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**Testimony**

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**MILITARY TRAINING**

**Lessons Learned and Their  
Implications for the Future**

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Mr. Chairman and Members of the Subcommittee:

I am pleased to be here today to highlight for you and Members of the Subcommittee a number of "lessons learned" concerning military training and suggest some implications of those lessons for future training requirements. My testimony is based on our prior reports,<sup>1</sup> as well as work underway to ensure the currency of issues being raised.

My comments are framed around five key issues.

- Training of active duty forces is a never-ending process beset with challenges and lessons that continually repeat themselves.
- Joint training and operations are receiving increased emphasis, and some important new initiatives are underway.
- Simulation technology offers significant new opportunities for enhanced training.
- Determining the right amount to spend on training is much more complex than it appears on the surface.
- Training of reserve component combat forces, particularly in the Army, poses a much greater challenge than the training of active duty forces.

All of these issues and the challenges facing each of them are interrelated.

#### TRAINING IS A NEVER-ENDING CHALLENGE

An important lesson learned from the war in Vietnam, as well as from historical analyses of previous wars, was that well-trained forces were more likely to survive their first battles or missions and that their chances for surviving and minimizing casualties increased with each succeeding mission. Likewise, military leaders recognize that combat skills are perishable in peacetime unless honed through frequent, realistic, and repetitive training. These important lessons were not lost on the services in developing their premier training programs, such as the Army's National Training Center (NTC) and the Air Force's Red-Flag exercises, where training is provided in a very realistic combat environment. Such programs have been cited by military leaders as being key to the enhanced training of U.S. military forces in recent years. These programs enabled military leaders in the late 1980s, and in August 1990 when Iraq invaded Kuwait, to express the view that U.S. military forces were better prepared than ever to fight and win in combat.

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<sup>1</sup>A list of pertinent GAO reports is included as appendix I.

### Common Recurring Weaknesses

Today, U.S. military forces are regarded by many people as the best trained forces in the world. Yet, despite indicators of better trained forces than ever in recent years, our reviews have shown common recurring training weaknesses and areas in which increased training emphasis was needed--as documented in service reports summarizing unit training exercises, such as those at the Army's NTC. Areas where improvements were needed included command and control, battle staff planning and execution at the higher levels, and performance by crews and units at the lower levels. Many weaknesses were related to inadequate battlefield planning, development and use of intelligence data, reconnaissance, maintenance of communications, and conducting rehearsals.

In the late 1980s and early 1990s we found that various constraints on Army training--such as high turnover among key personnel, time constraints, and available training funds--made it difficult to sustain a high level of unit proficiency. Our reviews showed that (1) the amount of maneuver training at home stations was limited because of funding constraints and (2) units closest to deploying for training exercises at the NTC received priority funding.

Before the onset of the Gulf War, NTC officials and other military trainers stated that not enough repetition in training was being done at lower echelons and that training, involving individuals and small units, needed more command attention on an ongoing basis. Our analysis of Army and Marine Corps preparations for ground operations in the several months preceding Operation Desert Storm indicated (1) the extent of recent unit training varied widely among Army and Marine Corps units notified to prepare for deployment to the Gulf, and (2) in preparing for ground operations, the Army and Marine Corps emphasized repetitive individual and small unit training, battle drills, and rehearsals.

In preparing for the ground war in the Persian Gulf, the Army and Marine Corps devoted significant attention to the training of battle staffs through the use of battle drills and wargaming activities. Both services devoted extensive efforts to developing, reviewing, refining, and practicing battle drills and tactical standard operating procedures. Battle drills are used to train smaller units such as platoons by practicing rapid reactions to orders and possible enemy actions. Similar trained responses, normally referred to as standard operating procedures, were practiced by higher echelons. Wargaming exercises ranged from informal give-and-take among senior leaders and staffs regarding proposed operating plans to the use of computer simulation technology to plan, test, and revise potential courses of action. These exercises were considered by many military leaders as key to their success.

In other reviews we conducted during the Gulf War, or shortly thereafter, we found several training areas where deficiencies existed, including chemical warfare, medical readiness, and support forces. All of these areas required work-arounds and shoring up to prepare for the Gulf War--it was fortuitous that U.S. forces had the several months to build up before the onset of ground operations.

Our extensive discussions with Army and Marine Corps leaders upon their return from the Gulf War documented a number of lessons learned that have implications for future training needs. They stated that the emphasis on repetitive individual and small unit training should continue and the emphasis on battle staff training should increase. They also noted weaknesses in the command and control of support organizations in a combat environment due to limited training with combat forces in peacetime. Some officials and reports indicated that greater emphasis was needed on joint training, including planning; coordination; interoperability; and common understanding of procedures, processes, and terminology, and that joint training should not just be limited to large-scale exercises, but include contingency operations of varying sizes.

In our review of naval air operations during the Gulf War we identified joint operational and training problems. Some Navy aviation units were not familiar with the Air Force's system for receiving and transmitting aircraft mission orders and did not receive the advanced training necessary to familiarize them with the system and the other services' tactics, procedures, and weapon capabilities. Also, the Navy lacked equipment to receive and transmit aircraft mission orders, which limited its flexibility in organizing and responding to air taskings. A key contributor to these problems was limited joint training in peacetime.

#### Where Does Training Stand Today?

Until now, I've given you a largely historical perspective on training. I would be remiss if I didn't try to add a more recent perspective. Many of the problems and issues affecting training in the past still exist today. In some cases the problems have been exacerbated by the downsizing of military forces and the changed national security environment, which requires forces to be prepared for a broader array of potential missions.

In 1993 documents about lessons learned from units participating in combat training exercises at the NTC in California and its counterpart in Germany, the Army reports the same recurring training problems that we had previously identified. For example, a recent paper dealing with Army training in Germany focused on the need for improvements in battle staff planning and execution and greater emphasis on rehearsals. It also noted that units often fail to integrate combat service support into task force planning and that task force commanders were so focused on the tactical

aspect of operations that they were seldom, if ever, involved with logistics. In addition, an Army report on Operation Restore Hope in Somalia from December 1992 to May 1993 cited the need for continued training in joint task force operations; improvements in joint logistical operations; and improvements in cross-service training to support air medical evacuations.

Now, as much as, if not more than, in previous years, ongoing training programs are being adversely affected by personnel turbulence--which frequently affects units' personnel levels, training proficiency, and ability to build and maintain cohesion in training. Regular combat training routines are also affected today by the operating rates of equipment (commonly referred to as operating tempos) associated with deployments for operations other than war. For example, various officials have noted that the use of air transports for operational missions greatly exceeds the funded rate--this can create difficulties in completing planned training exercises.

The Army reported recently that it had approximately 25,000 personnel participating in a variety of operations in over 60 countries. According to the Army, this figure is significantly higher than that prior to the end of the Cold War. Such missions often require deploying portions of units and can therefore disrupt unit cohesion and unit training cycles. In addition, Air Force officials indicate that while aviation units may fly many missions in support of contingency missions, the type of flying done for those missions does not necessarily provide training needed to maintain combat proficiency in certain areas. These situations indicate the existence of a more challenging environment today in which to develop and maintain warfighting training proficiency.

Currently, several of our reviews are focused on a variety of training issues. These issues include personnel levels, the allocation of training funds, and the effect that U.S. participation in non-traditional roles such as U.N. peace operations has on the services' training for traditional wartime missions and on individuals' transition back to training for war.

#### INCREASED EMPHASIS IS BEING PLACED ON JOINT TRAINING

Our work in the late 1970s and mid-1980s pointed out the need for improved management of joint training exercises, including Joint Chiefs of Staff (JCS) involvement in the planning, review, and oversight of these exercises. In retrospect, a number of military officials are recognizing today that so-called joint training in previous years was less joint than it appeared to be on the surface. For example, the Return of Forces to Germany (REFORGER) exercises were largely Army training exercises, even though there was some participation from the Air Force. In addition, despite the name Joint Readiness Training Center, this facility is primarily devoted to Army training.

As I mentioned earlier, the Gulf War highlighted shortcomings in, and the need for greater emphasis on, joint operations and training. As a result, DOD has increased its focus on joint training at all levels within DOD. For example, "Ocean Venture 93," a U.S. Commander-in-Chief, Atlantic Command-sponsored, joint field training exercise with a Navy Joint Task Force Commander and an Army Deputy Task Force Commander, had as an objective exercising joint relationships and refining joint doctrine, tactics, techniques, and procedures.

Also, U.S. military officials in Germany have stated that the next REFORGER exercise, scheduled for fall 1994, will provide a greater emphasis on jointness than ever by having a designated joint task force commander and the active participation of members from each of the services. Additionally, joint and individual staffs of some warfighting commanders-in-chief told us they were looking to restructure exercises to provide a greater focus on joint operations. We expect to review some of these exercises to determine the changes being made.

JCS is sponsoring efforts to develop joint task lists and standards for joint training and is overseeing efforts to develop a number of joint doctrine publications. However, JCS officials indicate that it may be several years before the results of these efforts are all in place.

One of the more significant actions taken concerning joint training was the October 1993 designation of the U.S. Atlantic Command as a unified command responsible for the joint training and "packaging" of most military forces stationed in the United States for overseas deployments to support the other warfighting commanders-in-chief.

We have a major review of joint training underway, at this Subcommittee's request. As part of that review we are examining the initial efforts of the U.S. Atlantic Command to provide for joint training. We are also examining the roles of the JCS Chairman and combatant commanders in the process of planning and overseeing joint training and the use of simulation technology to facilitate some of that training.

#### SIMULATION TECHNOLOGY OFFERS THE POTENTIAL TO REVOLUTIONIZE TRAINING

The services have traditionally used hundreds of training devices to model or simulate various aspects of combat, weapon systems, and terrain in support of training activities. Training devices range from simple simulated explosives and plywood terrain boards that replicate the terrain of a given battle area to highly technical, sophisticated laser gunnery systems that simulate the effects of weapons firing and computer-supported, multimillion dollar aircraft simulators. Additionally, computer simulation models are used to

"drive" training exercises--that is, they often provide a map-based view of the battlefield, viewed on a computer monitor, and require battle commanders and their staffs to plan, coordinate, and execute their battle plans against an opposing force.

Computer simulations are growing in their importance and potential to enhance the effectiveness and efficiency of training while reducing training-related costs. Of course, a significant capital investment up-front is required. Further, technology developments in the 1990s are beginning to provide opportunities to integrate a variety of dissimilar weapon system simulators and wargaming simulations among the services and increase the potential to support joint training. Training experts believe these developments will revolutionize military training.

Computer simulations are still evolving and have some limitations in replicating actual systems and the battlefield. However, they are increasingly being recognized as having the capability to provide important training opportunities that are not always feasible in traditional exercises. Computer-simulated exercises permit more concentrated and repetitive training for battle staff in planning and command and control operations. We have reported the importance of computer simulations but have emphasized the challenges inherent in managing this technology cost-effectively.

In the past, large-scale field exercises, like REFORGER, deployed large numbers of forces, were often time-consuming, and often produced significant downtime for lower echelon units such as platoons and companies. The Army, which has had a lead role in exploiting advanced simulation technology, has increasingly come to rely on this technology for recent REFORGER exercises--at significant savings in cost, with fewer deployed forces, and a sharper focus on training for higher echelon battle staffs.

A significant contribution to battle staff training and preparation for ground operations in the Gulf War was made by the Army's Battle Command Training Program (BCTP), a simulation wargaming program designed to train division- and corps-level battle staff.

The success of BCTP and other simulations has led to growing recognition that the military needs to increase its use of simulation technology as an important complement to traditional field training. However, we have found that commanders lack guidance and training for making the most effective use of simulations on an ongoing basis. Further, insufficient emphasis has been placed on identifying the most appropriate mix of advanced simulation technology and traditional field training.

Computer simulation technology also offers much potential for enhancing joint training. This potential has been recognized by the Joint Staff, which decided to establish a Joint Warfighting Center in the Tidewater, Virginia, area (near the U.S. Atlantic



Command) to facilitate joint doctrine development and provide simulation support to joint exercises.

#### IDENTIFYING ADEQUATE FUNDING FOR TRAINING IS A CHALLENGE

Each year, as DOD presents its training fund requirement to Congress, it does so in terms of aggregate tank miles, flying hours, and steaming days. This can create the impression of some uniformity to training tempos that our work in the past has shown does not exist. Our previous reviews of Army training showed that training funds were not allocated evenly to units, and that greater priorities were accorded units preparing to train at the NTC. We have seen little to indicate that the situation has changed.

Additionally, we have found that commanders at various echelons often make tradeoffs between training and other needs, and sometimes reallocate portions of those funds to meet other needs. We have also seen, as recently as last year, that increased operating tempos associated with unanticipated contingency operations can result in the use of training funds for other purposes.

We cannot precisely measure what impact such variances in training funds have had on overall readiness levels. However, such variances do create an unevenness in the training of combat units, that is, they create peaks and valleys in training and unit proficiency. At the same time, however, we also noted in the past that, even with variances in allocations of training funds, there appeared to be no discernable impact on commanders' assessments of the units' readiness. I would not deduce from the commanders' assessments that more monies were allocated to training than were required to maintain readiness; a number of factors may need to be considered in the equation. We have a review underway currently to examine trends in the allocation of training funds and trends in the reallocation of these monies for other purposes.

While I would not want to prejudge the results of our ongoing work, there are a couple of points I can make at this time. One relates to the need to determine the most appropriate mix of simulation and traditional training; this is very important in terms of helping to determine to what extent the use of advanced simulation technology helps to offset or reduce funding requirements associated with more traditional training. The second point I would make is that how much funding is required to ensure readiness is much more complicated than simple statements of tank miles, flying hours, and steaming days. This issue is apt to become more complicated in the future, with a growing emphasis on joint training and questions of how best to allocate scarce training funds between individual service and the growing area of joint training.

## CHALLENGES FACING RESERVE COMPONENT TRAINING

Until now, my focus on training has dealt with the active component forces. I believe that I should also touch briefly on the subject of training of reserve forces, which may be more critical today than at any time in the past. These forces played a vital role during the Gulf War, particularly in the combat support arena, and are expected to play an increasingly important role in future military operations as DOD downsizes.

Even though the size of both active and reserve forces is decreasing, the reserves will comprise a larger portion of the projected force structure. For example, from fiscal years 1989 to 1994, the percent of reserves in the Army will actually increase from 50 to 55 percent. It should also be noted that for some functions reserve forces provide all or nearly all of a service's capability. Examples include the Army's civil affairs and water purification activities and the Air Force's weather reconnaissance. According to the Report on the Bottom-Up Review, one important role for the Army National Guard combat brigades is to provide forces to supplement active divisions, should more ground combat power be needed to fight a second major regional contingency.

Challenges facing reserve components are even greater than those faced by active forces. It became apparent during the Gulf War that Army National Guard combat brigades had significant training-related readiness problems. Although the Army structured some of its divisions to be rounded out by Guard brigades, none of the three roundout brigades that were activated for the crisis were deployed. Instead of deploying these brigades with their assigned divisions, the Army substituted other active Army brigades.

Proficiency in leadership and individual and crew skills are at the heart of the Army's building-block approach to training. Soldiers must be proficient in basic skills before they can be expected to achieve proficiency in the more complex skills at higher echelons such as companies and battalions. However, the active Army's evaluation of Guard combat brigades activated for the Gulf War revealed that (1) many Guard soldiers were not completely trained to do their jobs, (2) many tank and Bradley Fighting Vehicle crews were not proficient in gunnery skills, and (3) many commissioned and noncommissioned officers (NCOs) in the National Guard had not completed required leadership training. As a result of these problems, the training conducted by the Guard brigades after their mobilization sought to achieve proficiency in many skills for the first time. In contrast, the active Army brigades that replaced them were able to concentrate their training on honing individual and collective skills that soldiers and leaders already possessed.

The challenges facing reserve components, particularly large ground formations such as armor and mechanized infantry brigades, are compounded by a difficult training environment. Reserve forces

generally train only about 39 days each year, and a considerable portion of this time can be taken up by administrative matters or in traveling long distances to reach training ranges. Available training days in the Army National Guard include a 2-week period during which units spend at least 7 days in a tactical field environment. This training affords the Guard the best--and for many units the only--opportunity to accomplish sustained mission training under realistic conditions.

#### Initiatives to Improve National Guard Training

The Army has several initiatives underway to address training and readiness problems in its Guard brigades. Although we believe the initiatives are a major step in the right direction, early results indicate that problems are a long way from being solved.

As a result of the Gulf War experience and subsequent legislation, such as the Army Guard Combat Reform Initiative, the Army completely revamped its strategy for training Guard brigades. The most far-reaching initiative is called Bold Shift. This project, initiated in September 1991, is designed to focus training for combat maneuver units during peacetime at the individual, crew, and platoon levels. It includes initiatives to (1) provide training to soldiers who are not currently qualified for their assigned jobs and expedite leadership training for officers and NCOs and (2) involve active Army officers and NCOs to a greater extent in training reservists.

The rationale for Bold Shift is that by focusing the limited amount of training time available to reservists during peacetime on the fundamental building blocks of Army training, reservists will be better prepared to develop the skills required at higher echelons during some period of post-mobilization training. The Army currently estimates that about 90 days of post-mobilization training will be required for the reserve brigades to achieve proficiency. However, this estimate is based on the assumption that the brigades have achieved proficiency at the individual soldier, crew, and platoon levels during peacetime. It is not clear what amount of post-mobilization training time will be available to focus on joint training.

Annual training data for 1992, the latest annual data that the Army has compiled since Bold Shift started, showed that none of the Guard combat brigades had reached pre-mobilization training and readiness goals. It is too soon to determine, based on one year's data, what impact the Bold Shift program will have in the longer term.

However, we are still concerned that the Army has not solved the problem of adequately training reservists in their individual jobs, or military occupational specialties (MOS). This training is designed to teach reservists the basics of the jobs they are

expected to do in their units. Until this training is completed, a reservist is not qualified in his or her job. Lack of MOS qualification is a problem that takes soldiers away from their units to attend school and impedes collective training at each higher echelon. Because of the building-block nature of Army training, having soldiers who are adequately trained in their individual jobs is at the heart of the Guard's ability to achieve proficiency at higher echelons. Soldiers who are not adequately trained in their individual duty positions cannot be expected to perform effectively as crew members. Likewise, untrained crews degrade the proficiency of platoons. In 1992, about 30 percent of reservists did not attend annual training with their units. Many were attending prescribed individual training courses.

Primary causes of MOS qualification problems include high attrition and the inability of most units to recruit their authorized number of soldiers. Although the Army has initiated efforts designed to address the MOS problem, it is clear that solutions are difficult and may take a long time. We currently have a review underway of the Guard brigades' progress towards meeting pre-mobilization readiness and training goals. As part of that review we plan to compare the Army's and the Marine Corps' use of active duty personnel to advise the reserves.

#### SUMMARY

In closing, let me reiterate the key points.

- Despite the widely shared view that today's military forces are the best trained forces in the world, some common recurring weaknesses reinforce the need for a continuing emphasis on repetitive training if U.S. forces are to be prepared to fight and win the first battle of the next war and minimize casualties.
- Although major efforts have been initiated to address some long-standing gaps in joint training, many actions have yet to be completed.
- Simulation technology offers important potential for enhancing training at reduced costs, but the most appropriate mix of simulation and more traditional training needs to be better defined.
- Preserving adequate funding for training is essential but articulating precisely how much is needed is difficult.
- The training of reserve combat forces poses even greater challenges than those faced by the active forces.

Mr. Chairman, this concludes my prepared statement. I would be happy to respond to any questions that you or Members of the Subcommittee may have.

KEY GAO REPORTS RELATED TO TRAINING

Operation Desert Storm: Problems With Air Force Medical Readiness (GAO/NSIAD-94-58, Dec. 30, 1993).

Army Training: Prioritizing and Following Up on Lessons Learned Should Minimize Recurring Weaknesses (GAO/NSIAD-93-231, Sept. 16, 1993).

Army Training: Commanders Lack Guidance and Training for Effective Use of Simulations (GAO/NSIAD-93-211, Aug. 23, 1993).

Medical Readiness Training: Limited Participation by Army Medical Personnel (GAO/NSIAD-93-205, June 30, 1993).

Operation Desert Storm: Improvements Required in the Navy's Wartime Medical Care Program (GAO/NSIAD-93-189, July 28, 1993).

Naval Air Operations: Interservice Cooperation Needs Direction From Top (GAO/NSIAD-93-141, May 19, 1993).

Simulation Training: Management Framework Improved, but Challenges Remain (GAO/NSIAD-93-122, May 10, 1993).

Chemical and Biological Defense: U.S. Forces Are Not Adequately Equipped to Detect All Threats (GAO/NSIAD-93-2, Jan. 26, 1993).

Army Training: Replacement Brigades Were More Proficient Than Guard Roundout Brigades (GAO/NSIAD-93-4, Nov. 4, 1992).

Operation Desert Storm: War Offers Important Insights Into Army and Marine Corps Training Needs (GAO/NSIAD 92-240, Aug. 25, 1992).

Operation Desert Storm: Full Army Medical Capability Not Achieved (GAO/NSIAD-92-175, Aug. 18, 1992).

Operation Desert Storm: Army Had Difficulty Providing Adequate Active and Reserve Support Forces (GAO/NSIAD-92-67, Mar. 10, 1992).

National Guard: Peacetime Training Did Not Adequately Prepare Combat Brigades for Gulf War (GAO/NSIAD-91-263, Sept. 24, 1991).

Chemical Warfare: Soldiers Inadequately Equipped and Trained to Conduct Chemical Operations (GAO/NSIAD-91-197, May 29, 1991).

Army Training: Various Factors Create Uncertainty About Need for More Land (GAO/NSIAD-91-103, Apr. 22, 1991).

Army Training: Evaluations of Units' Proficiency Are Not Always Reliable (GAO/NSIAD-91-72, Feb. 15, 1991).

Army Training: Computer Simulations Can Improve Command Training in Large-Scale Exercises (GAO/NSIAD-91-67, Jan. 30, 1991).

Army Training: Management Initiatives Needed to Enhance Reservists' Training (GAO/NSIAD-89-140, June 30, 1989).

Management of the Joint Chiefs of Staff Exercise Program Has Been Strengthened, but More Needs to Be Done (GAO/NSIAD-85-46, Mar. 5, 1985).

Improving the Effectiveness of Joint Military Exercises--An Important Tool for Military Readiness (LCD-80-2, Dec. 11, 1979).

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