forces fought close to U.S. Army forces, and in the Shahikot Valley itself, enemy troops often were intermingled with Afghan civilian noncombatants. The act of directing fires at enemy mountain positions required detailed coordination of air and ground fires. Many of the frustrations encountered are attributable to the battle ROE. The air component was not allowed to attack lines of communication or infrastructure targets without approval from CENTCOM or higher authorities. Procedures to grant greater discretionary authority to the local commander were eventually adopted, yet at the height of battle, over 200 fire support coordinating measures (FSCMs) were in use at one time with numerous aircraft stacked up.

Especially at the onset, this complex situation evidently resulted in delays and inefficiencies in U.S. force operations while legal clearance was granted, frequently at CENTCOM headquarters in Tampa, Florida, and rules for determining fire zones were adjusted. After *Anaconda*, an Australian ground team, which lacked a USAF-certified ETAC, evidently was denied a CAS strike against an enemy machinegun position that had been firing on it only minutes before. Since the machinegun nest was not firing at that precise minute, the ROE prohibited use of air power against it—even though it might begin firing again in the near future. Such problems in this arena could have been lessened by greater delegation of execution authority from CENTCOM headquarters to commanders on the scene, and by ground commanders making use of the authority they possessed but did not understand existed. The lesson is that ROEs need to be written clearly and deployed personnel need to be better trained with regard to their use.

Accompanying Lessons: In theory, mission-type orders, with clear commanders' intent, can help clarify battlefield goals and actions, provide a proper basis for centralized direction and decentralized execution, and facilitate joint force integration. A drawback of mission-type orders is that they can allocate so much discretionary authority to lower levels that high-level command and control can be sacrificed. To the extent possible, DOD should establish ROEs, restrictive and permissive FSCMs, selective engagement zones (SEZs), free-fire areas, airspace control measures (ACMs), target-categorization schemes, and other operational guidelines for targeting before battle begins—not as the battle is unfolding, as evidently sometimes was the case at *Anaconda*. Thus, DOD should anticipate potential ROE eventualities and plan for them by requesting appropriate supplemental measures in accordance with the Chairman of the Joint Chiefs of Staff Instruction 3121.01A.

During this battle, SEZs were created to achieve the flexibility to deliver unobserved munitions on targets as part of the TF MOUNTAIN interdiction operation. Commanders must ensure that

ROE and other procedures allow adequate fires to be directed against enemy troops. DOD should use ROE planning cells as appropriate with full staff representation to draft supplemental ROEs and monitor their execution. If deemed necessary, DOD should embed trained operational lawyers at the closest point of decision with fire support planners so that they can be consulted during tactical battles—as was the case with TF MOUNTAIN during *Anaconda*. Commanders need the authority to act quickly on the recommendation of their operational lawyers as necessary. This empowerment will limit the number of times that additional staffing is required to make timely decisions.

Actionable Recommendations: Thoroughly investigate and strengthen DOD and Chairman of the Joint Chiefs of Staff policies and procedures for the development and implementation of FSCMs, ACMs, and ROE during joint combat operations. Ensure that during all joint training and exercises, realistic challenges to the development and implementation of these restrictions are included. Study the concept of SEZs as a change to existing FSCMs and incorporate in applicable publications. Ensure that all operational lawyers receive the necessary training to perform their duties.

Lesson 5. The results of Operation *Anaconda* show why joint forces must be fully equipped and jointly trained for impending combat operations and (to the extent possible) unanticipated surprises, and why multilateral operations with allies must be well construed. Joint forces must understand the implications for training, equipping, and operating forces.

Sub-Lesson 5A: Ground Forces. Manpower caps should not be so stringent that they prevent deployment of adequate combat forces and support assets for combat operations. For demanding operations, Army forces must be tailored and employed as combined arms teams accompanied by sufficient heavy weapons for direct and indirect firepower. *Anaconda* exposes the vulnerability of employing only light infantry and air assault forces, backed by a few attack helicopters but without any artillery and armor— especially for situations in which air power cannot be employed, to maximum advantage.

Anaconda **Experience:** The entire Afghanistan campaign for *Enduring Freedom* took the form of an economy of force operation. One reason was the wish to limit the U.S. footprint in Afghanistan to reduce the impression of a full-scale U.S. invasion. Beyond this, CENTCOM had to remain continuously prepared for outbreak of a big, simultaneous contingency in the Persian Gulf, such as war with Iraq. Both considerations resulted in not only stringent force caps but also piecemeal commitment of forces. The effect was to complicate the task of planning for *Anaconda*. In addition, the length of time and bureaucratic procedures needed between the request for forces and the signing of deployment orders for them further added to the difficulty of preparing for *Anaconda* and actually carrying it out.

Expecting light resistance, TF MOUNTAIN employed Task Force RAKKASANS as the major U.S. Army tactical element. TF RAKKASANS had been built around the 3ᵈ Brigade, 101ˢᵗ Air

Assault Division, modified to perform a vertical slice of functions at the expense of habitual combat elements. For Operation *Anaconda*, it was composed of a combination of elements, including three light infantry and air assault battalions (six companies) and supporting SOF units. Armed with only small arms plus a complement of mortars and attack helicopters, these forces lacked the doctrinal artillery and other heavy weapons needed for intense combat against an enemy who possessed mortars and artillery. Their attack helicopters were quite effective but were soon damaged and driven off. As a result, they had to rely on improvised tactical air support to deliver the timely, accurate firepower needed to accomplish their mission and minimize casualties. Army reinforcements were provided, but 16 additional attack helicopters had to be airlifted from CONUS and another infantry battalion diverted from other duties in the theater to participate in the battle.

Accompanying Lessons: At *Anaconda*, operations were constrained by capped ceilings for manpower and equipment imposed on the U.S. military presence in Afghanistan. Had these ceilings been higher, and had artillery or heavy mortars (plus more cargo helicopters) been present, U.S. Army forces may have entered *Anaconda* better armed. If future expeditionary operations do not permit deployment of all necessary equipment to the battle zone itself, then prepositioning of assets nearby can speed the deployment of such equipment in a timelier fashion than calling back to such distant places as the United States or the Persian Gulf for reinforcements.

All operations must be assigned the joint combat forces needed to perform their missions. In principle, some expeditionary missions can be accomplished mostly by one type of force (ground or air forces) with only modest support from the other. When limited air support is planned or the application of air power is operationally constrained, the ground forces must be equipped with the full array of heavy weapons, including organic fire support. If the ground forces are to be smaller and more lightly equipped than normal, air commitments need to be strengthened accordingly. Ground forces should have sufficient weaponry to compensate for surprises and any unexpected diminution in the effectiveness of air power.

Ground tactical plans need to be agile and flexible, not rigidly committed to pursuing original expectations that do not survive initial contact with the enemy. The Army needs to be adept at switching from its original plans to adapt new plans for fighting the enemy—as illustrated by *Anaconda*. Employment of complete combat brigade teams that have habitually trained together enhances agility and flexibility in execution. Separate brigades offer a robust combined arms package as building blocks for joint expeditionary warfare.

Especially because many future operations will be small and mobile, U.S. ground forces need to be properly tailored and adequately equipped for them. Tailoring focuses on the vertical integration of the force, ensuring that capabilities are matched in the proper combinations and sequencing at the various echelons. Tailoring includes force allocation, augmentation, and refinement. Force allocation provides the basic maneuver elements—in this case a light Army brigade equipped with attack helicopters and mortars. Force augmentation adds sufficient artillery, tanks, and infantry fighting vehicles to provide extra firepower and maneuver, if called on. Force refinement ensures that the Army force meets the multiple dimensions of the planned operation. TF MOUNTAIN forces at *Anaconda* could have profited from additional 60-, 81-, and

120-mm mortars—which would have helped compensate for the lack of artillery. They also could have profited from inclusion of small man-portable counterbattery radars that direct mortar fires. 105-mm howitzers were needed at *Anaconda*, yet were not available not only because artillery was not deployed to the battle but also because there were not enough CH–47 helicopters available to lift them and the infantry troops at the same time. Also, the mountainous terrain constrained the use of artillery—yet the enemy employed some artillery tubes at *Anaconda.* A lesson is that for mobile ground operations, artillery and sufficient transport helicopters are both needed.

As a matter of mathematics, the absence of artillery support lessens the firepower that can be applied to enemy targets. Although air forces dropped considerable ordnance, an Army doctrinal complement of artillery tubes and heavy mortars (for a brigade task force) would have delivered an equal or greater amount of tonnage at *Anaconda*. Even a few artillery tubes and mortars would have made a helpful difference. Especially in situations where airpower's effectiveness might be constrained, Army forces should be accompanied by indirect fire assets. Heavy mortars can be especially effective in mountainous fighting. If heavy mortars, artillery, and armor are to be employed in distant expeditionary battles, provisions must be made to identify and apply the necessary strategic sealift or airlift assets.

Anaconda shows the benefits of infantry troops having good body armor—this kept serious casualties lower than otherwise would have been the case. Ground forces also must be provided readily available ammo stocks, medical support, and other support assets as a hedge against longer-than-expected resistance and extended operations. Care should be taken to ensure that individual combat soldiers are not so overloaded with personal gear that they are unable to move quickly. The Army faces the enduring challenge of learning how to employ dismounted, dispersed infantry in ways that yield effective operations rather than risk being defeated in detail. The sweep operations conducted after *Anaconda* worked better than the dispersed operations of that battle.

Actionable Recommendations: DOD should make sure that future Army force plans for joint expeditionary operations are not so limited by force caps that they prevent deployment of sufficient armor and indirect fire assets to perform all missions, including against stronger-than-expected adversaries. Consider the use of complete brigades, and especially independent brigades, as the Army's building block for expeditionary operations.

Sub-Lesson 5B: Air Operations. If the contributions of air forces are to be used to full advantage, the air component must be brought into joint battle planning early enough, and thoroughly enough, to allow it to identify, mobilize, and apply the necessary air resources. Likewise, the air component should take proactive steps to ensure that it assembles the full resources that may have to be used if joint air-ground operations result in unexpected calls for the increased application of air power and/or the use of CAS in unusually demanding environments. A well-planned, adaptive, and properly resourced joint air operations plan, as part of the theater campaign, is necessary for joint operations. At *Anaconda,* improvised air operations encountered troubles in the initial days as well as constraints on their effectiveness due to the peculiar nature of this battle.

***Anaconda* Experience:** The application of air power, in conjunction with ground operations, is what ultimately won the *Anaconda* battle. In retrospect, the effectiveness of air power could have been enhanced if circumstances had permitted systematic airstrikes against enemy forces and positions in the Shahikot Valley in the days and hours *before* U.S. Army forces were deployed. Even absent such preparatory bombing, the effectiveness of air power could have been enhanced if integrated joint planning and component planning identified the full spectrum of air resources that might be called on in the upcoming battle and provided the air component the awareness needed to deploy these resources to the battle area. For example, ABCCC or other appropriate aircraft could have been deployed from CONUS before the battle began, additional A–10s and other aircraft could have been committed, and additional CAS munitions could have been prepositioned. To an important degree, the resource troubles encountered by air power during *Anaconda* were a product of failure to take such preparatory steps.

The idea of conducting a preparatory air bombing campaign before major ground operations are launched has been a hardy perennial of U.S. defense strategy since World War II. As shown at Normandy, *Desert Storm*, and many other battles and operations, the reasons for this precautionary practice are sound: air power can soften the enemy and make it easier for U.S. ground forces to perform their missions when they attack. Iwo Jima was a case in which weeks of air bombardment and shelling by Navy battleships failed to suppress a well-armed enemy that was dug into fortified mountains and rocky positions. The effectiveness of such preparatory bombing thus is a variable, not a constant. But the wisdom of employing it whenever possible is beyond dispute. Likewise, the judgment that U.S. air forces have become expert at performing preparatory bombing—owing to modern aircraft, munitions, and command, control, communications, computers, intelligence, surveillance, and reconnaissance systems—is also beyond dispute.

Before Operation *Anaconda* was launched, Air Force records show that both the ground and the air component considered a bigger preparatory bombing campaign than actually was launched. For reasons stemming from the intelligence information available at the time, TF MOUNTAIN planners ruled out such a bigger campaign. One reason was to preserve the element of surprise and thus lessen the risk that al Qaeda fighters would use the advance warning to deploy from the valley floor into mountain positions. Another reason was to preserve intelligence exploitation of caves. A third reason was uncertainty about the number and location of innocent Afghan civilians that might be affected. Underlying all of these reasons was a judgment that the combination of planned ground forces, including friendly Afghan troops and six companies of U.S. Army light infantry, was enough combat power to get the job done in short order.

TF MOUNTAIN planners judged that Operation *Anaconda* would require only 3 days of interdiction strikes and limited CAS support. As a result, their requests for air contributions reflected this vision; they made no further requests through the CFLCC to CFACC. In the period of days before the battle, the air component effectively assembled the air resources needed for this battle plan, including securing a large volume of fuels and earmarking combat and support sorties in the ATO. Yet the air component did not anticipate any increase in requirements beyond this request and thus did not develop an adaptive plan and resource it accordingly.

Although initial rehearsals did not include the theater air support system, weather delays of a few days provided an opportunity to practice joint fire support with the air component. Early on Day 1 of the battle, the limited number of planned airstrikes was reduced by about one-half owing to proximity of SOF forces. A drawback of not conducting more preparatory bombing was that it may have resulted in lucrative targets (for example, logistic support, communications, fuels and ammo sites) not being attacked. This absence of preparatory bombing left the air and ground components facing an unsuppressed target system as the *Anaconda* battle exploded with full ferocity when U.S. Army forces entered the valley. As events turned out, the air forces flew an average of 65 combat sorties per day throughout the battle. Fighters flew the majority of these sorties, but about one-third were flown by bombers and by such CAS-capable aircraft as A–10s and AC–130s.

When TF MOUNTAIN called on the air forces for immediate help as the early battle took an unexpected course, the air component quickly had to mount an improvised campaign. Initially, the full set of necessary resources was not on the scene. The ATO was configured to provide constant, on-call XCAS sorties for the ground commander, but the entire TAGS was not in place. The air component was never lacking in aggregate numbers of combat aircraft, but it faced the challenge of conducting multiple CAS strikes simultaneously in a confined battlespace without having a mature TAGS in place to deconflict and prioritize targets. Added to this difficulty was the additional challenge of prosecuting strikes against time-sensitive, high-value targets and against subsequent interdiction targets. The result was a highly complex air operation facing CFACC and the pilots flying the combat and support missions. A–10s and other aircraft were added, but they often had to fly in from outside Afghanistan. Had better advanced planning been conducted and additional CAS air assets been allocated, the air operation likely could have been more responsive and effective in the initial stages.

To meet requests by the ground commander for maximum air support, the CFACC provided air assets to the limits allowable by available resources and the air space: the *Anaconda* battlespace was no bigger than a normal large air force base. Air commanders placed aircraft on orbit in stacks close to the fight to feed strikes into the battle in a timely manner. Ready availability of air tankers resulted in many aircraft staying in the battle zone for hours, until their munitions were exhausted. The effect was around-the-clock coverage. In theory, additional aircraft could have been sent from elsewhere in the CENTCOM AOR to help, but the air operation was not constrained by any lack of combat aircraft. In total, about 900 strike sorties and 3,000 associated support sorties were flown for this battle—a level that amply matched or exceeded historical norms and typical DOD planning factors.

Although some critics have charged that USAF aircraft remained high while Navy and Marine aircraft struck from low altitudes, this accusation is not accurate. All aircraft, regardless of service component, operated according to the same altitude restrictions established by the CFACC and published in the special instructions. Air Force records indicate that both USAF and Navy aircraft performed strafing missions during *Anaconda*. Authority to go low rested with the CFACC, which did set an altitude floor for normal operations. While some low-pass requests were denied when the goal was to suppress the enemy with jet noise alone, requests for delivering ordnance were never denied. High-altitude strikes can be precisely accurate when they are conducted with smart munitions and accurate target designations.

At Operation *Anaconda*, air operations delivered a great deal of ordnance and resulted in considerable destruction of enemy targets. Aircraft performance varied as a function of their characteristics and the operational manner in which they were used. High-flying fighters and bombers were excellent at striking fixed targets but were constrained at performing pinpoint attacks against small mobile targets, for example individual foxholes, especially when accurate target designations were not available. A–10s and AC–130s excelled at performing their type of CAS strikes at night.

Unique problems constrained air operations at *Anaconda*. There was no forward edge of the battle area, forward line of own troops, or fire support coordination line. The small, congested area of the Shahikot Valley made it hard for several aircraft to strike targets at the same time. The CFACC determination was that, from a safety perspective, only two CAS events should occur at the same time. In actual practice, up to six strikes occasionally were in progress. The rugged terrain sometimes made it hard for pilots to visually acquire targets being nominated from the ground. Ingress and egress routes had to be carefully selected to maximize the likelihood of success, minimize the danger posed by enemy fires, and avoid mid-air collisions. Such factors sometimes contributed to delays even when authorization for strikes had been granted by AWACs or other controllers. The steep terrain sometimes resulted in greater inaccuracies than normal when ordnance was delivered. Evidently, al Qaeda fighters were able to see incoming U.S. aircraft and sometimes ran from their positions to protective caves before the strikes arrived. Army light mortar fires were employed to help pin them down so that airstrikes could destroy them.

Airstrikes undeniably were invaluable in providing fire support to U.S. Army forces on the ground—a judgment reflected in interviews and commentary offered by Army soldiers in the battle. A question does remain as to how many enemy troops were killed by U.S. airstrikes. Following the battle, DOD announced that several hundred had been killed. Some of these were killed by Army fires, especially by mortars and attack helicopters. Airstrikes doubtless accounted for a significant portion of kills, but exactly how many were killed is not known. The ratio of kills to sorties does not conform to the popular image—for example, in RAND studies of air forces striking exposed enemy armored columns—of single air sorties killing multiple targets. Judged in relation to the resources employed, the air operation may not have been particularly efficient at producing lethality, and in the initial days, it did not suppress enemy soldiers enough to prevent them from firing at exposed U.S. Army troops. But judged overall, the air operation proved effective in a strategic sense—it helped destroy enemy forces and facilitated efforts by ground forces to close with the enemy. Together, air-delivered firepower and ground assaults proved to be a lethal combination in winning the battle.

Accompanying Lessons: Operation *Anaconda* shows the complexities of an air operation where interdiction, time-sensitive targeting, and CAS should be integrated with ground operations to effectively pursue a joint battle in a single space. Prior to battles, a great deal of planning and coordination must be invested to establish procedures for allocating sorties to competing missions, deconflict different types of strikes, ensure that participating components from each service understand what will be demanded of their forces, and integrate air-ground operations.

Situations can arise when quick decisions must be made in allocating overhead sorties between CAS and interdiction strikes. Similar decisions must be made in allocating scarce CAS sorties among multiple claimants on the ground" the joint force commander makes his priorities known and the CFACC carries them out. Physical space must be cleared for airstrikes to carry out their missions without fear of midair collisions. When strikes are launched from high altitudes, care must be taken to ensure that aircraft are not flying immediately below. These are compelling reasons why air planners must be brought into the joint planning process well in advance of ground operations. Their task is not only to schedule sorties and munitions but also to ensure that the entire air operation is properly developed. Major air operations cannot be mounted on the fly or improvised quickly as a ground battle is unfolding. Phase 1 of the Joint Air Tasking Cycle involves component coordination. For valid reasons, Air Force and Navy air forces require adequate advance notification of upcoming ground operations and their full requirements so that they have time and knowledge to make the necessary preparations. As in all past wars, time will remain at a premium. To build greater flexibility into future joint operations, including those involving noncontiguous battlespaces and fleeting targets, the U.S. military needs to refine air tasking procedures. These procedures need to provide sufficient timely information to air planners to work out details for air crews while also enabling swift air attacks under rapidly changing conditions.

CAS is different from time-urgent air interdiction and sometimes requires unique assets and capabilities. In addition to the proper aircraft and munitions, CAS necessitates detailed integration of air-ground fires, preexisting knowledge of enemy positions and ground movements, CAS-effective munitions and weapons effects, effective C^3 from air and ground, an ability to establish priorities for providing CAS support to dispersed ground units, and an on-scene, airborne traffic cop prepared for this role. CAS must be requested, apportioned, and allocated as part of the ATO in advance. Centralized control and decentralized execution of joint air operations seem essential if agile changes in response to quick-breaking emergencies are to be possible. A joint fires element, or the equivalent capable of integrating ground fires, may be needed.

In *Anaconda*, al Qaeda fighters were not destroyed by preparatory bombing, nor did they flee the area. Instead, many were in the mountains waiting for U.S. Army forces to arrive, and they were soon reinforced from outside the valley. Even when U.S. strikes were delivered in a timely fashion, the steep mountains, difficult ingress and egress routes, and tendency of enemy troops to duck into caves constrained the ability of attacking aircraft to achieve multiple kills per sortie. Since airstrikes did not begin in earnest until after the U.S. ground forces were deployed close to enemy forces, the targeting problems were much more difficult. Al Qaeda troops also showed good communications security and an ability to conceal their positions from overhead observation. They also dispersed their positions, thus lessening the risk that several troops could be destroyed by a single U.S. sortie. Their primitive air defenses damaged Army attack helicopters and constrained other air operations in various ways. This reinforces the importance of adding joint suppression of enemy air defense assets to air campaigns. All of these factors are a reminder that rugged terrain, bad weather, and the tactics of even lightly equipped but wily enemy forces can dull the lethality of precision airstrikes as well as the effectiveness of U.S. ground operations.

Just as Army artillery fires are not always instantly available, neither are CAS strikes. Even when CAS-assigned aircraft are circling overhead, formal procedures must be employed to ensure that their fires are delivered accurately. Often multiple GFACs and ETACs are calling for strikes at the same time, and priorities must be set. During *Anaconda*, multiple FAC teams were operating at separate sites on the ground, all requesting CAS strikes, many at the same time. Even with an established air command and control system, difficult decisions often must be made in establishing priorities, and this cannot always be done on a moment's notice. Also, sometimes GPS or laser-provided data, or even good maps, were not available to the ETACs assigned to conventional Army forces at *Anaconda*. In this event, CAS strikes require FAC controllers to communicate visual information to overhead aircraft, whose pilots must understand exactly the targets being nominated for them. Even when GPS coordinates or laser-designation information are available, they must be transferred from aircraft to munitions.

Since most aircraft carry different types of munitions, decisions must be made about which ones should be used for each target. Air controllers must ensure that other aircraft are not present in ways that might cause collisions. Ingress and egress routes must be selected to optimize weapons accuracy and reduce the risk of being struck by enemy fires or incoming friendly artillery. Care must be taken to ensure that U.S. ground personnel are not in the immediate vicinity of strikes. The attacking pilot normally must be able to visually acquire the target and verify the information given to him before beginning his pass. When flying over rugged terrain, visual contact is often not easy or quick. All of these steps can take some time. Even a few minutes can seem like hours to ground personnel under fire. Yet it is important to remember that, according to Air Force sources, on average CAS strikes directly supporting troops in contact arrived quickly, within 5 minutes from the moment requested to the moment delivered.

When longer time periods were required, *Anaconda*'s unusual features were a contributing factor. In the Vietnam War, with a mature TAGS in place for some time, CAS and time-urgent interdiction targeting often took as little as 5 to 10 minutes. But this fast responsiveness applied mainly to situations where the terrain was clear and no other impediments applied. In constrained conditions, response time there was slower as well. The bottom line is that response time is a variable, not a constant, yet everything should be done to make it as fast as possible.

Operation *Anaconda* illuminates the Army's belief in such CAS-specialized aircraft and crews as the A–10 and AC–130. *Anaconda* also reinforces the USAF belief that bombers and fighters, including F–15s and F–16s, can be used for CAS strikes. Modern fighters have improved avionics and other assets that enable them to conduct CAS missions better than could aircraft of the Vietnam era. When equipped with precision-guided munitions (PGMs) and accurate target designations, fighters and bombers can lethally strike pinpoint targets from high altitudes. Yet *Anaconda* also reconfirms the extent to which rugged terrain, bad weather, communications problems with FACs, target identification problems, munitions constraints, and other factors can limit the effectiveness of this model. Fighters armed with PGMs can precisely strike many targets along the spectrum, but not all targets or in all situations. The key point is that the mix of aircraft should be chosen with the requirements of the particular battle and its missions in mind.

Anaconda shows that air munitions are an important factor in the integration of air-ground fires. As already specified in doctrine, the air component should equip all combat aircraft with a

flexible spectrum of munitions and other assets that allow for optimal, fast-response targeting. A complication of using powerful bombs for CAS missions is the need to ensure a proper standoff distance from U.S. ground troops. During the Vietnam War, for example, U.S. ground forces typically tried to ensure a standoff distance of 3 kilometers when 500- or 750-pound bombs were dropped by aircraft. Such considerations remain relevant today; although airstrikes are more accurate, PGM bombs are often 1,000 or 2,000 pounds in size, thus having a blast radius of 3,400 feet that can shower nearby U.S. troops with debris if they are too close. An implication is that if enemy fire positions are within 500 to 1,000 meters of U.S. troops, they may have to be targeted with different munitions. This is a reason why strafing gunfire was popular in Vietnam and remains valued by Army commanders today.

The modern inventory provides a growing array of munitions for operations similar to *Anaconda*, including joint direct attack munitions (JDAMs), PGMs that can be used against moving targets, cluster munitions, dumb bombs, thermobaric bombs, and cannon gunfire. for this inventory to be of full use, the proper mix of munitions must already be deployed in ways that allow them to be loaded daily aboard aircraft flying sorties. This reinforces the importance of performing advanced joint and component planning before the battle begins so that the right stockpiles of air and ground munitions are immediately available to the forces that need them. *Anaconda* also seemingly reinforces the need for the small-diameter bomb and other accurate, lower-ordnance munitions that can be used against infantry positions and similar targets not requiring great explosiveness.

When possible, forward basing of combat aircraft makes sense because it locates them close to battlefields, thereby minimizing flight time and maximizing loiter time. At *Anaconda*, Navy fighters flew from the decks of aircraft carriers located several hundred miles from the battle area. Many USAF aircraft flew from longer distances—for example, Diego Garcia and the Persian Gulf. This practice was made necessary by the lack of forward bases and prepared infrastructure in Afghanistan. Provided adequate refueling aircraft are available, long-distance flights are no impediment to the effectiveness of individual sorties, yet their drawbacks to an enduring air operation are obvious. By definition, the longer the flight time to get to the combat station, the less time is available for performing strikes and support missions. Even when tankers permit regular refueling, sorties of several hours' duration are fatiguing to pilots. Long sortie times also can make the goal of multiple sorties per day for each aircraft—a DOD planning goal put forth by past Secretary of Defense planning documents—a chimera. The *Anaconda* experience reinforces the conclusion of the Quadrennial Defense Review (QDR) 2001 that DOD should do everything possible to establish access to prepared air bases and infrastructure in areas where future joint expeditionary operations may be conducted.

The total number of combat sorties flown at *Anaconda* provided a large volume of air power for a small ground battle. Yet this heavy allocation was possible only because the situation permitted an exclusive focus on *Anaconda*. At the time, no other major battles were in progress, nor were the air forces compelled to divert sorties to countersanctuary missions and deep interdiction. Normally, ongoing air campaigns necessitate such diversions in major ways, thus limiting the airstrikes available to help support a single ground battle. Also important, the weather during *Anaconda* was good enough to permit constant airstrikes. Bad weather could have made this

intense, focused air campaign much more difficult. This fortunate turn of events needs to be remembered in evaluating *Anaconda*'s lessons.

The ATO at *Anaconda* worked in accordance with joint doctrine. The ATO is a planning/scheduling tool that ensures aircraft are prepositioned where they can respond rapidly with the right ordnance and are flowed to match the battle plans and requirements of joint operations. The 36-hour period needed to create an ATO is the time required to build and resource an air employment plan, not the time needed to pursue individual target requests. Once airborne, combat aircraft can be employed for flexible purposes and often can respond to new targeting requests quickly. Yet an equally valid point is that if an ATO does not assemble the appropriate combat aircraft and other assets, the air resources available at the moment might not be adequate to the task.

In retrospect, the established norm of metering sorties—spreading them out evenly over a period of hours—can limit the amount of airpower that can be concentrated within any single hour. At *Anaconda*, evidently this was not a serious constraint because often there were several aircraft circling overhead at any one time. The bigger problem was getting these sorties to strike their targets in a timely, effective fashion. Yet in other battles, a capacity to switch from metering to surge operations could be more important. The practice of metering sorties across the span of a single day reflects Air Force and Navy battle management procedures as well as aircraft flows at air bases and aboard carriers. With advance warning, big surge operations can be launched as regularly as was the case in Vietnam and *Desert Storm*. Future combat operations should be planned with this flexibility in mind.

As previously mentioned, high-intensity CAS and nearby interdiction of the sort performed at *Anaconda* can require a special set of support aircraft. During Vietnam, CAS operations were supported by ABCCC, airborne FACs, and other aircraft. To the extent such assets are available today, they must be planned in advance so that they will be available from the start of the battle onward. Sufficient refueling tankers should be deployed close to battle zones to maximize loiter times for tactical air forces—not a problem at *Anaconda*. The closer the tankers, the faster all combat aircraft can return and operate until their ordnance is spent—again, not a problem at *Anaconda*. Evidently overhead intelligence surveillance and imagery intelligence sometimes were not highly effective in identifying mobile enemy targets during the operation. Better assets may be needed for directing Army indirect fires and CAS operations at such targets.

A final lesson deals with service policies for rotating personnel during expeditionary operations such as *Enduring Freedom*. As U.S. Army units were preparing for *Anaconda*, a few key, well-trained USAF personnel were rotated out in accordance with the normal schedules, which called for 3-month rotations. Replacing them were personnel who had the necessary technical qualifications but no immediate experience in Afghanistan or with local Army units, including TF MOUNTAIN. The same consideration, of course, applies to manpower policies for other service components. The key point is that during the process of preparing for actual combat missions, as opposed to peacetime assignment of personnel to units who may be called on for expeditionary missions, care should be taken to ensure that combat readiness is not sacrificed.

Actionable Recommendations: The planning and execution of *Anaconda* indicates that the U.S. military needs further education and training to improve how joint task forces are tasked and are organized to integrate, command, and control joint operations. Each operation requires careful planning to assure that the proper mix of assets is provided for performing all key missions. Component headquarters must coordinate their planning to the maximum extent possible. Toward that end, higher headquarters should grant proper authority for such planning as early as possible. Execution authority should be decentralized as much as possible in accordance with joint doctrine.

The U.S. military should conduct a thorough review of the joint ground and air planning cycle, doctrines, practices, and programs for ensuring that air operations are completely integrated with ground operations and that quick-response air operations can be mounted in support of ground forces. As necessary, the doctrine for CFLCC and CFACC should be modified to anticipate requirements for CAS and for providing sufficient time to assemble the proper forces and assets. Steps should be taken to clarify responsibilities for ensuring that air campaigns are properly resourced, to ensure that air component staffs are integrated into joint planning for ground operations, and to otherwise optimize air-ground synergies.

Sub-Lesson 5C: Joint Training. Early *Anaconda* setbacks may reflect lack of combat experience by U.S. forces. To a degree, this deficiency can be partly offset by rigorous joint training and exercises, including creation of better joint training centers and programs in CONUS.

Operation *Anaconda* shows graphically that joint expeditionary warfare in the information age is a demanding art that requires high military skills at the tactical level. Joint expeditionary battles themselves tend to be complex and demanding. The act of applying modern technologies, information networks, weapons, sensors, and munitions makes them even more demanding. Notwithstanding their impressive equipment, U.S. forces will risk not performing well in such battles if they lack the high degree of integrated skills that are needed not only by individual military personnel but also by complex organizations that are operating together at the tactical level. People and units acquire such skills quickly once they experience combat on a regular basis. But they can be lacking when the battle being fought is the first combat experience for those involved.

This is a core reason why advanced peacetime training and exercises are so important today. U.S. military training regimes, which are the best in the world, aim to inculcate these skills, including skills at joint operations. Some of the problems encountered at *Anaconda* cast a bright light on the need to ensure that training and exercises are as effective as they can be made. Evidently *Anaconda*'s problems in this arena reflect similar problems often being encountered during CONUS training and exercises. If so, this reinforces the importance of trying to solve the issues during the training and exercise process, for they can be hard to resolve on the battlefield.

Anaconda **Experience.** Prior wars show that U.S. forces fight best when they already have gained the battlefield experience needed to fine-tune their skills. In many future cases of joint expeditionary warfare, U.S. forces will enter fighting without combat experience. Taking steps to compensate for this deficiency—to the extent possible—could be important to success, including U.S. forces that need ample training to employ their information-era assets to full advantage.

Accompanying Lessons: Modern combat requires great skill and high-speed performance, not only individually, but by units at all echelons. Unit teamwork is enhanced by training as the unit would fight. The practice of not employing habitually trained combat teams as complete units impairs this performance.

Inexperienced and unacclimatized forces can fail even if they are well armed. Obtaining local operational experience and acclimatization prior to employment requires detailed planning for some in-theater training of ground forces before their use. Rigorous peacetime joint training and exercises are a next-best substitute for battlefield experience. Maximum use of combatant command-structured training and exercises exposes all types of units to the particularities found in specific geographic areas. Joint training and exercises should be conducted under realistic circumstances at the tactical level. Fostering a common battlefield culture is important, especially for the coordination of air-ground operations.

Anaconda highlights the need for better joint training centers and programs in CONUS and for such training to conform with how U.S. forces actually will fight small mobile battles using integrated air and ground operations. For example, Army officials report that U.S. Army troops, in their CONUS training, had become accustomed to USAF fighter aircraft conducting low strafing missions. When the Air Force relied mainly on high-altitude strikes at *Anaconda*, some Army soldiers wondered whether they were receiving adequate USAF CAS support. Often they were receiving such support because USAF high-altitude bombardment with smart munitions was more effective than low-altitude strafing, but for the Army troops, the problem was one of perception and morale. Conversely, Air Force officers suggest that often Army training and exercises are not oriented to understanding how air power can contribute to the battle, and to learning how to work closely with air forces. In their view, this deficiency was manifested at *Anaconda*. Joint training and exercises should be tailored to ensure that the Army and Air Force can work in integrated fashion in tactical battles. Training should reflect the way that the U.S. plans to fight.

Actionable Recommendations: Prior to committing combat forces to battle, ensure that they have had the full benefit of joint training and exercises and otherwise meet DOD readiness standards. Employ trained ground combat units as complete teams. If necessary, intensify training regimens to develop skills needed in early battles before experience is gained. Once in a theater of operations, allow ground combat units an opportunity to acclimatize themselves before committing them.

Sub-Lesson 5D: Multinational Operations. Tactical engagements involving multinational operations are very demanding and vulnerable to reversals if allies/coalition partners fail in their missions. U.S. forces must know their allies as well as their enemies—not the case at *Anaconda.*

Anaconda **Experience:** Earlier in Operation *Enduring Freedom*, the practice of relying on friendly Northern Alliance ground forces, combined with spotter-supported U.S. air forces, worked against Taliban forces. Before *Anaconda*, U.S. Army planners had reasons to anticipate that the same model could work for them. Use of Afghan troops made sense because they would

be better able to perform the close-combat task of separating al Qaeda troops from civilians. But at *Anaconda*, this model did not apply. Unlike the Taliban elsewhere, al Qaeda troops chose to stay and fight from long-prepared positions that gave them protective cover and clear fields of fire. U.S. Army officers report that the possible presence of civilians made it impossible to plaster the Shahikot Valley with suppressive fires prior to commitment of ground forces. When ground combat began, allied Afghan forces, which were not from the Northern Alliance, disengaged from their initial missions, thereby leaving U.S. ground troops vulnerable.

Accompanying Lessons: Military history is replete with examples of forces from one coalition partner failing at the moment of truth, thereby exposing the forces of other partners. The Vietnam War, for example, saw South Vietnamese forces often perform poorly in ways that enhanced the danger to U.S. forces. In recent years, the U.S. military experience with allies and partners has been better—for example, partner forces contributed to *Desert Storm* and the Kosovo war. Yet the reality remains that effective performance of allies and partners in intense battles should be seen as a variable, not a constant. Obviously, much depends on the quality of allied/partner military forces.

Multinational operations require a high degree of force interoperability—not only common capabilities and complementary doctrines but also mutual confidence and awareness. In multinational operations, efforts should be made to ensure forces of coalition partners can be relied on to carry out their missions. If they are not fully reliable, they should not be employed for critical missions whose failure can unhinge the entire operation. For example, allies/partners can be given simple missions that they can perform, while U.S. forces can be given the missions that require agile maneuvers and complex operations. Army mobile liaison teams can be employed as a robust liaison and can provide staff assistance to major allied force headquarters, such as occurred during *Desert Storm*. DOD should ensure not only reliable connectivity with allied headquarters but also professional staff planning and ground-truth information about what the allies are doing and can be relied on to do.

Close multilateral operations with the British and some others will be possible, but while the so-called Afghan model worked early in *Enduring Freedom*, it should not become the norm for operations against capable enemies. Normally, DOD should not rely on allies to perform the bulk of ground missions while U.S. forces provide mainly air power and spotters. Enough U.S. ground forces should be committed to perform critical missions and to make sure that they are not vulnerable to defeat if allied forces perform poorly. In operations such as *Enduring Freedom* and *Anaconda*, the public *perception* of how U.S. and allied forces perform may be quite important along with the reality of how they perform. If so, this consideration should be taken into account in planning for operations with allies and partners.

Actionable Recommendations: DOD should ensure that U.S. military doctrine for multinational operations is shrewd, tough, and pragmatic, based on military necessities as well as political imperatives. Investigate the wider use of Army mobile liaison teams to enhance employment of allied ground forces. While U.S. forces should work with allies and partners when appropriate, U.S. commanders must develop a thorough knowledge of their battlefield capabilities and take step to ensure that they are assigned only those missions that they are willing and able to carry out.

Lesson 6. *Anaconda* **illustrates why defense transformation should be pursued with joint operations, as well as mastery of the air-ground interaction down to the tactical level, clearly in mind—including in the areas of matériel and nonmatériel solutions as well as training.**

A principal goal of transformation is to prepare future U.S. forces for joint expeditionary warfare in the information era, and for such associated operational concepts as network-centric warfare, rapid decisive operations, and effects-based operations. Nothing that happened at *Anaconda* refutes these core principles. Yet at *Anaconda*, a new-era battle plan of relying on lightly armed dispersed ground forces supported by air-delivered firepower was tried, and it did not work well. This, of course, is not the first time that reliance on such forces encountered trouble: the historical record shows a mixture of good and bad result. *Anaconda* does not refute this type of battle plan in general. But it shows the risks of this plan, and the conditions under which other plans may provide a better approach to modern-era warfighting. Equally important, *Anaconda* reconfirms the judgment that transformation should be pursued carefully and wisely, not as an end in itself or as a straitjacket that binds U.S. forces to a limited set of warfighting practices that may prove to be troubled once they are pursued under less-than-ideal circumstances.

Sub-Lesson 6A. The U.S. military should train senior commanders and field-grade officers to be predisposed to think in terms of jointly integrated combat operations involving land, sea, and air forces.

Anaconda **Experience.** In important ways, *Enduring Freedom* has been an initial laboratory for joint expeditionary warfare in the information age. *Anaconda* itself was a new-era battle in the sense that it deployed dispersed, lightly armed ground forces backed by imposing air power: a tactic often used in Vietnam, but not with the technology of today. Many of the early problems encountered there were caused by factors beyond the control of the U.S. military. Yet the gears of joint operations initially did not mesh as well as was desired. Moreover, *Anaconda* shows how new-era battles demand great skill in coordinated joint force operations and in the use of new technologies, including modern information systems, targeting technologies, and smart munitions. A culture of joint doctrine and joint thinking, now in the early stages of adoption by the U.S. military, has the potential to contribute greatly to solving the gear-meshing problems at *Anaconda* and to achieving the high skill at joint operations that will be needed.

Actionable Recommendations: DOD should not limit transformation to a focus on new technologies, weapon systems, and force structures. It should pay considerable attention to inculcating, at all levels, a true culture of joint thinking for new-era operations as well as the advanced operational skills needed at the tactical and strategic levels.

Sub-Lesson 6B. Modern expeditionary operations, with their emphasis on information networking and high-tech weaponry, require great skill and expertise at all levels in the art of using modern doctrine to fight mobile battles with small, dispersed forces. In such battles, a mutually enabling combination of well-armed ground forces and strong air forces will normally be necessary, and they both must be capable of performing their respective missions. Air-delivered fires must be integrated with ground fires and

maneuvers to achieve the synergistic effects required by the U.S. military's reliance on qualitative superiority to defeat determined enemies.

For good reasons, the *QDR Review Report 2001* and *Joint Vision* make clear that U.S. operational planning must genuinely be joint, not dominated by one component with the others playing a secondary role. *Anaconda* shows how the act of committing lightly armed ground forces, without adequately planned and prepared air support, can backfire. Conversely, it also illustrates how a big but constrained air campaign can fall short of decisively winning a close-combat battlefield encounter in a brief period. Operation *Anaconda* would have been far more successful in the initial days had it been mounted by well-armed U.S. ground forces, fully prepared air forces, and a jointly integrated battle plan. In this event, the battle might have been won in 2 to 3 days, not 2 weeks as actually transpired.

Anaconda **Experience.** Operation *Enduring Freedom* was initially mounted mostly with U.S. air forces—SOF and ground forces largely performed as spotters for air forces. To a degree, this practice reflected the growing reliance on air power manifested during the Kosovo war. Operation *Anaconda* reflected a battle plan that reintroduced U.S. ground forces into the tactical equation. The idea of sending U.S. Army forces into the Shahikot Valley had a coherent operational purpose. But these forces were insufficiently armed to accomplish the expanded mission and to handle the enlarged threat that emerged when friendly Afghan forces failed to enter the valley. U.S. air forces mounted an emergency response that likely would have been more effective had they been fully prepared, in advance, for this mission. The key lesson is that neither ground forces nor air forces are viable substitutes for each other in combat situations where both are needed. The joint force commander must synchronize and integrate the complementary capabilities of air, land, sea, space, and special forces to achieve strategic and operational objectives.

Accompanying Lessons: Operation *Anaconda* shows the conditions in which light infantry forces, absent organic fires, can quickly find themselves outgunned by an enemy armed with earlier-era weapons. It also shows that airstrikes are not an instantaneous source of firepower—metering of sorties and delayed response times are an inevitable aspect of air operations unless special provisions are made in advance for air forces to operate differently. Over a period of days, air forces normally can deliver considerable ordnance on enemy targets, but for any specific short period, their contribution may be less decisive. Also, weapons effects at critical junctures can be more important than the total amount of ordnance dropped over the course of an entire battle.

When employed for interdiction missions, air forces can destroy fixed targets, or moving targets in the open, with deadly effectiveness. But their lethality against some CAS targets, and their ability to strike in time-urgent situations, is less developed in other situations. Ground fires often are needed to fix and suppress enemy forces so that U.S. air forces can lethally strike them. At *Anaconda*, Army mortar fires often were used to compel enemy troops to stay in their positions until airstrikes could destroy them. The key point is that Operation *Anaconda*'s effort at fire and maneuver would have been more effective if U.S. ground forces were better armed and if their battle plan had called for the type of air-ground integration that proved necessary.

For valid reasons, air forces have acquired roles of growing importance in U.S. planning for land warfare in recent years. Some observers forecast that this trend will intensify as transformation accelerates. Whether this trend should be carried to the point where air forces are regularly substituted for well-armed ground forces, however, is another matter. Some firepower missions must be performed only by ground forces because the physics of war do not permit air forces to accomplish them quickly or effectively. For example, air forces are less able to surge their firepower and quickly blanket large zones than are artillery tubes, which can fire for effect and expend a great deal of ordnance in a short time.

The lethality of air and ground fires also must be factored into the equation. Airstrikes have acquired vastly greater lethality than a decade ago. As a result, they are capable of destroying more targets in short order. *Ceteris paribus*, air power's growing lethality, means that a smaller volume of ground fire sometimes will be needed. Reinforcing this trend is the growing lethality of ground fires, which also lessens the need for volume. Future joint battle plans will need to strike an appropriate balance between lethal fires by both components in ways that respond to the situation at hand. This reinforces the need for flexibility in the U.S. military so that varying combinations of both can be tailored to the needs of individual battles.

Air forces are limited to the number of sorties that can be flown in any particular period of time. Air forces are excellent for delivering precision strikes against fixed targets over a period of days and weeks; this is the guiding concept for most theater air operations. Especially when JSTARS is not available, air forces are less able to strike mobile targets as well as dispersed infantry in concealed positions. By contrast, artillery forces can quickly blanket large areas of enemy positions and mobile enemy forces with terrain fire—of the sort needed at *Anaconda*. The point is that air fires and artillery fires can both be constrained when they operate on their own. When blended, they can have synergistic effects.

Actionable Recommendations: When joint expeditionary warfare operations are mounted, always plan to send a robust, optimum, properly balanced combination of air, ground, and naval forces that is suited to the occasion. Joint operations require using the right force at the right place and time, not using every force, every place, all the time. An effective posture must be adequately resourced with the full set of ground and air armaments that are needed to accomplish the mission. The U.S. military's superiority over opponents is not a reason to commit expeditionary forces that are too small for the missions being performed or are too unbalanced in internal capabilities for true joint operations.

For future joint expeditionary warfare, the U.S. military cannot afford to designate joint force commanders who are disposed to a single medium of combat, be it ground, air, or sea. Future commanders, and the officers supporting them, must embody a sense of integrated joint effort aimed at accomplishing operational missions by effectively employing the component forces at their disposal. The military profession, thus, must reach beyond service-centric dogmas to develop leaders who are versed in the full set of new-era joint operational concepts as articulated in *Joint Vision* and accompanying documents.

Sub-Lesson 6C. Modern information networks and smart munitions are key enablers but cannot win battles by themselves—as exemplified at *Anaconda*.

Anaconda **Experience.** Operation *Enduring Freedom* has been an initial laboratory for joint expeditionary warfare in the information age. This conflict shows the remarkable effects that information networks and smart munitions can have in elevating the performance of U.S. forces. But *Anaconda* shows that even in modern warfare, the fundamental principles of war still apply.

Accompanying Lessons: Modern information networks do not replace the need for well-armed forces, well-construed battle plans, and mastery of the operational art. Future enemies will find ways to circumvent or dilute U.S. infantry as well as precision fires with smart munitions. At *Anaconda*, al Qaeda forces showed surprising skill at this art. Future enemies may be better skilled and better equipped. Better joint force integration and reliance on U.S. asymmetric advantages will be required to counter these enemy capabilities.

Modern warfare will remain more than an exercise in target identification, precision strikes, and attrition. U.S. force operations should aspire to fracture the enemy's cohesion by attacking centers of gravity—even with smart munitions, mechanical attrition battles are not a winning proposition. Planners for force operations should remember that while information networks help make warfare more knowledge-based and provide dominant battlefield awareness, U.S. military doctrine embeds networks in such operational concepts as rapid decisive operations and effects-based operations.

Operation *Anaconda* shows that while information-era weapons, munitions, and sensors offer revolutionary leap-ahead capabilities, some legacy assets remain important contributors to battle. Heavy mortars, artillery, tanks, and infantry fighting vehicles are often regarded as legacy assets. So are A–10s, AC–130s, appropriate C^2 aircraft, airborne FACs, and dumb antipersonnel cluster munitions. Some of these valuable assets were not present at *Anaconda*. Others were present and proved unexpectedly instrumental to success.

Actionable Recommendations: Continue to emphasize battlefield realities, fundamental principles of war, joint operational art, and a sensible blend of new systems with legacy assets in the development of U.S. military doctrine for expeditionary warfare.

Sub-Lesson 6D. Mastering the interaction of ground, air, and special forces is key to future battlefield success—not well demonstrated in *Anaconda's* initial days.

Anaconda **Experience:** In contrast to the Cold War, U.S. joint operations now rely on a robust mix of air forces, ground forces, and SOF to wage land warfare—as opposed to the traditional practice of conventional ground forces carrying the lion's share of the load. If this new form of warfare is to work, the operations of all these force elements must be blended tightly together. To a degree, *Anaconda* shows that this is not automatically the case.

Accompanying Lessons: An optimum combination of strong air and ground forces is needed for expeditionary operations—they are mutually enabling and synergistic. But without proper planning, these instruments may be less effective. The Joint Doctrine publications for "Command and Control of Joint Air Operations" (JP 3-56, 1/3-30) and "Command and Control of Joint Land Operations" (JP 3–31) need to be reviewed to provide an appropriate doctrinal

basis for joint expeditionary operations relying on the mutual support between ground and air forces. Likewise, Joint Publication 3–05 needs to better describe how to coordinate SOF with conventional forces, especially in the areas of target and operational deconfliction, sharing of the common operational picture, and operations involving both types of forces in the same battlespace. Currently, most SOF coordination is only deconfliction, and the information flow is one-way, from the conventional forces to SOF.

Air power can provide a large portion of U.S. joint firepower, but it can work best only if it is carefully integrated into the joint operations plan and has the capacity to perform all key missions and the agility to change directions quickly. Mastering the role of CAS and the larger tactical air-ground integration is especially important. During Vietnam, CAS was regularly employed and was carried out effectively. After Vietnam, however, emphasis on it declined. As U.S. strategy focused on defense of Central Europe and the Persian Gulf during the 1970s and 1980s, the Army modernized its equipment in ways enabling its heavy divisions to accomplish their battlefield missions with less reliance on CAS. That development, in turn, allowed the Air Force to focus on deep interdiction and long-range bombardment missions—its preferred strategy and main capability. This pattern of the Army handling the close battle and the Air Force handling the deep battle has been dominant since it was manifested in the Persian Gulf War. Operations *Enduring Freedom* and *Anaconda*, however, signal a new style of war in which Army light infantry forces often will be fighting the close battle in expeditionary settings, and they may require significant amounts of CAS support. Providing this support will be a challenge for the future, and it will necessitate the creation of new CAS assets and doctrines for the information age.

Even with CAS support, ground forces must be sufficiently well armed to perform their roles and missions—air forces cannot be viewed as substitutes for them. The age of massed linear defense (à la the NATO forward defense concept of the 1970s) is over. Yet ground forces still must possess the requisite combined arms needed to carry out demanding missions in intense combat with well-prepared enemies. Special operations forces have made tremendous improvements since *Desert One* and are now capable of performing new missions by themselves, but they often will not be the only force in the joint operations area. All SOF must be included, to the fullest extent possible, in the planning and execution of joint operations on land. Command relationships for SOF, not only as the supported forces but also supporting the JFLCC or JFACC, must be written into the doctrine and exercised in training. In addition, joint doctrine must address the reality of coordination with all SOF in future operations.

Wars are won not only by defeating enemy forces in tactical engagements but also by shaping public perceptions of U.S. force prowess and achieving U.S. strategic/political goals in the contest. A drawback of *Anaconda* is that although U.S. forces won the battle, the enemy and other adversaries may have drawn encouragement from the appearance of successfully engaging them for several days. This consideration needs to be taken into account in crafting the air-ground interaction and all other facets of U.S. force operations.

Actionable Recommendations: DOD should intensify joint training and exercises for developing better air-ground-SOF interaction, emphasizing this subject in professional military education, courses for planners from all three components, and in joint doctrine, especially JPs

3–05, 3–30, and 3–31. DOD should give air transformation added emphasis on agility, including CAS missions. DOD should focus Army transformation on joint expeditionary warfare, including situations where strong Army forces with combined arms and integrated air-ground operations are needed. It should focus SOF on better integration with conventional forces, air and ground.

Sub-Lesson 6E. Mastering deployment U.S. joint forces swiftly and effectively to unfamiliar geographic locations is a key part of transformation in preparing for expeditionary warfare.

Anaconda **Experience.** During *Enduring Freedom*, deploying joint U.S. forces to such a distant, unfamiliar place as Afghanistan—which lacked a solid infrastructure—presented U.S. mobility assets with new challenges. The challenge was met, eased by the facts that only a few thousand U.S. forces were initially deployed and that carrier task forces proved their capacity to project air power several hundred miles from the sea to distant continental locations. Deploying far larger ground forces, with heavy equipment, would have been significantly harder. During *Anaconda*, the lack of deployed combat aircraft, heavy Army weapons (for example, artillery), and other supplies limited the options immediately available to U.S. forces. Because prepositioned equipment was lacking, it had to be quickly flown to Afghanistan from elsewhere, often CONUS. Throughout *Enduring Freedom* and *Anaconda*, limits on the availability of strategic transport aircraft constrained the assets that could be flown to Afghanistan in a timely fashion.

Accompanying Lessons: Operations *Enduring Freedom* and *Anaconda* underscore the validity of the assertion in QDR 2001 that the U.S. military must be equipped with the flexibility, versatility, and agility to perform a wide spectrum of combat missions in a growing array of unfamiliar geographic locations. Acquiring this capability necessitates a focus not only on combat and support forces but also on strategic mobility capabilities provided by airlift and sealift. In addition, the operation plans, time-phased force and deployment data (TPFDD), and logistic support assets of combatant commands must provide the necessary broad range of deployment response options. For the most part, *Enduring Freedom* and *Anaconda* passed the test in this area, but with some question marks. Moreover, *Enduring Freedom* was an operation involving relatively small forces, primarily air and naval forces that are not big consumers of strategic lift assets. What would have happened if several heavy ground divisions had to be deployed? Would the available lift assets been able to handle the load?

Actionable Recommendations: As appropriate, review operation plans and TPFDD for combatant commands to ensure that they provide an appropriately broad range of deployment response options and assets. Also, review DOD plans and programs for building future strategic mobility forces to ensure that they are capable of meeting future requirements for joint expeditionary warfare.

Appendix I: Timeline

Nov 20	10th HQ MTN & HQs CLFCC FWD in Karshi, Uzbekistan
Dec 3–15	Fight in the Tora Bora Region begins
Dec 28	CLFCC begins to conduct detainee Opns & SSE
Jan 4	SOF arrives in Gardez (ODA 594)
Jan18	SOF tries to enter Shahikot Valley
Jan 30	Planning begins for Military Operation Initially Texas 14 + 200-300 AMF
Feb 10	Operation *Anaconda* evolves into major plan
Feb 17	10th MTN decision brief CG on COAs
Feb 17	10th MTN briefed CFLCC on Concept of the Operation
Feb 17	CG 10th MTN & CG CFLCC briefed Joint Force Commander
Feb 20	6-man air cell from CFLCC Headquarters deployed to Bagram (These 6 were assigned to 10th Mountain but were not deployed with them. They came forward on their own and were supplementing the 18 ASOG commander at Camp Doha)
Feb 20	10th MTN Op Order sent to BCD at the CAOC
Feb 22	10th MTN Div HQS completes moves to Bagram—TF MTN
Feb 22	TF DAGGER CP established in Bagram
Feb 22	1–87 deploys to Bagram
Feb 23	CAOC BCD briefs OP Plan to CFACC (MG Corley)
Feb 25	MG Corley raises concerns about plan to CFACC
Feb 25	CFLCC limit to execute no sooner that 25 Feb
Feb 26	10th MTN VTC with CINC & Component Commanders
Feb 28	D Day (Weather delay another 48 hours)
Mar 1	D–1: deploys to landing zone of KK and ZK Blocking Force
Mar 1	COL Longoria, Cdr 18th ASOC deployed to Bagram from Doha
Mar 1	3 man team from 1st BDC arrives at HQ 10th MTN
Mar 2	D Day: deployment of ZIA Forces with SOF (Main Effort)
Mar 3	AMF Pull Back; 3/101 FRAGO; EARTHQUAKE 3/101 attack from AMY to DIANE
Mar 4	Battle of Takur Ghar
	A–10s enter the fight
	AMF Operation *Payback*–ZIA to Little Whale
Mar 5–11	Operation *Block* (Little Whale)
Mar 9	Objective Ginger Reached
Mar 12	Attack of General Gul Haidar
	Chemical laboratory discovered at Marzak
Mar 19	Operation *Anaconda* declared over

Appendix II: 25 Problems that Occurred During *Anaconda*

Anaconda's early challenges and frustrations were a product of cascading events, including problems in carrying out U.S. joint operations. These problems include:

1. U.S. intelligence estimates varied, but ultimately underestimated the enemy threat, including its size, location, and ferocity. They also overestimated the reliability of friendly Afghan forces. The effect was to impede U.S. force planning and preparations.
2. There was no fully elaborated joint command structure in the Afghanistan area of responsibility (AOR) (or coalition joint operations area) to plan and guide force operations. Combined Forces Land Component Command (CFLCC) and Combined Forces Air Forces Command (CFACC) in the Persian Gulf oversaw Afghanistan operations while performing other missions, CFACC lacked a full close air support (CAS) staff, and Task Force (TF) MOUNTAIN lacked a senior air operations liaison staff until just prior to the battle.
3. In Afghanistan, there was confusion about who was in charge and about the intricacies associated with unity of command. The Army TF MOUNTAIN was the lead organization during planning and execution of *Anaconda*, but it did not yet have full Combined Joint Task Force authority or the normal divisional staff assets required to plan a joint battle. Many of its organic assets were deployed in several other countries. It had a recently established ad hoc air liaison cell but no fully developed air support operations squadron.
4. Fully integrated, well-developed joint planning did not occur at *Anaconda*. The battle plan was initially crafted by TF MOUNTAIN without full involvement by the CFACC. TF MOUNTAIN first issued the *Anaconda* operations order on February 20, and it was officially presented to CFACC on February 23. Throughout the lead-up to the battle, TF MOUNTAIN spent considerable time working with other staffs and components. TF MOUNTAIN worked air component issues through its air support operations center and the first battlefield coordination detachment. Yet February 23 was the first time that the air component could fully coordinate on the plan and determine its own resource priorities. The Air Force and Navy committed available combat sorties to *Anaconda*, but they did so expecting an air campaign of limited support lasting 3 days, not a complex campaign of CAS/interdiction and high-value targets lasting nearly 2 weeks in which airstrikes would be a main instrument of U.S. combat power.
5. AOR manpower and force caps in Afghanistan inhibited the Army and Air Force from assembling all the necessary troops, weapons, and other assets required for proper execution. Shortly after the battle got underway in ways creating unanticipated requirements, reinforcements from both services had to be flown into Afghanistan from the Persian Gulf and continental United States.
6. On Day 1, the original hammer-and-anvil battle plan broke down when friendly Afghan forces withdrew under heavy fire. This allowed al Qaeda troops to focus on fighting in the Shahikot Valley and its eastern ridges rather than on a flanking attack being executed from the west.
7. On Day 1, one-half of planned strikes by B–52/B–1 bombers and fighter-bombers were called off due to close proximity of special operations forces (SOF). While this was a necessary tactical choice brought about by unanticipated circumstances, it freed al Qaeda

troops to ascend into defense positions in the mountains and to fire at deployed U.S. Army troops.

8. *Anaconda* had an adaptive ground plan (four branch plans), but they required further coordination and resources before they could be implemented. The Army had only two infantry companies in tactical reserve in a fluid battle where the withdrawal of friendly Afghan forces exacerbated the situation. The air component was not involved in joint planning fully enough to be aware of the Army's branch plans and therefore did not develop unique branch plans of its own. Essentially, on-call airstrikes against targets of opportunity were TF MOUNTAIN's branch plans for the air component. Targets developed by the TF daily targeting board were to be passed to CFACC for consideration and inclusion in the air tasking order (ATO). The air component did not develop a more detailed understanding of the battle on its own initiative, thus resulting in the TF MOUNTAIN plan becoming the de facto air campaign plan.

9. The air component reacted quickly to calls for help of a sort not originally contemplated, but it was constrained by multiple factors in this battle. As events showed, the air component did a good job of generating a high volume of combat sorties, but it lacked some of the associated assets and infrastructure normally required to pursue a complex, demanding CAS campaign of this sort.

10. Because bad weather permitted only one-half of U.S. infantry troops to deploy on the first day, their vulnerability was exacerbated. Initially deployed Army troops had trouble moving because of heavy personal gear, and they lacked the medical support and evacuation assets needed to respond to casualties. Yet U.S. ground forces succeeded in securing 6 of the 7 blocking positions within hours. Bad weather and enemy fires inhibited daylight evacuation of casualties on D-Day, but local medical personnel were available to dispense care.

11. During the first 3 days, four companies of dispersed U.S. Army infantry troops were deployed along the upward-sloping base of the eastern ridge, with only small arms and unit-assigned mortars to defend against withering enemy fires and a basic load of ammunition and supplies for 3 days of battle, not 2 weeks. U.S. Army forces at *Anaconda* had no artillery in support and not enough helicopters to lift it had it been available.

12. Insertion of ground forces was not preceded by a robust suppression of targets by artillery and airstrikes. to preserve the element of surprise, 20 known enemy gun emplacements and 40 known cave hideouts that had been identified by the air component were not attacked. The absence of additional mortars and artillery prevented Army forces from directing indirect suppressive fires at enemy positions, which sometimes were 1,500 meters or more from U.S. positions—too far for reliable fires by small arms.

13. Army attack helicopters performed well but could not hover for extended periods along the ridgelines because of altitude restrictions, and they were damaged by enemy fires and were forced into withdrawal. Five of seven Apaches assigned for *Anaconda* were not available after the first day. Many returned to service within 3 days, and additional Army and Marine attack helicopters were deployed to the fight. Yet the absence of additional attack helicopter support was a constraining factor during the initial days.

14. Army infantry and SOF operations were not always well coordinated. Some SOF were not fully appraised of other SOF operations. TF MOUNTAIN commanders lacked control of all SOF units initially.

15. Seven U.S. SOF personnel were killed on Day 3 atop Roberts Ridge when a U.S. helicopter carrying them landed close to an enemy position. At the time, a Predator with a Hellfire missile was orbiting overhead, but this was unknown to local ground commanders, and authorities commanding the Predator did not know about the firefight on Roberts Ridge.
16. Additional Army forces took several days to arrive, and friendly Afghan forces reentered the battle only on Day 6.
17. When the Army requested CAS, the air component employed local AC–130s under SOF command and deployed A–10s from the Persian Gulf. But as an outgrowth of planning and resourcing before the battle, the Air Force lacked airborne battlefield command and control centers or a similar aircraft, an adequate number of airborne forward air controllers (FACs), and other assets needed for a large CAS operation. When A–10s arrived, they were adapted for this purpose.
18. FACs on the ground (emergency tactical air controllers [ETACs]) assigned to Army conventional units sometimes lacked enough two-man teams, laser-designators, global positioning system-capable target designators, and detailed maps to guide incoming airstrikes. ETACs assigned to SOF units were properly equipped. Except for A–10 aircraft that had FM radios, Army units that lacked USAF FACs had trouble using their FM radios to communicate with overhead USAF aircraft, which mostly use UHF, VHF, and HF.
19. Air operations were made difficult by the need to deconflict indirect fires, CAS, interdiction, and time-sensitive targeting by multiple aircraft in orbit over the congested battlespace. While there were no midair collisions, on one occasion a B–52 bomber was diverted from dropping ordnance near an orbiting AC–130 gunship.
20. The steep mountains plus skilled enemy tactics—including communications security, concealment, and dispersal—impeded the lethality of U.S. infantry operations and airstrikes. Concern about enemy antiaircraft fires compelled many U.S. aircraft to fly at high altitudes in ways that sometimes complicated the task of visually identifying small targets.
21. The absence of Army artillery necessitated the application of surged air fires to suppress enemy positions. The air component was compelled to perform this function through an ATO that was metered to provide continuous coverage of the battlespace as well as rapid response. At *Anaconda*, ample combat sorties were always available because no other major air operation was in progress. Yet in other battles, a different allocation of sorties might be needed to support surge operations. A key point is that to strike a proper balance between metering and surging, decisions must be made in advance to prepare air forces and logistic support.
22. Taking into account AC–130 sorties and emergency CAS strikes against enemy targets on the eastern ridge, the average time for CAS response was only a few minutes (for example, 5 minutes according to USAF data). By contrast, airstrikes against the Whale, distant parts of the valley floor, and ingress/egress routes outside the valley were often considerably slower—partly because approval from Central Command (CENTCOM) was needed. Army officers say that many such strikes often took at least 26 to 45 minutes to deliver in ways that sometimes allowed fleeting targets to escape. This sometimes too slow response time was a product of multiple factors, including the need to get clearance from CENTCOM plus rugged terrain that slowed target identification and inhibited

multiple simultaneous strikes. The confusion over what constituted air interdiction or CAS targets produced much of the initial friction between the ground commander and the combined air operations center in terms of responsiveness to fires request. Ultimately, greater authority over targeting was granted to the ground commander, thereby lessening the problem.

23. While Air Force and Navy aircraft had ample joint direct attack munitions (JDAMs) and other smart munitions, *Anaconda* points out the need to employ a wide spectrum of munitions that are tailored for the individual strike missions being performed. For example, large bombs sometimes showered nearby U.S. ground troops with fragments. When area-wide cluster munitions were employed, they sometimes lacked the precision to directly strike individual targets. *Anaconda* is an example of how rugged terrain and other constraints can impede the effectiveness of even precision munitions. Likewise, better joint planning before the battle may have enabled the air component to preposition preferred CAS munitions, for example, smaller bombs than 2000 pound JDAMs.

24. Operation *Anaconda* shows the tensions that can arise between using Predator as a theater and tactical asset. Its use as a theater asset can allow distant senior commanders to survey the battlespace at their discretion and to allocate air forces and assets accordingly. Use of it as a tactical asset can give battlefield ground commanders comparable flexibility for their own purposes. The result at *Anaconda* was a tug-of-war between these different legitimate purposes. If conflicting priorities continue to be an issue, the solution may be to deploy additional Predators to meet all high-priority needs.

25. Joint force operations were impeded by the complexity of the rules of engagement and associated fire restrictions, as well as by the time often required to get fire clearance from CENTCOM. Some participants did not fully understand the ROE, thereby magnifying problems in carrying it out.
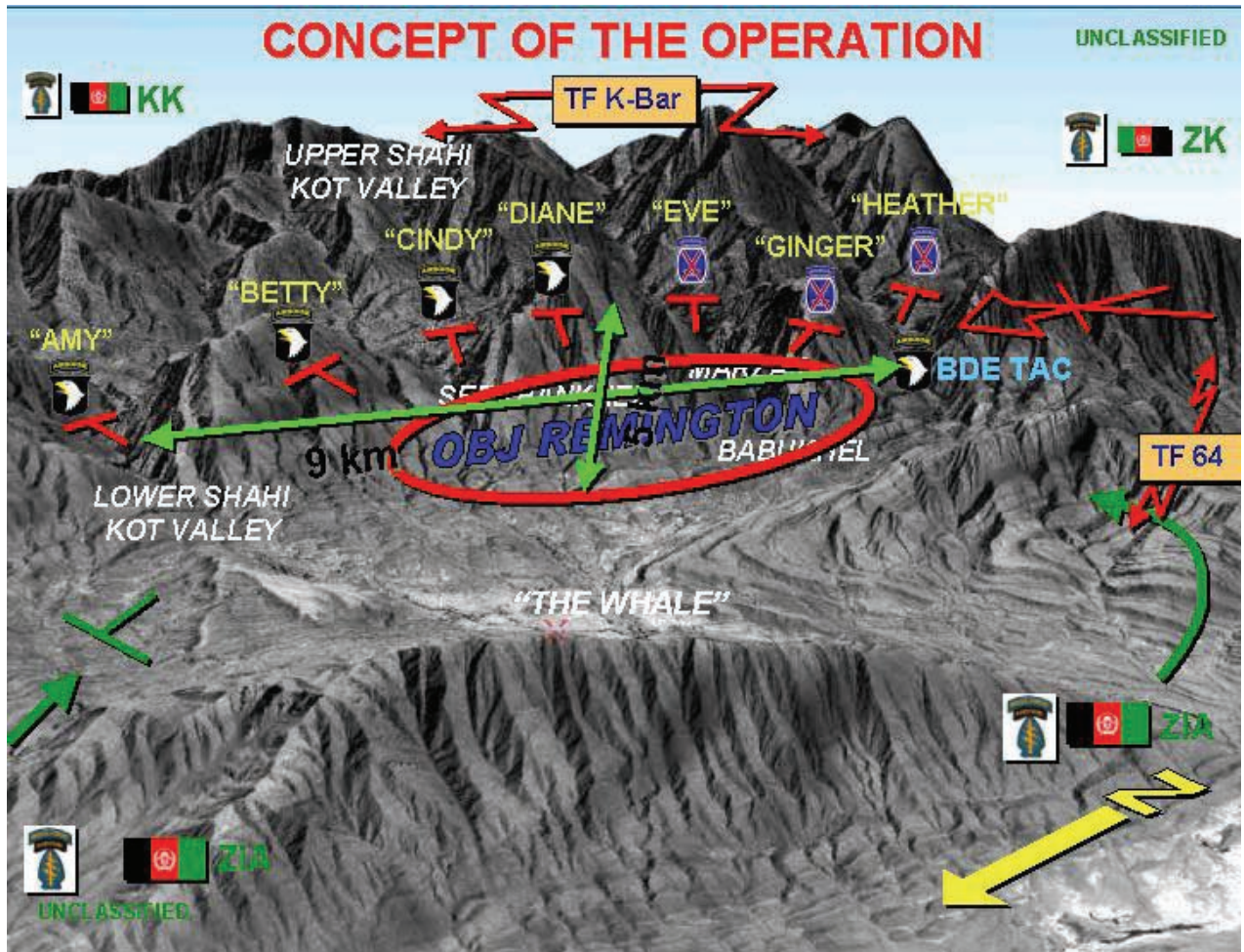
Appendix III: Abbreviations

A-10	Northrop Grumman Thunderbolt close support aircraft
ABCC	airborne battlefield command and control centers
AC-130	Boeing (Lockheed) Spectre aerial gunship
ACM	airspace control measure
AH-1C	Bell Huey Cobra attack helicopter
AH-64	Boeing Apache attack helicopter
ALO	air liaison officer
AMF	ACE Mobile Force
AOR	area of responsibility
ARFOR	Army forces
ASOC	air support operations center
ASOS	air support operations squadron
ATO	air tasking order
AWAC	Airborne Warning and Control System
BALE/ALE	battlefield airlift liaison element
BCD	battlefield coordination detachment
C/JSOTF	combined/ joint special operations task force
C^2	command and control
C^3	command, control, and communications
C^4ISR	command, control, communications, computers, intelligence, surveillance, reconnaissance
CAOC	combined air operations center
CAS	close air support
CDR	commander
CENTCOM	United States Central Command
CFACC	combined force air component command
CFLCC	combined forces land component command
CFMCC	combined force maritime component command
CG	commanding general
CH-47	Boeing Chinook medium lift helicopter
CINC	Commander in Chief, now called combatant commander
CJOA	coalition-joint operations area
CJTF	combined joint task force
COA	course of action
COMINT	communications intelligence
CONUS	continental United States
CP	command post
DJTFAC	deployable joint task force augmentation cell
DMPI	designated mean point of impact; desired mean point of impact
E-8C	Northrop Grumman Joint Surveillance Target Attack Radar System (Joint STARS) aircraft
EBO	effects-based operations

EC-130E ABCCC	Lockheed modified C-130 "Hercules" transport aircraft designed to carry USC-48 Airborne Battlefield Command and Control Center Capsules
ETAC	emergency tactical air control; enlisted terminal attack controller
EUCOM	European Command
F-14	Northrop Grumman Tomcat fighter aircraft
F-16	Lockheed Fighting Falcon multi role fighter aircraft
FAC	forward air controller
FAC-A	forward air controller (airborne)
FEBA	forward edge of the battle area
FFA	free-fire area
FLOT	forward line of own troops
FM	frequency modulation
FSCL	fire support coordination line
FSCM	fire support coordinating measures
FSE	fire support element
FWD	forward
GCM	graphic control measures
GFAC	ground forward air controller
GLO	ground liaison officer
GPS	global positioning system
HF	high frequency
HQ	headquarters
HUMINT	human intelligence
IFV	infantry fighting vehicle
IISR	intelligence information, surveillance, and reconnaissance
IMINT	imagery intelligence
ISR	intelligence, surveillance, reconnaissance
JAOP	joint air operations plan
JDAMS	Joint Direct Attack Munitions
JFACC	joint force air component commander
JFC	joint force commander
JFLCC	joint force land component commander
JLOP	joint operations plan
JOA	joint operations area
JP	joint publication
JPOTF	joint psychological operations task force
JSEAD	joint suppression of enemy air defense
JSTARS	Joint Surveillance Target Attack Radar System
JTF	joint task force
MLT	mobile light team
MTN	10th Mountain
NCA	National Command Authorities
ODA	operational detachment-Alpha
OGA	other government agencies

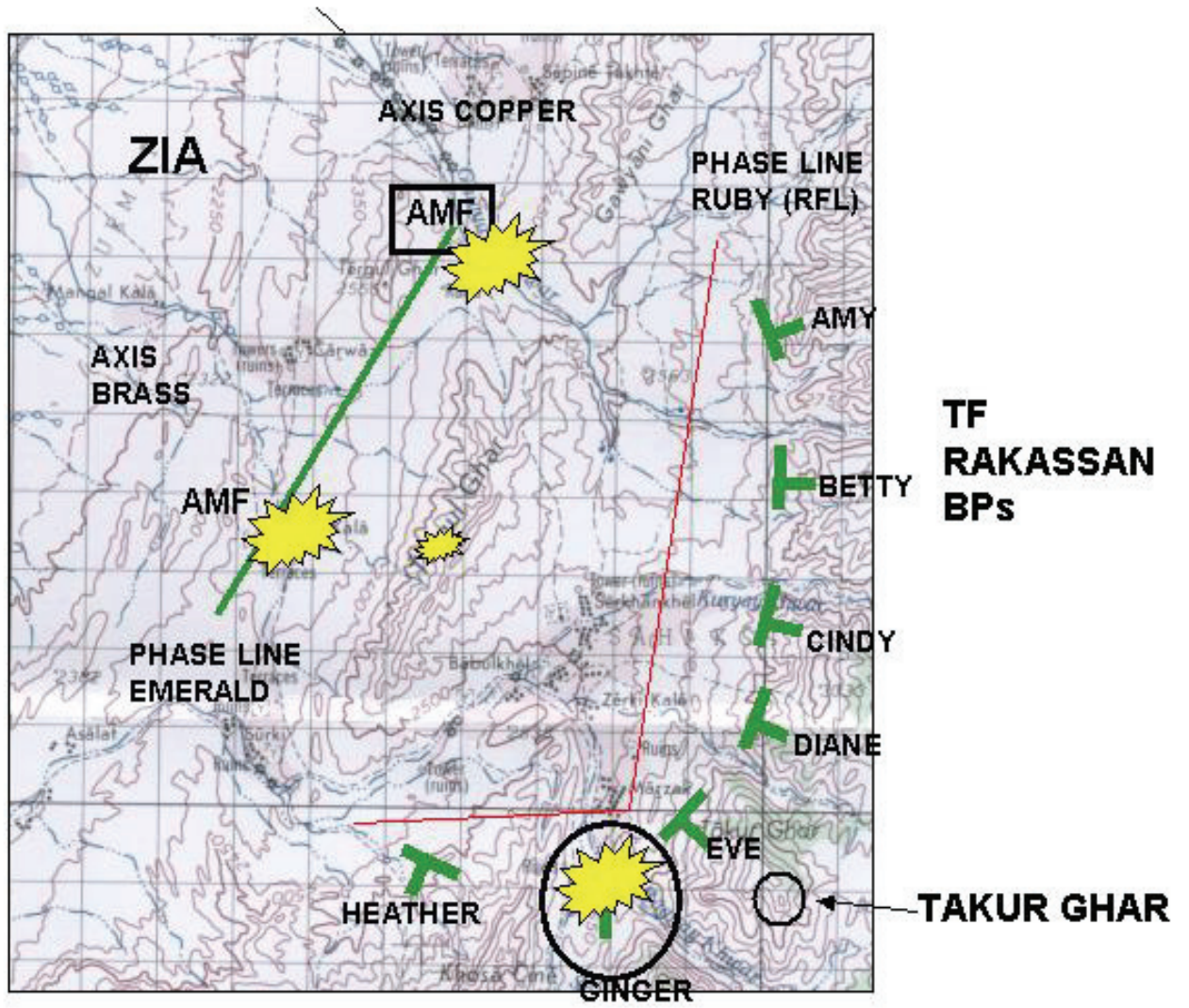|	
OPCON	operation control
OPLAN	operation plan
PGM	precision-guided munitions
PME	professional military education
PSYOP	psychological operations
QDR	quadrennial defense review
RDO	rapid decisive operations
ROE	rules of engagement
SATCOM	satellite communications
SEAL	sea-air-land team
SECDEF	Secretary of Defense
SEZ	selective engagement zone
SJFHQ	Standing Joint Force Headquarters
SOCCENT	Special Operations Component, United States Central Command
SOF	special operations forces
SPINS	special instructions
SSE	satellite communications (SATCOM) systems expert
SWA	Southwest Asia
TACP	tactical air control parties
TAGS	theater air ground system
TF	task force
TPFDD	time-phased force and deployment data
TST	time-sensitive target
UAV	unmanned aerial vehicle
UHF	ultra high frequency
USACOM	United States Atlantic Command
USAF	United States Air Force
USMC	United States Marine Corps
USN	United States Navy
USPACOM	United States Pacific Command
VHF	very high frequency
VTC	video teleconference
XCAS	on call close air support

Appendix IV: Maps

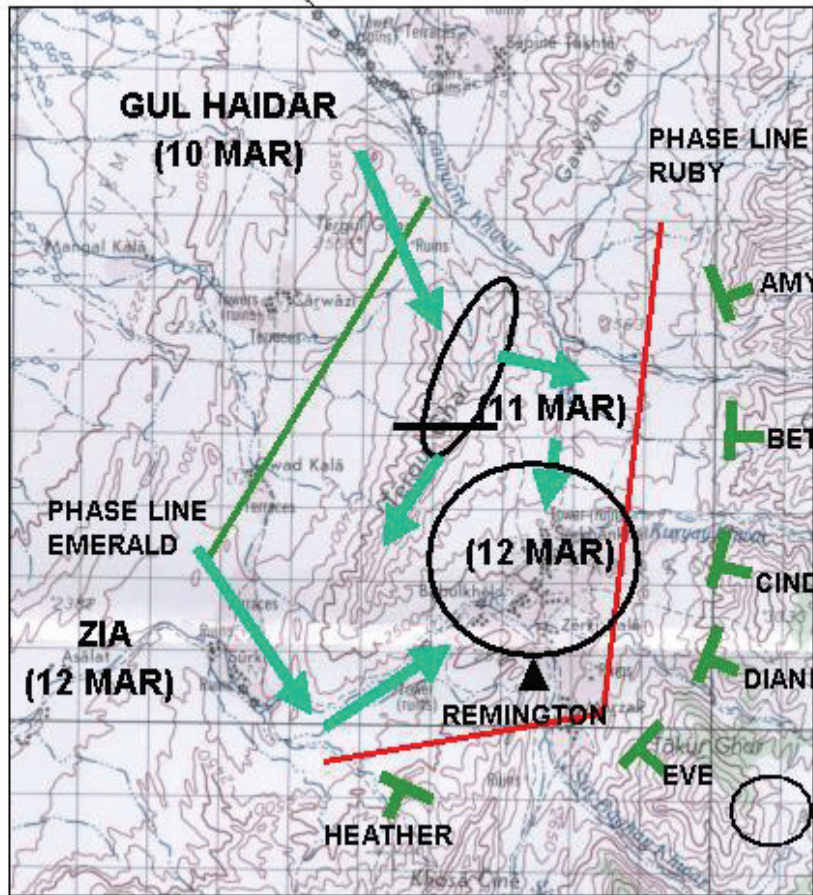

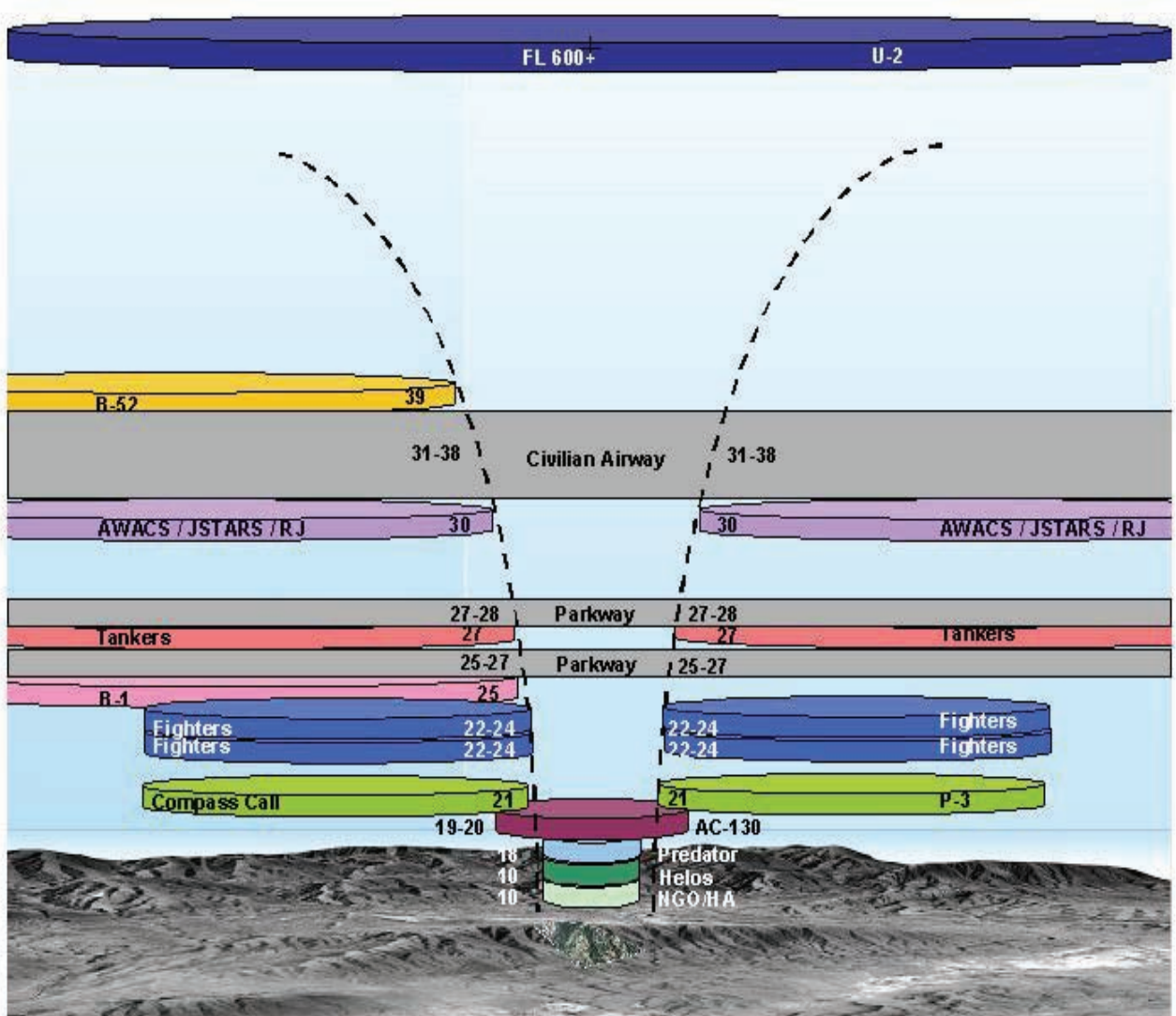Source: US Air Force

THE PLAN UP CLOSE: INTO THE VALLEY

AXIS COPPER

ZIA

PHASE LINE RUBY (RFL)

AXIS BRASS

AMY

BETTY

TF RAKASSAN BPs

CINDY

EA

DIANE

PHASE LINE EMERALD

EVE

TAKUR GHAR

HEATHER

GINGER
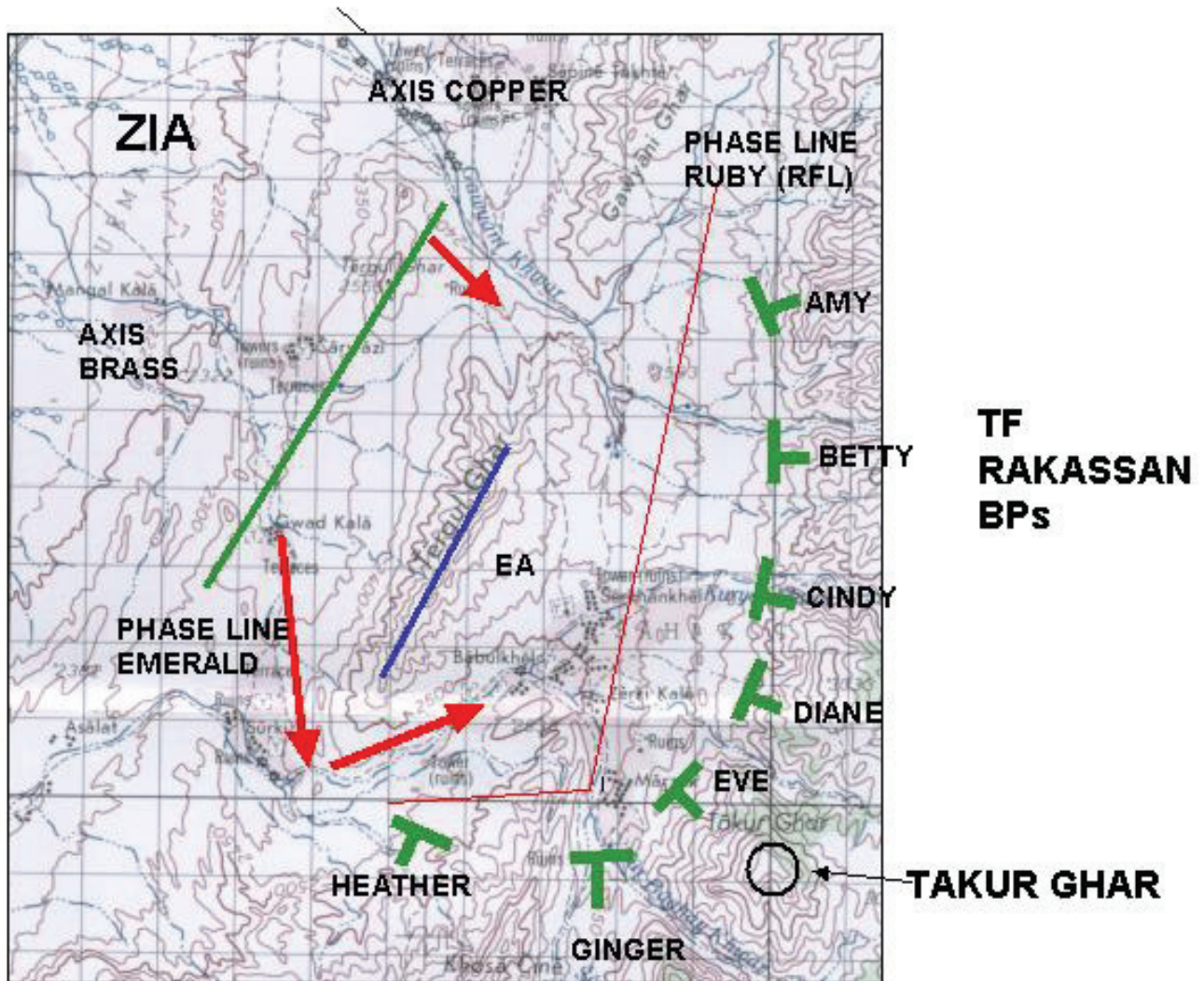
D DAY: 2 MAR

GUL
HAIDAR'S
AND ZIA'S
ATTACKS
10-12 MAR

GUL HAIDAR
(10 MAR)

PHASE LINE
RUBY

AMY

TF
RAKASSAN

BETTY

(11 MAR)

PHASE LINE
EMERALD

(12 MAR)

CINDY

ZIA
(12 MAR)

DIANE

REMINGTON

EVE

OBJECTIVE GINGER

HEATHER

Aircraft Stack