REVIEW OF

RESERVE COMPONENT CONTRIBUTIONS TO NATIONAL DEFENSE

DIRECTED BY THE 2001 QUADRENNIAL DEFENSE REVIEW

DECEMBER 20, 2002

Review of Reserve Component Contributions to National Defense

Office of the Assistant Secretary of Defense for Reserve Affairs
1500 Defense Pentagon, Room 2E220
Washington, DC 20301-1500

TABLE OF CONTENTS

PREFACE

The United States Reserve components comprise 1.2 million service members—approximately 47 percent of the nation's total military force. There are seven Reserve components. Six are part of the three military departments: the Army Reserve, the Army National Guard, the Air Force Reserve, the Air National Guard, the Naval Reserve, and the Marine Corps Reserve. The Army and Air National Guard are unique in that they have both a federal and state mission. They comprise the organized militias and can be used to enforce state laws. The seventh and smallest Reserve component, the Coast Guard Reserve, belongs to the Department of Transportation, but works closely with the Department of Defense.

The Reserve components are located in nearly 5,000 cities across the United States. While integrated into the total military force, these service members are part-time personnel. They are citizen soldiers that play a dual role as both professional military personnel and responsible citizens in their communities. Thus, Reserve component personnel are a vital link between the military and the American public.

Most individuals in the Reserve components are members of either the Selected Reserve or the Individual Ready Reserve—often referred to as the "Ready Reserve." The Selected Reserve (approximately 876,000 reservists) consists of units and individuals designated as essential to contingency or wartime missions. They are paid reservists, train a minimum of 39 days per year, and can be called for use by the President. The Individual Ready Reserve—which includes 348,820 individuals—is a mobilization pool of experienced, unpaid individuals.

Each Reserve component contributes to the Total Force in different ways, spanning the spectrum from dedicated peacetime roles to wartime support alongside their active-duty counterparts. Today the Guard and Reserve have been integrated into the planning and execution of all military operations and have been an essential element to their success.

Reserve personnel are involved in many ongoing contingencies including those in Afghanistan, Bosnia, Kosovo, Southwest Asia, and the Sinai. More than 90,000 reservists have supported Operations NOBLE EAGLE and ENDURING FREEDOM alone. In fact, the contribution of the reserves has increased dramatically since the mid-1980s—from approximately 1 million man days of mission support to nearly 13 million man days in recent years.

The reserves will continue to make a significant contribution to the nation's defense. As the Total Force transforms to meet the challenges of the future, it is essential that the Reserve components be part of the transformation. This review, directed by the 2001 Quadrennial Defense Review, addresses how the contributions of the Guard and Reserve—in both new and traditional roles and missions—can enhance the capability of the Total Force. Its conclusions and recommendations will be valuable to the ongoing transformation efforts within the Department of Defense.

EXECUTIVE SUMMARY

Transformation of the military forces is a central undertaking of the Department of Defense. One important aspect of transformation—addressed in this review—is the appropriate mix of Active and Reserve forces in meeting the Department's missions and responsibilities. In particular, this review examines the contributions that the Reserve components can make to the national defense.

Since the end of the Cold War, the Reserve components have become an integral part of every military operation. And the Guard and Reserve will continue to play an important role in the future. This review finds considerable evidence, however, that the balance of capabilities in the Active and Reserve components today is not the best for the future. Changes are needed that will enhance military capabilities and overhaul management systems in order to more effectively and efficiently fulfill the mission of the Department of Defense.

NEW CHALLENGES CALL FOR CHANGE

Over the past decade, the Reserve components have made substantial contributions to the missions of the Department of Defense. Reserve component support has increased from 1.4 million duty days in Fiscal Year (FY) 1989 to nearly 13 million duty days in FY 2001. The reasons for this increase are part of what is motivating change for the future.

Use of the Reserves Today

Today's increased reliance on the Reserve components is a product of a number of factors: the Abrams doctrine, evolving Total Force policies, the effects of force downsizing, and increasing mission demands.

In the aftermath of the Vietnam War, Army General Creighton Abrams asserted his belief that the nation must never go to war again without the support of the Guard and Reserve—a philosophy that began to influence military strategy. During the same period, the Total Force concept first emerged, emphasizing increased reliance on the reserves, initially for warfighting and later for full spectrum requirements. As defense budgets declined, the Reserve components were recognized as a cost-effective way to maintain military capabilities in peacetime.

In the 1990s, force downsizing, along with reduced budgets and rising operational tempo, spurred an increase in the use of the Reserve components. In part this increase occurred to relieve stress on the Active forces. It also occurred because the Reserve components were the repository for capabilities needed in the later phases of major theater war. These capabilities—such as civil affairs and air traffic control—were unexpectedly crucial to U.S. commitments in the 1990s and may continue to be in high demand. Together, these factors have shaped the use of the Reserve components over several decades.

A New Defense Strategy

There is a new defense strategy, which calls for a fresh examination of how active and reserve capabilities are organized. The "threat-based" approach of the past decade has been replaced by a "capabilities-based" approach. Rather than planning defenses according to *who* might threaten the United States, the Military Services are looking at *how* the country might be threatened. The new defense strategy also places more emphasis on Homeland Security. These changes in emphasis require a more flexible force than exists today—a force that is capable of dealing with many unknowns. The new strategy also calls into question the balance of capabilities within and between the Active and Reserve components and whether changes are needed in how the Reserve components are used.

Transforming the Reserve Components

Two overarching themes have become the basis for this review's recommendations of how the Reserve components can transform to meet the challenges set forth in the new defense strategy and to respond to a rapidly changing security environment. They are:

- ***Rebalancing to Enhance Capabilities***. The Military Services can expand the capabilities of the Total Force by rebalancing the existing force mix and reassigning missions to take advantage of the core competencies of both the Active and Reserve components. Changes can be made to provide a full spectrum of capabilities in each component, increase force agility, enable better management of operational tempo, and foster closer integration between the Active and Reserve components.
- ***Creating Flexibility in Force Management***. Current force management policies and systems make it difficult for the Services to operate in a truly efficient way. Traditional personnel categories are becoming less valid. The Department must begin to manage the force in a way that is consistent with its use and provides needed flexibility in accessing and managing the full- and part-time force.

This review proposes new ideas and extensions of existing ideas for building force capabilities and for creating flexibility in management that can assist the Department in meeting its transformation goals.

EXPANDING FORCE CAPABILITY THROUGH REBALANCING

Rebalancing the existing force mix will enhance force capabilities within current end strength. This review evaluated options for improving force capability across the full spectrum of DoD mission requirements. It considered the level of acceptable risk to meet both the challenges that the Services face today and also those that will arise in the future. The concepts presented in this review suggest that the Services may realize greater agility and flexibility in the force by changing the allocations of capabilities between the Active and Reserve components.

Resolving Constraints and Imbalances

Demands on the military are creating constraints and imbalances in force capabilities that can lead to shortages in some areas. Different

approaches are suggested for addressing shortages in weapon system platforms and shortages in skilled manpower.

To address platform-based shortages, this review recommends that the Department

- Expand the use of reserves—through the use of mixed units—to augment the manpower assigned to weapon systems. Additional personnel can increase shifts and crew ratios to gain better usage and to extend the capability of existing equipment sets. There is considerable potential to expand this concept across the Services.
- Upgrade older, less capable equipment in reserve units to improve interoperability, address platform shortages, and ease operational burdens. Targeted modernization will increase the capability of Reserve component forces and will allow them to more fully participate in contingency operations.

To address skills-based shortages, the Department should create deeper pools of either Active or Reserve component personnel depending upon the type of skill and the frequency needed. In particular:

- For inherently military skills that are needed on a continuing or full-time basis, additional active-duty manpower is needed. If the military skills are needed intermittently or for surge requirements, then a larger Reserve component rotational pool should be created. Some shortages may be resolved by greater reliance on cross Service or host nation support.
- To ease shortages in civilian-acquired skills that are hard to develop and retain in the Active force, the Department should increase the rotational pool in the Reserve components, build better databases to identify the civilian skills of reserve members, and give military credit for civilian certifications. The Department can also develop innovative partnerships with private industry to recruit,

train, and retain individuals with needed civilian-acquired skills and capabilities.

Meeting Requirements for Emerging Missions

Three types of emerging missions are highlighted in this review: Homeland Security, high-tech operations, and experimentation.

Homeland Security is receiving priority focus across the federal government. While the precise roles and missions of the many agencies involved in Homeland Security are being determined, it is certain that the Department of Defense, including the Reserve components, will have an important role. This review recommends the following basic concepts be adopted as the deliberations on this emerging area continue:

- Homeland Security is a Total Force mission that is shared by both the Active and Reserve components.
- Mission requirements for Homeland Security need to be balanced with warfighting missions. This review recommends that most forces be dual-missioned, not apportioned solely for homeland security requirements.
- DoD will continue to perform civil support missions of limited scope and duration, in support of other lead federal agencies. The only force structure that should be formally apportioned to this mission are the existing Weapons of Mass Destruction Civil Support Teams and Emergency Preparedness Liaison Officers.

Using the Reserve components in high-technology operations and experimentation supports the Department's transformation agenda. Reservists offer a blend of military and civilian-acquired skills that make them valuable in support of high-technology missions. This review recommends further exploration of the following concepts:

- Capitalize on Reserve components' military and civilian expertise in high-technology functions such as intelligence, information operations, space, and unmanned vehicle operations by expanding the use of "reachback"—where highly skilled reservists perform functions in support of the warfighter without physically deploying to

the area of operations—and by optimizing the use of Reserve component assets in joint intelligence and information operations.

- Develop alternative approaches to accessing Reserve component personnel with technical, state-of-the-art skills that are difficult to train and retain in the Active force. This review recommends approaches such as the use of new forms of affiliation and partnerships with private industry to enhance the Department's access to private-sector expertise in areas of rapidly expanding technology and for unique private-sector functions.

Because experiments are predictable events, they are well suited for a more focused role by Reserve component forces. Reservists offer a cost-effective reservoir of unique knowledge, skills, and abilities that are often required in experimentation. The Services should consider assigning experimentation activities to one of its Reserve component elements.

- Reserve component participation in experimentation can relieve active operating tempo and can also reduce the cancellation risks that may occur as a result of unexpected operational requirements.
- Civilian skills of reserve members may bring cutting-edge (industry) innovative approaches to experimentation efforts.

Changing Priorities for Traditional Missions

Despite the demands of new and emerging missions, the Department must continue to be prepared to respond to the full spectrum of traditional missions from forward presence, to peacekeeping operations, to smaller scale contingencies, to major combat operations. To help meet the range of demands, this review recommends converting lower priority structure to structure for higher priority requirements and changing mission assignments to capitalize on the inherent strengths of each element of the Total Force.

The Reserve components have been the repository for the forces needed for a strategic hedge for major combat operations. Changes

to the defense strategy and force-sizing constructs suggest an excess of heavy combat forces. This review recommends

- Converting some Army National Guard heavy combat forces to more flexible, multi-purpose forces. While the Army is incorporating similar concepts as it redesigns the force, implementation needs to be accelerated and supported by DoD.
- Integrating lower-level Reserve component ground units into higher echelon active units to free up capability for use in more critical areas.

Initial stages of smaller scale contingencies often require an immediate response that cannot be provided by some types of Reserve component units. In the later stages of these operations, which are more predictable in nature, Guard and Reserve forces can shoulder a greater load as follows:

- In early stages, Active forces should lead, with reserve support and augmentation.
- During transition phases, Guard and Reserve contribution can increase with lead-time and planning.
- In mature phases, Reserve components can lead stabilization efforts and exit strategy.

In peacetime operations, Guard and Reserve forces can support Active forces in forward presence and peacekeeping operations. This support would reduce the day-to-day demands on Active forces.

- Intermittent rotational Reserve component forces can supplement a reduced number of permanently based, forward-deployed Active forces, with the same effect in deterrence of our foes and assurance of our allies.
- Reserve components can assume a larger role in peacekeeping operations and in expanding contacts between the U.S. and foreign militaries.

Rebalancing is important, even essential. However, management policies in place today are in many cases likely to frustrate the

Services' attempts to pursue the recommendations of this review. Thus, a fundamental change in force management is needed.

CREATING FLEXIBILITY IN FORCE MANAGEMENT

A capabilities-based force, which can quickly respond to unknown requirements in the future, requires a new approach to force management and organization.

A Continuum of Service

The Department could more effectively employ its force, both active and reserve, across the full range of operational requirements if it adopted a new availability and service paradigm—a continuum of service—as the basis for managing its Total Force. A continuum of service would allow for participation from 0 to 365 days a year, providing the Department with greater flexibility in accessing and managing its Total Force. Movement along the continuum would allow service members to more easily change their level of participation. By introducing this flexibility, the Department could better leverage its investment in training and education to meet operational requirements.

The continuum would facilitate development and use of a "variable pool" of reservists who might volunteer to serve beyond the traditional 39 days of service in selected missions or functional areas. A variable pool could help the Department better access talent in the civilian labor market. This is particularly true in fields involving cutting-edge technology that are difficult to acquire and maintain in the military environment. The variable pool could also be a source of personnel to meet mission requirements that are not required 365 days a year but require more duty time than today's processes and procedures for employing reservists can easily support.

A continuum of service would also offer the Department an opportunity to develop new forms of affiliation between the military and individuals—another approach to help meet the challenge of developing and keeping cutting-edge skills in the military. Through innovative forms of affiliation, the Reserve components can attract individuals on a part-time basis. New affiliation concepts include

virtual operations, corporate partnerships, controlled specialty Individual Ready Reserve, retiree volunteers, and volunteer auxiliaries.

Streamlining Management Practices

To be most effective, the continuum of service must be supported by a new management paradigm that simplifies access to the reserves and streamlines personnel management practices. Key elements include

- Streamlining access rules and policies to simplify duty statuses and facilitate the combatant commanders' ability to use Guard and Reserve capabilities when needed.
- Simplifying pay funding categories to remove artificial barriers. Ensure funds are programmed to support expected usage of reserves.
- Incorporating more flexibility in personnel policies to enable service at any point along the continuum of service. Eliminate complexity, which will yield greater efficiency.
- Developing a sliding scale of benefits and entitlements that are consistent for all members and are commensurate with levels of participation.
- Accelerating the development and deployment of a single manpower, personnel, and financial system.

These elements are the keys to a transformation in managing the Total Force. Some of these recommendations can be implemented with changes in internal departmental directives, but others will require legislative changes—revisions to titles 10, 32, and 37 of the United States Code are among the most significant.

NEXT STEPS

Some of the options described above require a sustained, long-term commitment by the Department of Defense; others can be implemented in the relative short term. In either case, it is essential that the Department begin to take action now. This review recommends that the following steps be taken.

- ***Develop and promote a legislative agenda that supports the Continuum of Service***. Several near-term legislative proposals have already been initiated as a result of this review. Over time, however, more robust legislative and policy changes will be required to enhance the Department's flexibility in human resource management.
- ***Obtain funding for near-term initiatives*** in the FY 2004 program budget. Some of the principles described in this report can be put into practice in the near term with adequate and timely funding.
- ***Submit proposals for the Defense Policy Guidance*** that encourage the Services to rebalance their forces consistent with the recommendations described above and that encourage implementation of continuum of service initiatives.
- ***Develop an agenda to guide long-term research and program demonstrations.*** Over the long term, additional research will help to further develop concepts presented in this report and to support additional legislative and policy proposals. In addition, demonstration programs can be developed to test and further mature these concepts, as appropriate.

By taking these steps, the Department can be well on its way toward implementing the recommendations presented in this review—recommendations that will enhance the capability of the Total Force and support the Department's overall transformation goals.

CHAPTER 1.
INTRODUCTION

The Department of Defense is in the midst of a fundamental transformation of its strategy, policies, and forces. Today's security environment comprises a broad, diffuse set of concerns: terrorism, chemical and biological warfare, regional tensions, and an array of other transnational challenges. It is an environment characterized by uncertainty, by constantly emerging challenges, and, more importantly, by a rapid pace of change. Potential adversaries rely on surprise, deception, and asymmetric warfare to achieve their objectives. As these adversaries continue to benefit from economic advances, the diffusion of information, and the availability of increasingly sophisticated technology, threats to U.S. interests are likely to expand, including threats to electronic and information systems, to space assets, and to the homeland.

Transformation is necessary to ensure that the Department can continue to retain a position of military advantage against current, emerging, and future challenges. If the Department fails to increase the capabilities of its force, its tremendous military advantage could erode. As a result, nearly every element of military operations is being affected by transformation. Military strategy, tactics, system development and modernization, and the roles of U.S. forces are being scrutinized. Legacy forces are being replaced by new concepts, capabilities, and organizations in order to maximize the military's warfighting effectiveness and the combat effectiveness of America's men and women in uniform.

The security of the United States depends on the success of transformation. *One important aspect of transformation—addressed in this review—is the appropriate mix of Active and Reserve forces in meeting the Department's missions and responsibilities.* It is a topic that has been the subject of many past studies, but deserves a fresh look in light of changes that have occurred over the past decade in the use of the Reserve components, specifically, and the Total Force in general.

Since the end of the Cold War, demands on the armed forces have increased at the same time that the size of the force has decreased. One

implication of the rise in operational tempo has been a growing reliance on the reserves. The Reserve components have become an integral part of every military operation since Desert Shield and Desert Storm.

The reserves will continue to play an important role in the future. This review finds considerable evidence, however, that the balance of capabilities in the Active and Reserve components today is not the best for the future. Changes are needed to enhance military capabilities and increase the flexibility and agility of the force in order to more effectively and efficiently fulfill the mission of the Department of Defense.

CHARTER

Title 10 section 118 U.S. Code directs the Department of Defense to conduct a Quadrennial Defense Review (QDR). As part of the QDR, the Department is to address

> … the anticipated roles and missions of the reserve components in the national defense strategy and the strength, capabilities, and equipment necessary to assure that the Reserve components can capably discharge these roles and missions.[1]

The 2001 Quadrennial Defense Review describes a paradigm shift in force planning that is summarized later in this review. The basis for this strategy, however, was the "need to provide over time a richer set of military options across the operational spectrum than is available today and to ensure that U.S. forces have the means to adapt in time to surprise."[2] The Total Force—both Active and Reserve components—will have an important role to play. In particular, the QDR states:

> To support this strategy, DoD will continue to rely on Reserve component forces. To ensure the appropriate use of the Reserve components, DoD will undertake a comprehensive review of Active and Reserve mix, organization, priority missions, and associated resources. This review will build on

[1] Title 10 U.S. Code Section 118 (d) (7).
[2] *Quadrennial Defense Review Report* (Washington, DC: Department of Defense), September 30, 2001, p. 17.

> recent assessments of Reserve component issues that highlighted emerging roles for the Reserve components in the defense of the United States, in smaller-scale contingencies, and in major combat operations.[3]

This statement is the charter for the review.

OBJECTIVES, ASSUMPTIONS, AND METHODOLOGY

OBJECTIVES

The QDR identified a challenging set of issues to be addressed. It called for a comprehensive review that evaluates priority missions, force mix, organization, and resources. To adequately cover this range of topics in the timeframe allowed, it was necessary to take a strategic approach—focusing on broad guidelines and principles rather than on detailed force mix decisions, which fall within the individual Service's area of responsibility. Thus, the objectives of this review are to

- Establish strategic principles to govern future use of the Reserve components
- Propose innovative options to meet requirements

A key element in transforming the force is innovation, and it is possible to achieve innovative results in the Reserve components. However thoughtful the Department's planning, it will not be possible, as pointed out in the QDR, to avoid surprise. Instead, the U.S. military must learn to "adapt to surprise." To do so will require agility and flexibility brought about through innovation—principles that are incorporated in the force mix and organizational options described in later chapters.

[3] Ibid, p. 23.

ASSUMPTIONS

Two assumptions were fundamental to the development of options for this review. First, this review devises principles and options within current end strengths. It does not presume that increases in manpower are necessary to accommodate changes in missions or organizational relationships. Therefore, it is necessary to use every aspect of the force in the smartest possible way.

This leads to the second assumption of this review: the allocations of capabilities between the Active and Reserve components may change. Enhancing the capabilities of the Total Force will require changes to mission assignments and to how Active and Reserve forces are used. In evaluating changes in force mix and mission assignment, this review necessarily took a Total Force approach, considering the inherent strengths of each component in contributing to the Department's missions. The review concentrated, in particular, on ways the Reserve components can better work in partnership with the Active component and on the changes that would be needed to achieve those results.

METHODOLOGY

This review is based on a deliberate methodology that began with a review of the existing body of research on the Active and Reserve force mix but also incorporated insights and analyses from a diverse group of participants. More specifically, this review set out along the following path.

Identify the case for change. This phase of the review sought to identify and understand the many factors influencing the new defense strategy and the strategy's impact on the Active and Reserve force mix. These factors include the changing nature of the threat, homeland vulnerability, rapidly advancing technology, and demographic changes, as well as operational and funding pressures. Departmental guidance—including the Quadrennial Defense Review, the Defense Planning Guidance, and congressional testimony and speeches—was examined in this context. Moreover, the transformational goals and objectives established by the Department were considered as a basis for this review. Thus, the recommendations formulated during the review will help contribute to a successful transformation.

Review ongoing activities in the Military Services. Each of the Military Services is developing and implementing new concepts for forces and warfare. Innovative ideas are emerging from these evolving efforts and some are already being implemented. This review sought to understand and identify the Services' best ideas of how to use the Reserve components in the future.

Review existing research. Many studies and commissions have addressed the topic of the Active and Reserve force mix. The QDR directed this review to build on recent assessments. Part of the approach included a review of existing research, extracting and integrating insights and findings that are relevant to the new defense strategy. Several ongoing departmental efforts also informed this review, including the development of a human resources strategic plan and studies on civilian employer support of the Guard and Reserve, readiness reporting, and training transformation.

Employ an open, inclusive process. The review team worked collaboratively with groups and individuals both inside and outside the Department of Defense. Though led by the Office of the Assistant Secretary of Defense for Reserve Affairs, in coordination with the Office of the Under Secretary of Defense for Policy and the Joint Staff, the review participants also included representatives of the Services, respective Reserve components, the Reserve Forces Policy Board, and Offices of the Secretary of Defense including Program Analysis and Evaluation, Comptroller, and Acquisition, Technology and Logistics. Guidance was sought from the Senior Executive Council and from the Senior Level Review Group of the Secretary of Defense. The research community and other experts provided analysis, ideas, and critique. Other participants from outside the Department included congressional members and staff and representatives of Reserve component Associations.

Formulate new ideas. While Service strategies and existing research provided valuable inputs to this review, they were not a sufficient basis on which to formulate a comprehensive force mix strategy for meeting the Department's current and future requirements. Thus, the review included the development of new approaches to structuring units, assigning missions, and managing the force. In addition, impediments to implementing new approaches and ways to mitigate possible barriers were identified. As it became evident that changes in legislation might be required to implement some

recommendations, the review also addressed the most likely areas of change and laid the groundwork for formulating legislative initiatives to support its recommendations.

The findings and recommendations presented in the chapters that follow reflect the cumulative results of this approach.

ORGANIZATION OF THE REPORT

This report provides the results of the QDR-directed review of Reserve component contributions to national defense. It includes

- A description of the case for change: the basis for today's active and reserve force mix and the new defense strategy that has emerged as a result of the changing security environment
- Innovative approaches for structuring forces that form the building blocks for enhancing the capability of the Total Force
- Options for rebalancing the force to expand force capabilities, including approaches for resolving constraints and imbalances, meeting the demands of emerging missions, and changing priorities for traditional missions across a full spectrum of requirements
- A fundamentally new approach to how the Department manages and organizes its forces, based on the principal that greater flexibility in force management is paramount
- Near-term actions required for implementing the options and new approaches presented

CHAPTER 2.
NEW CHALLENGES CALL FOR CHANGE

Over the past decade, the Reserve components have made substantial contributions to the missions of the U.S. military. Reserve component support has increased from 1.4 million duty days in FY 1989 to nearly 13 million duty days in FY 2001. Reservists have responded to the call of duty when needed, well trained and ready. As stated by the 1997 National Defense Panel,

> The Reserve components serve as an increasingly important element of our armed forces. These citizen-soldiers ensure the involvement of the American people in our nation's security. Moreover, their military skills are often enhanced by their experiences within the civilian sector. … The reserve forces today play an increasing role in a variety of military operations worldwide, relieving active units and reducing both operational and personnel tempo of frequent and lengthy deployments.[4]

While these statements continue to reflect the value of the Reserve components today, it is useful to consider how the Department arrived at this point and what motivates the need for change for the future.

USE OF THE RESERVES TODAY

Today's increased reliance on the Reserve components is a product of a number of factors: the Abrams Doctrine, evolving Total Force policies, the effects of force downsizing, and increasing mission demands.

---

[4] *Transforming Defense: National Security in the 21st Century*. Report of the National Defense Panel, December 1997, p. 52.

In the aftermath of Vietnam, former Chief of Staff of the Army, General Creighton Abrams, asserted his belief that the American armed forces must not go to war again without calling up "the spirit of the American people," which meant calling up the National Guard and Reserve. By involving the Guard and Reserve, the will of the people is brought to the fight. This philosophy has become known as the Abrams Doctrine.[5]

During the same period, the Total Force concept emerged through a series of policy memoranda—the first of which was signed in 1970 by then Secretary of Defense Melvin Laird. The Total Force Policy had a significant impact on the use of the Reserve components; it emphasized increased reliance on the reserves, initially for warfighting and later for full spectrum requirements. The initial Total Force doctrine directed that all departmental planning, programming, budgeting, and employment deliberations consider the Active and Reserve force together. Motivated by declining defense budgets, the Department recognized that the Reserve components were a way to maintain military capabilities in peacetime with lower sustaining costs. In addition, Guard and Reserve units were to be a primary source for augmentation of the Active component in any future emergency requiring a rapid and substantial expansion of Active forces.

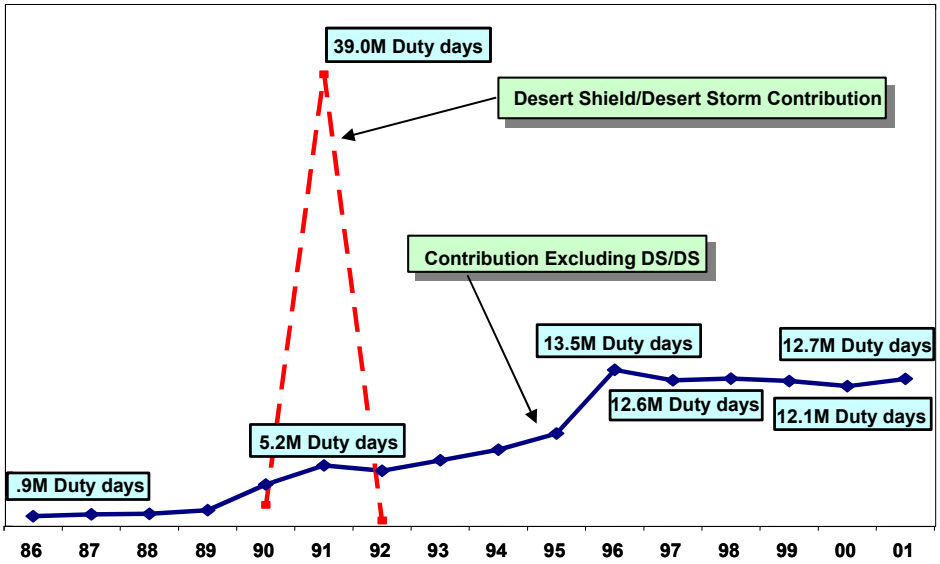
Two decades later, in the 1990s, force downsizing, along with reduced budgets and rising operational tempo, spurred greater reliance on the Reserve components and furthered active and reserve integration. As downsizing progressed, the size of the Active component was reduced more than the reserves—a 36 percent reduction as compared to 27 percent for the reserves—leading to an increase in the use of reserve personnel. Indeed, the expanding use of Reserve forces in Total Force missions was supported in the Total Force policies under both Secretaries Perry and Cohen. These policies sought to capitalize on the Reserve components to support operational

[5] For further discussion of the Abrams Doctrine see: Lt. Gen. Thomas J. Plewes, "Reserve Duty Changed Forever," *American Forces Press Service*, Washington DC, January 22, 2002 and *The Annual Report of the Reserve Forces Policy Board*, Manpower, Personnel, and Force Structure (Washington DC: Office of the Secretary of Defense), May 2001, Chapter 3.

requirements and highlighted "reducing barriers to Active and Reserve component integration" as a critical theme.[6]

At the same time, the increase in operational tempo began to stress the Active forces so that reserves were called to help provide relief from the high operational tempo, as illustrated in Figure 1 below. Furthermore, while the Reserve components are structured as a repository for capabilities needed to meet the later phases of major theater wars, these capabilities—such as civil affairs and air traffic control—were unexpectedly crucial to U.S. commitments in the 1990s. As a result, some Guard and Reserve units have been in high demand repeatedly in recent years.

Figure 1. Contributions of the Reserve Component, Fiscal Year 1986 to 2001



Note: Data show direct support only, not indirect support such as recruiting, United States Property and Fiscal Officers (in the National Guard), and most Active Guard and Reserve.

[6] Memorandum to the Secretaries of the Military Departments, et al., Subject: Increased Use of Reserve Forces in Total Force Missions, signed by Secretary of Defense William J. Perry, April 7, 1999 and Memorandum to the Secretaries of the Military Departments, et al., Subject: Integration of the Reserve and Active Components, signed by Secretary of Defense William S. Cohen, September 4, 1997.

Together, these factors have shaped the use of the Reserve components over several decades. The events of September 11, 2001, and the resulting Global War on Terrorism have further highlighted the nation's reliance on Reserve component forces. At the peak of U.S. military operations earlier this year (January 2002), more than 93,000 Reserve component members were mobilized. The many contributions of these forces included force protection and support to command and control, intelligence, and humanitarian aid operations.

Today, however, there is a new defense strategy, which calls for a fresh examination of how active and reserve capabilities are organized and used. In particular, one might reasonably question the current structure and allocation of capabilities among Active and Reserve forces and whether today's reliance on Reserve forces is appropriate for the future.

A NEW DEFENSE STRATEGY

The size and capabilities of the Total Force are determined by the requirements of the nation's security strategy. For more than a decade, the Department has followed a strategy that required U.S. forces to fight and win two major theater wars occurring simultaneously in distant geographic locations—one in the Persian Gulf and the other in the Korean Peninsula. Other global contingencies were addressed as lesser-included requirements. This strategy was considered a "threat-based" approach—one in which force planning was conducted against a known, worst-case threat.

Today, the strategy has changed—driven in large measure by the rapid pace of technology development and the uncertainty involved in predicting future conflicts in an evolving security environment. The threat-based approach has been replaced with a "capabilities-based" strategy in which forces are structured based on the type of enemy capabilities the United States is likely to encounter, not on particular regional threats. Under this new strategy, forces are no longer sized according to the needs of two major theater wars. Instead forces are being sized and shaped to

- Defend the United States
- Deter aggression and coercion in critical areas abroad
- Swiftly defeat aggression in two overlapping major conflicts, while preserving an option for the President to call for a decisive victory in one of these conflicts, including the possibility of a regime change or occupation
- Conduct a limited number (three to four) of smaller contingencies[7]

U.S. forces must retain the capability to project power on a global scale. The new defense strategy reorients the U.S. military posture from one focused largely on Western Europe and North East Asia to one with a more flexible, global scope—with emphasis in the Western Pacific, the Indian Ocean, and the Arabian Gulf. Managing risks and transforming America's defense are also tenets of the new strategy. This strategy will require the Department to develop and maintain a broad portfolio of military capabilities and to strengthen alliances, partnerships, and coalitions.

The new strategy differs from the old in several key ways. Protecting the homeland from attack is the highest priority of the U.S. military. While homeland defense has always been an important element of the Department's strategy, the focus on Homeland Security has become more prominent—motivated first by the proliferation of weapons of mass destruction and missile technology and, more recently, by the events of September 11, 2001.

Another principal difference is that the ability to decisively defeat an aggressor and ensure a regime change are viewed as optional rather than central elements of the strategy. This change requires the Department to examine how its forces are used to respond to changing priorities and requirements, addressing such issues as requirements for assets that are frequently in high demand.

The new security strategy shifts the focus of U.S. force planning from optimizing for conflicts in two particular regions to building a portfolio of capabilities that is robust across a spectrum of possible force requirements, both geographically and functionally. The focus on homeland defense and on capabilities, rather than threat, requires a

[7] *Quadrennial Defense Review Report*, p. 17.

more flexible force than exists today—a force that is capable of dealing with many unknowns.

BUILDING MORE FLEXIBLE FORCES

Reserve component forces will continue to play a role in future conflicts, but changes are needed to make the best use of these forces in the future. As the Department evaluates options for building more flexible and capable forces, a variety of considerations must be taken into account. These considerations include the "core competencies" of the Reserve components, limitations to using Reserve forces, tools to enhance capability, the cost of using Reserve forces, and criteria for assigning missions.

RESERVE COMPONENT CORE COMPETENCIES

The Reserve components provide valuable contributions to military missions—a set of "core competencies" that, taken together, define the strengths of the reserves. Three that are perhaps most important are

- ***Full Spectrum Force***. The Reserve components expand Service capabilities throughout the full spectrum of operations. They provide units and individuals that augment, enhance, sustain, support, reinforce, and generate Service forces worldwide, as needed. As a full spectrum force, the Reserve components are attractive to active-duty personnel who leave full-time service, providing an opportunity to continue serving the country on a part-time basis.
- ***Economy of Force.*** The Reserve components are a cost-effective means for retaining military capabilities that are needed on an intermittent or infrequent basis and for meeting the demands of more predictable missions. The lower peacetime sustaining costs of Reserve component units and individuals can result in a larger and more experienced Total Force within a given budget. Thus, the

Services are able to retain assets that can help mitigate risk in a cost-effective way.

- ***Link to Communities and Specialized Civilian Skills***. The Reserve components serve as one of the military's most visible institutional links to the rest of American society. Today, less than 10 percent of Americans are veterans.[8] Thus, the Reserve components are a primary connection between the military and the American people—a reminder of the importance of military service and citizenship that ensures community support for extended military operations. In addition, the Reserve components facilitate access to civilian-acquired skills such as medical, language, information technology, and other technical skills.

LIMITATIONS TO USING RESERVE FORCES

While the Reserve components have become a significant element of the Total Force, there is a limit to how much the reserves can be asked to do. They are a part-time force. They are citizen-soldiers who must balance their duty to country with responsibilities to civilian careers. As a result, the Department must take care in the frequency with which it calls on the reserves. Moreover, as with the Active component, the Department must ensure that the needs of families are met. In addition, it is important to ensure that civilian employers continue to support their employees who serve in the reserves.

But even more important is the need to manage Reserve component units and personnel judiciously, with prudent use of involuntary mobilization. The need to mobilize the Reserve components must be carefully considered. For many steady state or quick-reaction requirements, Active component forces should have an independent capability. The options and recommendations put forward in this review can help ensure that a desirable balance is maintained.

[8] Estimate of veteran population as a share of the U.S. population is based on data from the U.S. Department of Veterans Affairs (Veterans Population 2000) and the U.S. Census Bureau (Census 2000).

TOOLS TO ENHANCE CAPABILITY

During the 1990s, the Military Services developed or adopted many innovative approaches to unit structures and organization as a way of managing the drawdown in the size of the force and the concurrent increase in operational tempo. Further, recent advances in technology have allowed the Services to expand the use of virtual operations, drawing on capabilities outside of a geographic area of operations.

Many of these concepts remain viable today and are helping the Services achieve a more flexible, capable force. However, this review suggests that the Services can better leverage the range of available concepts by implementing them more broadly. As a result, Total Force capabilities will increase and the Services will be able to better capitalize on the capabilities and strengths of the Reserve components. Some of the most promising concepts in use today are described below. How these building blocks provide the Services with additional capabilities to fulfill mission assignments will be described in the chapter that follows.

MULTI-COMPONENT UNITS

Nearly all the Services are using some type of multi-component unit that blends active and reserve personnel. The approaches vary, as do the names used to describe them—associate units, blended units, and mixed units, for example. These units can be brought together on a temporary basis, tailored to a specific task or mission, or they can be more permanent in structure. By bringing together Active and Reserve component personnel into a single unit, the Services are better able to capitalize on the strengths and capabilities of each component. The Services have been successful in implementing multi-component units, but their use could be expanded as a way of adding capability to, and resolving constraints in, the current force structure. A number of multi-component concepts are described in the following sections.

Multi-component units offer a number of benefits. The Services gain greater flexibility in managing operational and personnel tempo as well as a larger, more experienced pool of personnel to meet surge or wartime tasks. In addition, these units provide a vehicle for the Services to access the extensive knowledge and experience resident in

the Reserve components. Because they usually remain in units for a longer period of time, reserve members tend to be a more stable element of multi-component units and provide corporate knowledge as active-duty personnel transition in and out.

Tailored Forces

Tailored units combine parts of different units on a temporary basis to meet specific mission requirements. These units can be the result of deliberate operational or contingency planning, or they may be rapidly assembled in response to evolving circumstances. Tailored units can take on many different forms. They can include active and reserve units, forces from different Services, forces from other nations, or interagency elements. Each Service has a somewhat different approach to forming these temporary, mission-specific organizations, as described below.

Aerospace Expeditionary Forces

Aerospace Expeditionary Forces (AEF) contain a cross-section of aerospace capabilities that can be tailored to meet a combatant commander's mission requirement. These Air Force units are made up of active and reserve personnel and serve in an integrated, functional structure. The forces use a rotational approach that provides airmen predictability and stability as they participate in operational missions. The AEF has helped to reduce active duty tempo, leverage the experience of the Reserve components, and improve Guard and Reserve mission training and preparation.

Marine Air-Ground Task Force

The Marine Air-Ground Task Force (MAGTF) is the principal organization for combat in the Marine Corps. These units are balanced combined arms forces that are task-organized to accomplish a mission. They include command, ground combat, air combat, and combat service support elements. MAGTFs are organized and equipped to operate with naval forces and have the capability to conduct sustained operations ashore. Forces include infantry, artillery, armor, engineer, reconnaissance, aviation, and logistics components. The common organizations, from largest to smallest, are the Marine Expeditionary Force, the Marine Expeditionary Brigade, the Marine Expeditionary

Unit, and the Special Purpose MAGTF. MAGTFs can be comprised of units from both Active and Reserve components, and reserve integration is one of six operational core competencies. These units provide combatant commanders, or other operational commanders, with versatile expeditionary forces that are capable of responding across the full spectrum of combat.

Army Task Organized Forces

The Army fights battles using combined arms tactics and organizations. A commander routinely combines sub-elements of different types of units to create combined arms teams and task forces based upon the tactical mission. For example, a battalion commander may create a tank company team and a mechanized infantry company team by exchanging between the two companies a tank platoon for an infantry platoon. Additionally, the Army uses the concept of Mission Task Organized Forces (MTOF) as a means of mixing capabilities in response to particular missions or events, such as non-combatant evacuation or the Olympic games. MTOFs are usually planned in response to operations of limited duration. They are designed to focus on events or missions that the Army has performed in the past or anticipates performing in the future.

Carrier Battle Groups

The carrier battle group (CVBG) is one of the fundamental fighting forces in the United States Navy. These groups bring together a range of naval capabilities to meet particular mission requirements. While the composition of the CVBG can change, there are some general rules of thumb in how one is organized. Its core is an aircraft carrier, embarked carrier air wing, and two guided missile cruisers. Other forces might include a mix of destroyers, anti-submarine warfare frigates, attack submarines, and supply ships. The most prevalent missions today for the carrier battle group are power projection and overseas presence. During these missions, CVBGs are stationed near an area of conflict and launch air strikes and possibly cruise missile attacks against enemy forces. Other missions might include protecting Marine amphibious forces en route to an operating zone or protecting military and economic shipping assets and sea-lanes.

Permanent Affiliations

Permanent multi-component structures can be organized in a variety of ways and use a variety of command structures. In some cases, personnel share a single set of equipment. In other cases, each component brings its own equipment to the unit. Different mission requirements call for different solutions, so the various approaches provide the Services with a great deal of flexibility.

Associate Units

In associate units, active and reserve personnel are based together and assigned to use the same set of equipment, which is owned by the Active force. Reserve crewmembers are individually scheduled to fill vacant slots of an active duty crew during operational missions to provide around-the-clock capabilities—in essence augmenting the Active force with additional crew. Associate units can also be structured so that Reserve forces replace a portion of active crews. Associate units help to increase force capabilities by expanding the usefulness of platforms in cases where crew fatigue limits the system's employment.

The Navy's Squadron Augmentation Units, which were designed as a way of training Naval Reserve personnel on the more current equipment used by the Active component, are an example of associate units. In a Squadron Augmentation Unit, reserve aircrew and maintenance personnel are assigned to augment an active-duty squadron's maintenance and flight training. Reserve personnel are able to familiarize themselves with top-of-the-line equipment and provide support in maintaining the aircraft. This concept is also used on surface units to help increase ship maintenance and reduce the workload of active-duty personnel.

The associate unit concept can also work in "reverse," in which case active duty personnel would be assigned to use Reserve component equipment, offering the same opportunity to expand the use of a given equipment set.

Blended Units

A blended unit is one in which active and reserve personnel serve alongside each other in a single unit. The concept differs from an

associate unit. In the blended unit, there is a single unit, rather than a relationship established between two units—one active and one reserve—as is the case under the associate program. The rationale for this approach is to leverage the strengths of each component to provide optimum mission support at minimal cost and reduced overhead.

Roundout

The roundout program, first instituted by the Army in 1973, paired a Reserve component brigade with an under-structured active division for the purpose of training and deployment. Although not used at the brigade level today, the concept is still used to bring organizations to their full complement of lower-echelon units. Examples include structuring for a Reserve engineer company to be the third company of an Active engineer battalion or a Reserve attack helicopter battalion to be an Active component division's attack aviation asset. The priorities of the combatant commander determine whether the roundout unit is deployed simultaneously or as a follow-on to the rest of the unit structure.

By structuring and employing both reserve and active units using this roundout concept, the Army has been able to maintain unit capability with reduced day-to-day costs. The savings in manpower that are realized from under-structuring active units during peacetime can be used to develop the active force structure required for new and emerging high-priority missions within overall end-strength limits.

Fully Integrated Units

The Coast Guard operates as a fully integrated force, with reservists incorporated almost transparently as part of its diverse workforce. An active-duty command structure coordinates and directs training, operations, administration, and reserve mobilization, when authorized in time of war or emergency. Because of their seamless organizational relationship with the Active force, Coast Guard reservists are administratively and operationally ready to report, in most cases, within 24 hours of a call-up. For example, the Coast Guard's Port Security Units are staffed with a combination of reserve and active-duty personnel, but are primarily reservists. These units provide coastal security both in the continental United States and in operational

theaters. Port Security Units can deploy within 24 hours and establish operations within 96 hours after initial call-up.

VIRTUAL OPERATIONS

Virtual operations allow military commanders access to personnel that are located remotely but instantaneously accessible through interactive, networked, real-time communication systems. In today's dynamic, evolving security environment, virtual operations have powerful application in military operations. Commanders are able to access skilled personnel anywhere and any time for both routine and emergency operations and meet mission requirements with fewer personnel on site. Thus, virtual operations are a cost-effective resource multiplier. They enhance readiness while simultaneously improving quality of life.

There are many benefits to this approach. Virtual operations

- ***Facilitate "reachback."*** Commanders on the scene can reach out and remotely access skills, knowledge, or production capabilities that do not have to be performed on site.
- ***Provide force agility***. Support to one or more commanders can be repositioned by "reconnecting" rather than physically moving from theater to theater. In addition, *ad hoc* groups with specific expertise can be rapidly formed to meet specific needs.
- ***Reduce the "footprint."*** Reachback helps to physically reduce the number of personnel deployed in theater and the attendant vulnerabilities. As a result, force protection and other personnel support requirements are reduced.
- ***Facilitate planning.*** Continuity of Operations Plans are easier to design and implement when personnel and information are decentralized and distributed throughout the globe.
- ***Reduce personnel disruptions associated with mobilization.*** This aspect of virtual operations has benefit in both recruiting new service members and retaining quality personnel. It improves the Services' ability to consistently man high-demand skill requirements.

Because of these attributes, virtual operations provide greater flexibility in accessing Reserve forces with less disruption to families and lower demand on employers. Reserve component members are quickly accessible through interactive, global, networked communications. They can be fully integrated into commands for training or mission support. In addition, both active and reserve members can be "assembled" into tailored, collaborative groups from various locations in a real-time environment to support operational requirements in both peacetime and crisis. Through such an approach, the Services can draw on the strengths of each component under varying circumstances.

THE COST OF USING RESERVE COMPONENTS

The Reserve components are a cost-effective means of sustaining a larger force.[9] The Department provides funding for the Reserve component to serve as a repository of capability to expand Active forces across the full spectrum of operations; to provide a strategic hedge against worst-case scenarios; to sustain special capabilities not normally needed in peacetime; and to access civilian-acquired skills. The Reserve components also allow the Department to continue to realize its investment in trained personnel for a longer period of time.

Cost savings of the Reserve components relate primarily to three factors: lower operating and training tempo, part-time pay and benefit costs, and smaller infrastructure costs (such as no family housing requirement). Typically, the Department funds Reserve component operating and training tempo for the 39-day traditional reservist. Ideally, this level of training is adequate to generate sufficient readiness levels to meet mission availability requirements.[10]

Achieving higher readiness and/or use levels above the budgeted amount results in additional cost. The more the Guard and Reserve are used the more they cost. For example, when the Department budgets to

[9] For FY 2002, the Guard and Reserve represented 47 percent of the Total Force but only 7.8 percent of the DoD budget.

[10] The overall cost effectiveness of the Reserve components has been demonstrated in various studies. See: Adele Palmer, et al., *Assessing the Structure and Mix of Future Active and Reserve Forces: Cost Estimation Methodology*, MR-134-1-OSD (Santa Monica, CA: RAND Corporation), 1992.

support steady-state training, but mobilizes Guard and Reserve forces to meet emergencies, supplemental funds must be found to support their use. This often causes short-term, painful budgetary problems, such as have been encountered during Operations NOBLE EAGLE and ENDURING FREEDOM. Nevertheless, the costs of using Reserve components on a full-time but temporary basis in selected operations are significantly lower than the long-term costs of maintaining that level of additional capability in the Active components.

Emergency mobilizations are not the only cause of budget turbulence. As stated earlier, the day-to-day contributions of the Guard and Reserve have increased significantly over the past decade. This increase has allowed the Department to meet its obligations with a smaller Active force, substantially lowering costs. However, the Services take different approaches to planning for the peacetime use of Guard and Reserve capabilities. Without adequate planning, financing Reserve component day-to-day contributions becomes a haphazard process of shifting priorities and expensive, last minute solutions.

The way to optimize the capabilities of the Guard and Reserve is to more effectively plan and program for their appropriate use. Unless the Department believes it can afford to substantially increase its Active forces or that it can substantially reduce its worldwide commitments, it needs to assign appropriate missions to the Guard and Reserve and program the necessary funds to support their use.

CRITERIA FOR ASSIGNING MISSIONS

To enhance the capabilities of the existing force, it is necessary to examine whether the overall active and reserve force mix is properly balanced to meet the nation's military requirements. The next step is to reallocate missions between the Active and Reserve components to ensure the right mission is assigned to the right component. Each Service bases mission assignments on a variety of factors: its unique role in meeting strategic military requirements; its force-structure models, processes, culture, and available resources; basing, demographics, training, and political considerations; and historical usage.

A number of indicators suggest that current mission allocations need to be reexamined. These indicators include the following: routine use of involuntary recall of the reserves; increased operational tempo in selected areas; anecdotal evidence that the ongoing partial mobilization may have a negative impact on reserve recruiting and retention in the future; the apparent mismatch between the new defense strategy and current force structure; and the length of time it takes to adapt force-mix allocations in today's rapidly changing security environment.

In considering how the Reserve components can play a role in meeting the Department's spectrum of missions, some general guidelines are useful to employ in mission allocation decisions. Because of unique requirements, each Service will adapt these guidelines to meet its particular needs, but the guidelines provide a useful framework. To ensure the right component is assigned to the right mission, four criteria must be evaluated in the deliberate planning process: tempo, predictability, timing, and availability.

- ***Tempo*** is the frequency and duration of a mission. Although Reserve component units and individuals can support Active forces for varying amounts of time (from part-time to full-time), Active forces are perhaps best employed in peacetime missions performed 365 days a year.[11]
- ***Predictability*** allows personnel to plan, train, and prepare for a mission. In most cases, the more predictable a mission the more likely it is to be suited to the Reserve components.
- ***Timing*** refers to when forces are needed in an area of operation. Active forces normally respond if the mission requires immediate deployment, though some units and individuals in the Reserve components are needed in no-notice or short-notice missions. Missions that are intermittent in nature are well suited to the reserves.
- ***Availability*** refers to when an individual or unit can be ready to accomplish a mission. It also focuses on the amount of time needed to train. If a mission requires an immediate high state of readiness for complex tasks with

[11] The Review recognizes that 365 day-a-year operations have been successfully covered using rotations of Reserve component units.

perishable skills, the Active component is best suited to the mission. Whether reserve personnel can train sufficiently to maintain required proficiency levels is a factor that may limit their use in certain missions. However, prior service experience, innovative training approaches, similarity between civilian and military careers, and later deployment schedules can increase the utility of Reserve component personnel.

Building More Flexible Forces
Summary Findings

Reserve component forces will continue to play a role in the future. However, changes are needed to enhance the capabilities of the Total Force.

Each component has unique capabilities and strengths that contribute to a strong national defense.

The Reserve components share a set of core competencies. Reserve forces expand Service capabilities across the full spectrum of operations. They are economical, linked to the community, and provide access to civilian-acquired skills.

Reserve components are a cost-effective part of the Total Force. The short-term costs related to emergency use are smaller than the long-term costs of sustaining a larger Active force. Better planning for peacetime use will result in better management and substantial savings to the Department.

There are limitations to using the Reserve forces. They are a part-time force.

Mixed units and virtual operations are tools that enhance the ability of the Total Force to effectively leverage the strengths of each of the components.

To ensure that the right component is assigned to the right mission, four criteria must be evaluated in the deliberate planning process: tempo, predictability, timing, and availability.

This chapter has outlined critical concepts that can be used to meet the tenets of the new defense strategy and increase Total Force capability. These include broad considerations for using Reserve component forces, alternative "building blocks" for restructuring forces, and mission characteristics that lend themselves to the use of Reserve component forces. The following chapter uses these concepts and criteria in evaluating options for reassigning missions and rebalancing the force mix.

TRANSFORMING THE RESERVE COMPONENT

The remainder of this report applies these concepts to two central themes.

- ***Rebalancing to Expand Force Capabilities***. The Military Services can expand the capabilities of the Total Force by rebalancing the existing force mix and reassigning missions to take advantage of the core competencies of both the Active and Reserve components. Rebalancing will involve using force structure in ways that are different than in the past. By doing so, the Department will be better able to manage operational tempo while meeting demands for U.S. forces worldwide.
- ***Creating Flexibility in Force Management***. Current force management policies and systems make it difficult for the Services to operate in a truly efficient way. The system works today because managers work around practices that hinder their ability to employ forces in the way they are needed. As demands on the force have grown, traditional personnel categories are becoming less valid. A fundamentally new approach is needed.

These overarching themes are the basis for transforming the Reserve components to meet the challenges set forth in a new defense strategy and to respond to a rapidly changing security environment.

CHAPTER 3.

EXPANDING FORCE CAPABILITY THROUGH REBALANCING

Since the size of the force is not expected to grow in the near future, today's force structure—its people, equipment, facilities, and organization—in both the Active and Reserve components is the starting point from which the Department must transform its force. Today's force is being asked to perform different tasks, build different capabilities, and become more flexible. *This need for expanded capabilities and flexibility calls for rebalancing the force to attain a full spectrum of capabilities in the Active and Reserve components within acceptable risk.*

This chapter addresses the topic of rebalancing. More specifically, it identifies options for resolving constraints and imbalances, meeting requirements for emerging missions, and changing priorities for traditional missions. Some of the options addressed are being or have been employed by the Services, but should be reexamined for wider applicability; others are being considered but have not yet been implemented; and still others offer new approaches to existing and future challenges. Together, these options offer ways to expand the capability and flexibility of the existing force, more effectively manage operational tempo, and promote further integration of the Active and Reserve components.

RESOLVING CONSTRAINTS AND IMBALANCES

As the previous chapter described, the new defense strategy has different objectives than has been the basis for force planning in the recent past. Today's force structure is designed to fight and win two near-simultaneous major theater wars and reflects a modern, combat-ready version of a Cold War design. Until very recently, the two-major-theater-war strategy heavily influenced the Services' force-

structure planning process; but it has proved to be too constrained to meet the full spectrum of operational requirements that emerged over the past decade. These constraints have been particularly evident in responses to smaller scale contingencies, including peacekeeping and humanitarian deployments.

Contingencies such as peacekeeping and humanitarian operations place a high demand on some capabilities that are low in density to overall available forces. In some cases, these capabilities reside heavily or exclusively in the Reserve components. This is the case because the reserves became the repository for many capabilities that would have been needed only in the later phases of a conflict under the two-major-theater-war strategy. However, in the day-to-day reality of the current strategic environment, some of these capabilities are in high demand as the Department strives to meet global security requirements, including fighting the Global War on Terror. Examples of the capabilities called on frequently in the past ten years include the following.

- ***Civil affairs*** capabilities are found largely in the Reserve components. Army civil affairs units, 97 percent of which are in the reserves, have been used in all six reserve call-ups since 1990, and some soldiers have deployed six times in the past 12 years. The civil affairs group of the Marine Corps, made up entirely of reserve personnel, has been continually supporting contingency operations and exercises worldwide.
- ***Military police and security forces*** in the Reserve components are in high demand. For example, about 89 percent of the Air Force Reserve security forces are on duty for Operation NOBLE EAGLE/ENDURING FREEDOM. Approximately 14,000 Army Reserve and National Guard military police and infantry are deployed for force protection operations in both the continental United States and overseas.
- ***Public affairs units*** in both the Army Reserve and National Guard constitute 82 percent of the Army's public affairs capability and were deployed extensively to support Stabilization Force operations in Bosnia.

- ***Air traffic control services*** in the Army have supported operations in Bosnia and Southwest Asia and are still in high demand. Of the 24 companies in the Army, 13 reside in the Army National Guard. Individual Navy reservists provide air traffic control services that are inherent to ship-manning and base-manning rosters. In the Marine Corps, 40 percent of ten air traffic control detachments are in the Reserves; these detachments have provided individuals for operations in Bosnia.
- ***Deployable air control squadrons*** in the Air National Guard were deployed in the first few days of Operation NOBLE EAGLE and remain in use today. The Air National Guard has 10 air control squadrons, half of which are currently deployed to support ongoing missions worldwide. Air control capabilities in the active Air Force are integrated into base operations staffs and operational squadrons.
- ***The reserve intelligence community*** has continually supported all operations and exercises since Desert Shield and Desert Storm. Reserve augmentation is essential to many of the Joint Intelligence Centers and combatant commanders, particularly in the Navy.

Resolving today's force constraints and imbalances will require the organizational agility to formulate and implement a variety of flexible solutions. When determining how the Reserve components can help to resolve these imbalances, tempo, predictability, timing, and availability considerations should guide mission assignment.

In addition, solutions will be influenced by whether the given capability shortfalls are based on *shortages of weapon system platforms* or based on *shortages of skilled personnel*, as the options described here demonstrate.

PLATFORM-BASED SHORTAGES

Platform-based shortages can be resolved in one of two ways: increase the use of a fixed number of systems or increase the number of platforms available. Generally speaking, systems have more operational endurance than the personnel who operate them.

Consequently, one way to increase the firepower or output of a fixed number of systems is to augment Active component units and the systems they operate with reserve personnel. Multi-component or mixed units of this type are in use today, but there is considerable potential to expand the concept across the Services. Another way to relieve stress on high-demand units is to increase equipment supply through targeted modernization. By upgrading reserve units that are using older, less capable equipment, the Services can relieve strains on the Active component and improve interoperability.

Associate Units

Mixed units provide a way to leverage the strength of each component to meet military requirements and to extend the capability of existing equipment sets. The Air Force has made extensive use of the associate unit concept in its strategic airlift forces—KC-10, C-141, and C-5—and medical evacuation (C-9) forces. By sharing flying and maintenance responsibilities, these units offer the benefits of force multiplication and a high level of integration. Because the active and reserve members of the unit train together, wartime tasks can be tailored to the capabilities and limitations of each individual in the unit. Moreover, the augmenting associate personnel can rapidly deploy to theater because the equipment for both components deploys with the active unit.

There is considerable potential to expand the use of associate units. The associate concept can be used to augment combat, combat support, and combat service support capabilities. Augmentation is useful in units where systems can be operated around-the-clock to provide needed capability, such as the AH-64 Apache. In these cases, the operating environment must support crew replacement or shift replacement. Units with historically low crew ratios can benefit from the concept. Air Force fighters and combat engineer, transportation, maintenance, and air defense units from various Services appear to be a good match for the associate concept.

Blended Units

The Navy has had blended units in operation since the mid-1990s. The two Helicopter Mine Countermeasures Squadrons (HM-14 and HM-15) are both blended units. Currently the Air Force is planning to

implement their first blended Future Total Force unit at Robins Air Force Base, Georgia. This new unit, the 116th Air Control Wing, will fly the E-8 J-STARS aircraft.[12] In this blended unit, the wing commander will be a Guardsman and the wing vice commander will be from the Active component. Other wing organizations will be a mix of Guard and Active personnel. This approach has potential applicability in other mission areas across the Services.

Targeted Modernization

The lack of interoperability between older weapon systems in the reserves and more modern systems used by the Active component can create operational limitations. Recent operations have highlighted many examples of this condition. Reserve component aircraft that are not equipped with precision targeting capability, for example, may not be selected by combatant commanders to fulfill mission requirements. Older generation tanker aircraft are limited in their ability to operate worldwide because they do not meet new noise, emission, and navigational requirements.

Modernizing selected reserve equipment to bring it to the same capability as Active component systems—particularly where the modernization requires only modest investment—is one way to expand capabilities in high demand and ease the operational burden on the Total Force. In some cases, the modernization programs exist in the Department's plans, but have either slipped in priority or could benefit from being accelerated. Several promising examples are highlighted below.

- The Air National Guard provides 32 percent of the Air Force general-purpose fighters to meet the total Aerospace Expeditionary Force requirements. Fighter aircraft deployed in overseas theaters must have a precision-guided munitions capability—also required in certain homeland defense missions. The Air National Guard is short of its total requirement by 96 Litening II Targeting Pods and must rotate its modernized equipment among units as they are deployed. Equipping the Guard with additional targeting pods would multiply the resources available for extended range operations, laser search and

[12] Joint Surveillance and Target Attack Radar System (J-STARS).

tracking, laser marking, and target coordination generation.

- One of the highest priorities for the Commander, Naval Reserve force is to achieve equipment compatibility between the Active and Reserve components. Currently some Reserve F/A-18 A/B aircraft lack the capability to deliver precision-guided munitions and need upgrades in avionics, software, and accessories. Upgrades for one remaining squadron have not yet been funded. The lack of a precision-targeting capability creates serious mission limitations on the use of these aircraft. By upgrading the 12 Navy F/A-18A aircraft and the 25 Marine Corps aircraft, the Department would increase its precision-guided mission capability by approximately 30 percent. Moreover, with these enhancements, Reserve squadrons could be integrated with the Active component and fully participate in contingency operations. This, in turn, reduces active operational tempo and increases Navy mission capability.
- P-3 aircraft used by the Naval Reserve make up approximately 25 percent of the Navy's capability. Currently, these aircraft can provide only limited support to combatant commanders because they lack the latest block modification upgrades as well as the anti-surface warfare improvement program upgrade. This capability, used extensively in Afghanistan by active P-3 aircraft, provides added long-range optical, infrared, and electronic intelligence-gathering sensors, synthetic aperture radar, and data links which give P-3s the ability to gather intelligence, maintain long-term surveillance, and conduct reconnaissance of suspicious targets. To enable the Naval Reserve P-3C squadrons to fully participate and integrate with the Active component during mission contingency operations, an investment needs to be made to upgrade the P-3 aircraft.

As these examples illustrate, by targeting modernization efforts to systems in high demand, Total Force capability can be significantly increased. The resulting improvements in interoperability would allow Reserve component forces to more fully participate in contingency operations, enabling the Services to better manage operational tempo

across the force. Maintenance and long-term readiness issues that are related to the performance and safety of aging equipment can be reduced or eliminated. For these reasons, targeted modernization should be a priority consideration in expanding Total Force capability.

SKILL-BASED SHORTAGES

Skill-based shortages fall into two categories: shortages in skills that are inherently military and in those that tend to be acquired in the civilian arena. For military skills, each Service can develop more capability in either the Active or Reserve component or borrow those capabilities from another Service. On the other hand, certain types of civilian-acquired skills are more difficult to train and sustain in the Active component. Here, the most desirable solution is to increase the rotational pool in the Reserve component and develop innovative programs to recruit, train, and retain individuals with needed skills and capabilities.

Inherently Military Skills

Inherently military skills are those gained in military training and used in direct combat operations. Because of the specialized nature of these skills, there is a more limited set of options that can be pursued to meet increasing demand, force imbalances, or shortages of personnel in particular disciplines. Two general approaches can be employed to remedy imbalances or shortages in inherently military skills. The Services can either build additional capability or it can be borrowed from within the military environment—either from within a Service, from another Service, or from allies.

- ***Building Additional Capability***. Because the options devised in this review are within current end strengths, any additional requirements must be met with capability taken from elsewhere in the force. In effect, high-priority shortages are resolved by converting capabilities from lower priority units, which could result in adjustments within and between components. Building additional capability is a time-consuming and expensive solution. It takes time to train new recruits and for individuals to gain the experience needed to build cohesive units. So this approach should be reserved for those cases where

shortages are perceived to be enduring in nature, not short term.

- ***Individual or Unit Substitution***. Military personnel can be temporarily reassigned to resolve skill imbalances. Reassigning military personnel can be advantageous in meeting mission requirements because personnel understand the military environment and have to be trained only on specific skills. Personnel can return to their original mission when the crisis subsides and demand for those skills abates. In some cases, shortages emerge in unit capabilities that have to be resolved by substituting entire units with the specific skills in need.
- ***Other Service Personnel***. The Services can also look outside their own organization to find needed capabilities. This approach has the advantage that individuals are already in the military and may have the specific skills in demand. In some cases, service members may need to be retrained on specific mission skills and/or additional equipment may be required.
- ***Allied Support***. Allied support requires a political agreement or treaty between countries. Language may act as a barrier to success. Nonetheless, this can be a cost-effective short-term solution in coalition operations, particularly if little training is required.

Civilian-Acquired Skills

To make better use of the capabilities resident in the Reserve components, the Department needs a more effective way to identify individuals with the civilian skills and experiences needed to address new and emerging requirements. Requirements for particular skills and capabilities that have emerged since September 11, 2001, underscore the need to provide decision makers with better access to such information. An on-line data repository of occupational skills, based on a common architecture, is an approach to collecting and reporting civilian skills, experiences, and employer data to the combatant commanders and among the Services.

Today Reserve component managers generally have information on only the current civilian occupation of reserve personnel, along with

some self-identified information. In general, data are voluntarily collected; there are few, if any, incentives for reserve members to report or update data. Better and more compatible Service databases could be a "win-win" solution in the short run until the Defense Integrated Military Human Resources System (DIMHRS) becomes functional and provides a single overarching database architecture to be shared by all the Services.[13]

An accessible, on-line data system would allow the Services to quickly find individuals with the skills or experiences required to match requirements. The system would include more data than simply current occupations; it would include all civilian-acquired skills, as well as information on past employment and experience. If properly supported, a civilian-acquired skills database could also serve as a personal career management tool for reserve members while providing the Services and combatant commanders with the information they need in a timely manner.

Resolving Constraints and Imbalances
Summary Findings

Reserve component augmentation to Active component capabilities can increase the output of major weapons systems.

Targeted modernization of Reserve component systems improves interoperability and adds to system availability.

Deeper pools of Active and/or Reserve component personnel can solve shortages of inherently military skills.

The Reserve components can enhance access to civilian-acquired skills that are hard to train and maintain in the Active force.

[13] DIMHRS will be a single standard military personnel and pay system supporting military personnel of all Services and their Components. It will collect, store, pass, process, and report personnel and pay data for these personnel. DIMHRS is a program currently under development by the Office of the Under Secretary of Defense for Personnel and Readiness.

MEETING REQUIREMENTS FOR EMERGING MISSIONS

The United States faces a wide range of emerging missions that present tremendous challenges to the Department of Defense. They include: Homeland Security; high-technology mission areas such as intelligence, information operations, space, and unmanned aerial operations; and experimentation. Effectively using both the Active and Reserve components is key to meeting the requirements of new and emerging missions.

DEFENSE OF THE HOMELAND

Defense of the homeland has always been a priority mission area for the Department of Defense. Since the events of September 11, 2001, however, defense of the homeland has received renewed focus, spurred by a realization that Americans are vulnerable to attack on U.S. soil. The Department of Defense will help provide for the security of the American people and its territory in various ways. This mission—termed Homeland Security in total—is broken into three specific components: homeland defense, civil support, and emergency preparedness. *While the Department will have the lead for homeland defense, it will play a supporting role to other federal agencies for civil support and emergency preparedness missions.*

While often associated exclusively with the Reserve components, *defense of the homeland is a Total Force mission* with important roles for both the Active and Reserve components. In addressing this mission, the Department must balance requirements for Homeland Security with traditional warfighting requirements. Thus, while major combat operations remain the basis for building force structure, the future force will have to be more flexible and agile to respond to a full spectrum of operations, including those required for all elements of Homeland Security. To make the best use of these capabilities, this review recommends that Reserve component forces be "dual missioned" for both wartime and domestic support missions.

Homeland Defense

In contributing to homeland defense, the Department will "provide forces to conduct traditional military missions under extraordinary circumstances, such as the defense of the nation's airspace…."[14] This review has focused on three elements of homeland defense: air defense of the continental United States (CONUS), ballistic missile defense, and port and maritime security.

CONUS Air Defense

The Air National Guard has historically been involved in the air defense or air sovereignty mission. On continuous alert, Air National Guard fighter aircraft monitor and interdict threats as varied as terrorism, foreign military aircraft incursions, illegal immigration, and drug trafficking.

While the Air Guard has thus far been successful in sustaining a high operational tempo, the level of demand since September 11 has remained high. At the peak of post-September 11 operations in February 2002, 25,000 Air Guard personnel supplied over 64,000 flying hours in almost 18,000 sorties, an amount that reached six times the normal "busy" monthly average. This pace cannot be sustained with current personnel end strength and equipment levels. To meet increasing demands, changes to air defense operations that take a Total Force approach are required.

This review recommends that the Air Guard reduce its air defense operations by sharing the load with other Service or component aviation units. Active Air Force fighter units can be used to augment or backfill Air National Guard units. Similarly, Air Force Reserve, both Active and Reserve Navy, and Marine Corps units can share the air defense mission with the Air National Guard at selected geographic locations.

Ballistic Missile Defense

The Department of Defense is pursuing an aggressive research and development program to develop a ballistic missile defense capability.

[14] Testimony of U.S. Secretary of Defense Donald H. Rumsfeld on Homeland Security and the Role of the Department of Defense, United States Senate, Committee on Appropriations, May 7, 2002.

The system envisioned will be able to counter limited strikes against the United States and will evolve in block increments—where system capabilities are updated as technology matures—with an initial operating capability expected in the next few years. The Army, Navy, and Air Force will all contribute to the ballistic missile architecture.

The regularly programmed nature of many missile defense activities makes it feasible for both full- and part-time reservists to support these activities at fixed sites where radar, interceptor, and command and control facilities are located. Though many of these sites are in remote geographic locations, there may be enough reserve personnel who have settled in these areas that a significant number could be recruited locally, reducing the number of Active component personnel who would have to be rotated through (and retrained for) these positions.

Reserve personnel could contribute to missile defense activities in all the Services. For example, if the Navy pursues options for crew rotation, reservists with appropriate skills and training could become part of a pool of personnel that would be rotated to deployed Aegis missile platforms where they would perform alongside active-duty counterparts in support of the ballistic missile defense mission. As the Air Force develops the Airborne Laser as part of the emerging ballistic missile defense system, assessments of how to meet personnel requirements could involve Reserve component personnel in associate units. In this role, the Active component unit would "own" the aircraft, with the reserve unit providing both maintenance support and aircrew that would fly either as part of an active-duty crew or as an all-reserve crew.

Because the missile defense system is under development, there is time to resolve both the operational and resource implications of using a mix of active and reserve personnel to support this mission. Early planning is needed so that both components can build and train the force that will be required several years from now. Early planning should include an opportunity to involve both active and reserve personnel in the development and deployment of the missile defense test-bed, to avoid a steep "training curve" for either component once testing is complete.

Port and Maritime Security

The Navy and Coast Guard are the two Services that predominantly perform the maritime security mission. The Navy supports the Coast Guard in its port and coastal security tasks through an inter-Service agreement. This is a strong relationship that involves sharing people, equipment, information, and intelligence. The establishment of U.S. Northern Command is not expected to fundamentally alter how the Navy and Coast Guard divide the domestic and maritime security mission.

The Coast Guard has defended America's coasts for over 200 years, performing a range of missions, to include: maritime law enforcement and safety, national defense, maritime mobility, and maritime environmental protection. Its mission suite focuses on civil and law enforcement tasks in U.S. coastal and navigable waters. In contrast, the Navy focuses more on deterring and preempting military targets well forward of U.S. coasts.

The Reserve components already play a prominent role in the maritime security mission. Today, the Coast Guard is the lead service in performing port security, with port security units staffed primarily with reserve personnel. This approach has been effective and can be expanded as the mission requirements of the individual Services are more clearly defined. Use of reserves in support of the maritime security mission will depend on the specific mission tasks, level of support needed, location and frequency of support, training requirements, and mission capability requirements—the same criteria used in determining the mix of Active and Reserve forces in any mission area.

Civil Support

The Department is "to support the broader efforts of the federal domestic departments and agencies and the state and local governments … under emergency conditions or for specific purposes."[15] As the federal government has become more engaged in aiding local government response to natural disasters and other emergencies, the military's involvement has grown proportionally and will likely continue to be strong. Although the civil support function is to assist

[15] Ibid.

other lead federal agencies, this mission is critical to the safety and security of the American public. This review suggests that no specific force structure be formally apportioned to the civil support mission, with the exception of existing Weapons of Mass Destruction (WMD) Civil Support Teams and Emergency Preparedness Liaison Officers (EPLOs).

Events Involving Weapons of Mass Destruction

Because of the growing threat from chemical, biological, radiological, nuclear, and high-yield explosive weapons, incident management capabilities—including both crisis and consequence management—are critically important. There have been substantial efforts in recent years to increase the capabilities in the Reserve components to respond to incidents involving weapons of mass destruction. Thirty-two National Guard WMD Civil Support Teams have been funded to date. Twenty-five Army Reserve chemical units have been cross-trained and equipped to perform domestic casualty decontamination, and three Army Reserve chemical reconnaissance units have been trained and equipped to perform nuclear, biological, and chemical reconnaissance in domestic incidents. A substantial amount of the aerial spraying and firefighting capabilities in the Air Force reside in the Reserve component, and the Coast Guard Reserve provides both specialized port-security elements (for detection and interdiction) and environmental hazard response strike teams that may be useful in chemical or biological incidents.

The concept of "rotational watch" would be an advantageous approach to meeting WMD support requirements. Under such an approach, units would be identified for rotation for a three-month "watch" period every 18 months. Prepackaged personal protective equipment and special equipment would rotate to units during their watch periods. When units are not on watch, they have time for normal training and operations, specific deployment preparation, and recovery. Each Service employs some type of rotational watch approach, which is applicable to homeland security tasks in general, and WMD support requirements in particular. The rotational watch provides a framework for ensuring that the demands for domestic support and wartime missions are considered simultaneously for units that are dual-missioned.

Emergency Preparedness

Emergency preparedness involves elements of support to civilian government agencies and homeland defense—activities in which the Department will continue to be involved. To provide responsive support, Reserve component forces need access to specialized training and equipment to leverage their warfighting skills for domestic operations. This is particularly true with regard to military medical resources. DoD is an integral partner in the National Disaster Medical System, and with more than 70 percent of DoD's medical assets in the reserves, the Reserve components will play a prominent role in the civil support mission area. In order to respond appropriately, individual personal protective equipment and hospital sets must be prepositioned.

In the end, the Department will have to consider the total portfolio of homeland security missions in determining how forces will be apportioned and how missions will be assigned to the Active or Reserve component. Consideration will have to be given to the relative priorities that are ultimately assigned to each of the individual homeland security mission areas, the balance between homeland security and warfighting needs, and the relative responsiveness and capabilities of each component.

In many cases—particularly in the area of civil support and emergency preparedness—local, state, or other federal civilian actors make critical contributions to homeland security activities, particularly in the early stages of disaster response. The Department needs to take these contributions into account in its own planning and focus on areas where there are gaps in civilian capabilities or where the Department has the only resources to perform the mission. In addition, the Department's planning must be forward looking—beyond the nation's experiences following September 11—as future homeland security requirements may be very different.

As this section proposes, a "rotational watch" construct, drawing assets from the Active and Reserve components, could help preserve capabilities to meet both homeland security and other continuing mission requirements, including preparation to conduct military operations up to and including major combat operations.

Defense of the Homeland
Summary Findings

Homeland Security is a Total Force mission that is shared by both the Active and Reserve components.

Homeland defense requirements must be balanced with warfighting requirements.

DoD will continue to perform civil support missions, of limited scope and duration, in support of other lead federal agencies.

HIGH TECHNOLOGY OPERATIONS

The information and technology revolutions have made the battlefield an increasingly high-technology arena—a phenomenon that will continue in the future. To stay ahead, the U.S. military must continue to master new and emerging technologies and incorporate these advancements into its weapon systems and concepts of operation. A consequence of this high-technology arena is an increase in the type and number of functions that can be conducted at sites far away from the physical battlefield. Examples of such functions, which are employed to some degree today, include

- Comprehensive command and control via satellite communications and web-based information technology
- Units and assets that provide information, such as intelligence, to the warfighter from remote, "non-deployed" positions
- Unmanned aerial vehicles controlled via satellite link to ground stations in the continental United States

Excellence in innovation and high-technology skills will be a key element in the Department's transformation to an information-age force. Today, much of the leadership in this area is resident in civilian industries. As a result, DoD must find new ways to access high-technology talent. One approach—that has been proven through ample precedent—is to create a network of interconnected high-technology

professionals who perform functions in support of the warfighter without physically deploying to the area of operations.

Reserve personnel, either individually or in units, are particularly well suited for reachback operations. Reservists can offer a blend of highly technical and expensive civilian-acquired skills and professional military talents. Moreover, reachback operations allow the combatant commanders to access CONUS-based capabilities tailored to their requirements. There are several successful Reserve component programs that take advantage of a first-generation reachback capability.

- ***The Joint Reserve Intelligence Program (JRIP)*** provides direct intelligence support to combatant commanders through 27 stateside Joint Reserve Intelligence Centers.
- ***The Joint Web Risk Assessment Cell (JWRAC)*** uses Reserve component personnel to conduct ongoing operations security and threat assessments of DoD and Service component web sites. Many of these missions are conducted through reachback from remote locations.
- ***The Joint Reserve Virtual Information Operations Organization (JRVIO)*** consists of Reserve component personnel who provide support from remote locations for organizations tasked with the information operations mission, specifically in the areas of psychological operations, military deception, electronic warfare, operations security, and computer network operations.

The next generation of reachback capability will likely be centered on access to civilian talent in three principal categories:

- Prior service personnel who have acquired important civilian technical skills
- Highly trained civilian personnel with needed expertise but with no prior service
- Innovative partnerships between DoD and industry to facilitate the blending of the two

The potential for developing reachback operations is boundless. Reachback offers individuals a rewarding opportunity to serve their country by participating in challenging assignments that augment their

civilian careers. If reachback sites are located along demographic lines—such as in Silicon Valley where there is a large base of high-technology talent—individuals will be able to expect more geographic stability and flexibility in their reserve careers and the Department will be well positioned to explore innovative partnerships with industry and individuals.

This review has identified several promising areas where there is significant opportunity for the Department to expand the use of Reserve components in reachback operations. They include intelligence analysis, information operations, space and missile defense, and unmanned vehicle operations. The most effective implementation of these concepts will require review and likely revision of existing laws and Department policy as well as innovative approaches to recruiting and personnel management—topics that will be addressed in Chapter 4.

Intelligence

The Reserve components have played an increasing role, over the past 15 years, in providing intelligence information to the warfighter. Over 20,000 reservists across all the Services, including reservists at the Joint Reserve Intelligence Centers (JRICs), have participated in these operations. In peacetime, reservists are able to participate in "real world" intelligence assignments and as a result are "mission ready" in time of conflict.

The Joint Reserve Intelligence Program is a very important part of the Department's overall intelligence capability. Over 5,000 reservists drill at the JRICs, providing intelligence support to the combatant commanders in virtually every theater. These centers have greatly improved the Department's ability to quickly provide intelligence to combatant commanders in time of conflict. The combatant commanders rely on reserve intelligence assets to perform mission-critical intelligence support that would otherwise be left undone.

Through the JRICs, reservists provide up to 30 percent of ongoing strategic intelligence production. This concept was well demonstrated in Europe at the Joint Analysis Center in Molesworth, England during the Bosnian and Kosovo conflicts. At one point, reservists provided as much as 60 to 70 percent of the strategic intelligence production—

proving the effectiveness of reachback. Thus, reservists have become a critical part of the Total Force intelligence picture.

Despite this vast experience base, however, the events of September 11, 2001, and the subsequent mobilizations have illustrated both the vital need for expanded intelligence support and the diverse range of skills required for these operations. More intelligence will be needed in the areas of homeland defense, bio-terrorism, information operations analysis, and measurement and signatures intelligence analysis, while demands for "traditional" intelligence will also increase. Thus, the Department faces the challenge of how best to address new and existing intelligence requirements.

As a starting point, the Department must ensure that existing intelligence assets—both active and reserve—are being used as effectively as possible at both the tactical and strategic level. One option is to actively include the intelligence capabilities of the Reserve components in the planning process as the requirements for new and emerging mission areas are evaluated. Some intelligence requirements might best be met with reserve intelligence capabilities—particularly requirements for civilian-acquired skills or skills represented in greater number in the reserves. In addition to understanding new intelligence requirements, an understanding of the recruiting and retention concerns that may emerge is essential. Reaching needed "technical experts" may require a new way of doing business.

Another option is to further develop the reachback capability at the JRICs and expand the use of these sites to support a broader range of missions for both the active and reserve communities. In the mobilization following September 11, few assets in support of the combatant commanders were mobilized to the JRIC sites; as the conflict has continued, more reservists have been mobilized to the JRICs. In addition to providing reserve intelligence, JRICs might also be used to provide more full spectrum support—as alternative intelligence centers for the Active component or, in limited numbers, as command and control sites, for example.

By relying more on reachback assets, the Services can reduce manpower and deployment costs, reduce the number of forward deployed forces, and provide flexibility and continuity of operations. Many are working today to address the cultural challenges associated with reachback operations. Meeting the intelligence needs of the future

will require a significant effort—one in which the reserves can play a crucial role.

Information Operations

Doctrine and operational tactics will increasingly rely on information dominance. Consequently, information operations—which include offensive, defensive, and information assurance capabilities—will play an expanding role in military operations. Core information operations capabilities include psychological operations, military deception, operations security, computer network operations, and electronic warfare. Intelligence provides critical support to these operations. The Military Services and their Reserve components have information operations units, and new units are being formed. An ongoing effort will be required if DoD is to attain and sustain excellence in information warfare—an area in which the Reserve components can play a growing role.

Because of the rapidly changing technologies on which information operations rely, the Department finds it challenging to train and retain individuals with state-of-the-art skills and expertise. This challenge is due in large part to keen competition from the private sector. Not only does the private sector lead in the application of new information technologies, it is often the source of higher-paying jobs that offer a more stable family lifestyle—an attractive option for talented active-duty personnel.

Rather than try to maintain sufficient information technology skills in the Active component, the Department can more effectively integrate the Reserve components into information operations. This option allows the Department to leverage both the prior military experience and the civilian-acquired skills in information technology that reservists can offer. Reservists with prior service have the military training to apply their information technology skills to military operations; and the Department can recoup some of its investment in these individuals. Reservists are a flexible source of skilled manpower in this critical, high-priority area. This flexibility can be further enhanced through the application of reachback techniques.

While the individual Services do employ reservists in their information operations organizations, a joint organizational structure

that can provide information support directly to the combatant commanders would be an additional asset. The Joint Reserve Virtual Information Operations (JRVIO) initiative is a useful model for such support operations. In this model, reservists are directly assigned to joint organizations to train and perform operational missions. They can provide support to the combatant commanders through virtual operations, without deploying to the theater of operations.

During its proof of concept and initial implementation phase, JRVIO successfully provided the combatant commanders access to reservists through five joint organizations: the Joint Information Operations Center, Joint Task Force-Computer Network Operations, the Defense Information Security Agency, the National Security Agency, and the Information Operations Technical Center. The final level of support and concept of operations for JRVIO will be determined as the initiative moves into the full implementation phase.

Space

Reserve and National Guard forces have supported space activities for some time and can help meet DoD's future requirements for space professionals. Currently, about 1,757 selected reservists are involved directly in space activities; the majority of these personnel are Air Force Reserve and National Guard personnel. Though few in number, reservists who support space programs are individually selected based on their military skills and substantial space qualifications in their civilian careers.

Reservists support a wide variety of space-related communities, including science and technology programs, intelligence programs, cryptology programs, spacecraft operations and control, and manned space flight. For example, reservists routinely stand watch in the Cheyenne Mountain Operations Center. They serve as members of the launch teams at the Kennedy Space Center on Cape Canaveral; nine reservists have served as astronauts aboard the space shuttle. Reservists provide mission control and spacecraft control support to various Service commands; they also provide scientific and engineering support in the design and development of new spacecraft and space-related systems to major acquisition systems commands.

There are a number of options to expand these activities, though the challenges of identifying qualified personnel must be overcome. Reservists could significantly contribute in the following:

- ***Space Support Teams***. The Army has four Reserve Space Support Teams that are tasked with supporting the combatant commanders and deploy in the normal rotation along with active-duty teams. These teams provide input on how combatant commanders can best optimize their space support programs, conduct training on configuration and system use, and provide actual hands-on system operation.
- ***Supporting the Space-Based Infrared System (SBIRS)***. SBIRS is the likely replacement for the aging Defense Support Program, which is primarily supported by the Active component. Reserve and National Guard forces are expected to play a key role in manning SBIRS ground stations.
- ***Intercontinental Ballistic Missile (ICBM) Crews***. Recent policy changes now allow the use of Reserve component personnel in manning ICBM watches. Many of these watch stations are located in remote areas where local prior-service personnel who have experience with the systems can be accessed to perform this important service. Using reservists would add to force stability and capitalize on a largely untapped resource. Reservists can play a similar role on missile field security teams.
- ***Naval Space and Warfare Systems Command***. The Naval Space Reserve Program has provided outstanding support to the Naval Space and Warfare Systems Command. With additional funding and personnel slots, this support could be expanded.

Unmanned Aerial Vehicle Operations

Unmanned aerial vehicles (UAVs) are remotely piloted aircraft that can provide real-time intelligence to warfighting forces or deliver ordnance on tactical targets. They are usually less costly than manned aircraft, and their operators have the advantage of being exposed to little physical risk.

Incorporating the use of reservists in UAV operations could be an attractive option as the requirement for this mission grows. Qualified reservists—who meet the requirement for a rated aircrew—can conduct missions from the continental United States by using reachback techniques and procedures. By relying on a reachback capability, there is less need to deploy control facilities to forward, potentially high-threat environments or to use valuable space aboard ships to house control systems.

Employing reservists in the UAV mission can also alleviate some of the stress on aircrews in the Active component. As the UAV mission and support community continue to mature, the number of active-duty personnel with experience with UAVs will increase. These individuals could potentially be recruited into the Guard or Reserves and placed in a UAV associate-type unit requiring minimal additional training to become operational.

High-Technology Operations
Summary Findings

The Reserve components enhance DoD's access to expertise for rapidly expanding high-technology capabilities and other unique private-sector functions.

"Reachback" support from the continental United States enhances the ability of both the Active and Reserve components to contribute to overseas operations.

EXPERIMENTATION

In recent years, DoD has emphasized the use of joint experiments to explore new operational concepts and to aid in transforming the armed forces. Experimentation continues to be important and will play a prominent role in helping the Military Services achieve the objectives of the new defense strategy outlined in the 2001 Quadrennial Defense Review (QDR). Experiments allow the Services to test new technologies, new organizations, and new tactics, techniques and procedures in field conditions that are as realistic as possible. In fact, among the four pillars of transformation described in the QDR, experimentation is the catalyst for the remaining three: joint operations,

exploiting U.S. intelligence advantages, and developing transformational capabilities.

The Reserve components have often participated in field exercises and some experiments, with varied levels of participation among the Services. The reserves can assume more responsibility in planning and executing exercises and experiments, even large-scale exercises such as the recently completed Millennium Challenge 2002. Because they are predictable events, reservists can be effectively employed and take on a more proactive role in joint experiments.

The realities surrounding the planning for Millennium Challenge bolster this case. This exercise—which involved nearly 15,000 military and civilian personnel—brought together live field exercises and field simulation in a joint environment, drawing on and applying lessons learned in past experiments and exercises. The planning for Millennium Challenge began before the September 11, 2001, attacks and involved forces in the Active component, which were then diverted to meet requirements of the Global War on Terror. The result was that, although the XVIII Airborne Corps undertook the planning and preparations for the Army's portion of Millennium Challenge, III Corps substituted during the actual exercise play. With proper policies, planning, and programming, the Reserve components could have played a more prominent role in planning for such an exercise, which would have resulted in more continuity during actual execution. Because large-scale exercises are predictable events, the Reserve components can prepare for them within traditional time and resource constraints.

The reserves bring many benefits to joint experimentation. Reservists bring unique civilian-acquired professional, technical, and managerial skills that can contribute to innovation. In the Future Joint Force I experiments, for example, National Guard personnel brought superior computer skills to the operation because of their experience in the information technology industry. Similar experiences occurred in the Joint Expeditionary Forces Experiments in 1999 and 2000. Guard and Reserve personnel played a major role in setting up and operating the site at Nellis Air Force Base, establishing the communications infrastructure for the entire experiment at four separate sites. The reservists had a broad skill base, bringing unique expertise in areas such as information technology, business management, education, languages, law, engineering, and aviation, among others.

The Reserve components can contribute to experimental missions in a variety of ways. These options may require adjustments in personnel funding and policies and would be facilitated by more streamlined management of the reserves, as the following chapter will describe. Moreover, they can be applied individually or in conjunction with one another. Options for consideration are as follows:

- Use individual Guard and Reserve augmentation for joint experiments for periods ranging from short tours to extended active duty. Accessing personnel in the Individual Ready Reserve, with unique civilian-acquired skills, could contribute specialized expertise to experiment activities.
- Use Guard and Reserve units to plan and execute long-lead-time experiments or experiments that occur over several years. By specifically manning, organizing, and funding reserve units to support experiments of longer duration, planning for these experiments can be more continuous and there is flexibility to manage operations that exceed the time available for traditional reserve units without degrading unit readiness.
- Use portions of the Guard and Reserve as a test-bed for new training ideas. Reserve component personnel use simulation and distance learning as part of their current training methodology and often have backgrounds in experimentation acquired through their civilian experiences. The reserves can also test new equipment, tactics, or operational concepts with lower risk to operational readiness than if the testing is performed by active units.

This review suggests that the Services consider assigning responsibility for experimentation to a Reserve component element.

Experimentation
Summary Findings

The predictability, tempo, and timing of experiments make them well suited for a more focused role by Reserve component forces.

Reservists offer a cost-effective reservoir of unique knowledge, skills, and abilities that are often required in experimentation.

Reserve participation helps balance the need to address both global operational requirements and joint experimentation in support of future transformation.

CHANGING PRIORITIES FOR TRADITIONAL MISSIONS

While new and emerging missions tend to receive a great deal of attention in the planning process, the Department must continue to be prepared to carry out traditional missions. These include major combat operations, smaller scale contingencies, and forward presence—all critical missions for the Department. The new defense strategy may require a new approach to meeting these missions, including changes in the role and contribution of the Reserve components.

In fact, the war in Afghanistan—an element of the President's Global War on Terror—offers a glimpse of the changing demands on the Department. Combat operations in Afghanistan have included bombing from long-range Air Force assets and carrier battle groups, use of precision-guided munitions in conjunction with reconnaissance, and targeting by unmanned aerial vehicles. U.S. ground forces operated flexibly from bases in the former Soviet states; and special operations forces were decisive in effective coalition operations. In addition, sea-based Marine forces projected power in an expeditionary thrust to establish a base of operations on interior lines from which Army follow-on forces are continuing to operate. Command and

control by the combatant commander came from half a world away through the use of video telecommunication links and reachback techniques. Advanced logistics practices, with direct visibility into both commander demands and supplier inventories, resulted in a more efficient and responsive system with smaller in-theater inventories.

Over 93,000 members of the Reserves and National Guard have played a vital role in this campaign—both in the continental United States and overseas. They have contributed 50 percent of the force protection for U.S. bases and installations around the world and at home. They have also supported warfighting, command and control, communications, intelligence, mobilization, and humanitarian aid operations. Additionally, members of the National Guard provided airport security and U.S. border control for many months.

In the context of changing requirements and a new defense strategy, there is significant potential to change how the Reserve components contribute to traditional missions, as the following sections describe. Reservists can provide needed capabilities while freeing active force structure to meet other requirements and/or relieving personnel tempo strains in the Active component.

MAJOR COMBAT OPERATIONS

Major combat operations are undertaken when a threat to vital U.S. interests warrants the deployment of a large force with significant combat power. These operations involve coordinated military actions—campaigns, battles, engagements, and strikes—conducted by various combat forces of one or more of the Services to accomplish a specific strategic objective. The objective is to act quickly and win decisively under conditions favorable to the United States.

Major combat operations are the principal activities around which the Services organize, equip, and train their Active and Reserve components. But the new defense strategy, with its emphasis on building a wider portfolio of full spectrum capabilities, offers an opportunity to change the current force structure.

Reconfiguring Heavy Combat Forces

Today, the majority of the heavy combat forces in the Army are contained in National Guard units. Numerous studies—such as the 1995 Commission on Roles and Missions, the 1997 Quadrennial Defense Review, and the National Defense Panel—have suggested that the requirement to maintain a large number of heavy combat units has diminished. Moreover, the emphasis in the new defense strategy on more flexible forces, and the potential changes envisioned for the strategic reserve, suggest an excess of heavy combat forces in the Army National Guard divisions.

As part of rebalancing the force, it is possible to convert some of these forces to more flexible, multi-purpose units, able to perform a wider variety of missions and handle a wider spectrum of requirements. More flexible units can be used to support prolonged conflict in a major theater war, conduct selected contingency operations, or augment specialized forces in homeland security operations. They can also be used to address force constraints and imbalances.

For example, converting some National Guard divisions from heavy or armored formations to light or wheeled forces would enhance and expand their utility. While retaining capabilities to respond to major combat operations, these forces would also be able to more effectively and efficiently respond to state missions. In general, lighter forces would be more strategically deployable, easier to train, and less costly to sustain. The reduction of heavy forces would also cut the cost of modernizing a large portion of the force.

In fact, the Army recognizes these realities in its current assessment of force requirements for the next decade; they are reflected in the latest plans for the final phases of the Army Division Redesign Study and the new Army National Guard Restructure Initiative. Efforts to build flexible force structure while retaining sufficient high-end combat capability could be accelerated and broadened. This review recommends that the Department restructure the Army National Guard divisions and the separate brigades to maintain their warfighting capability and to make them more useful across the full spectrum of military operations.

Roundout Options

All of the Services should consider how the flexible force structure options presented in the previous chapter could be applied in major combat operations. The Army, for example, has a variety of roundout options that it could consider in responding to future combat operations.

The roundout concept has the potential to increase force capability, reduce day-to-day costs, reduce shortfalls in high-demand capabilities, and increase integration between the Active and Reserve components. At what level roundout units are used depends on requirements for training and readiness and the level of risk that is appropriate. While it would be desirable for the Reserve components to maintain a high level of readiness at all times, the short annual training period in which most reservists participate makes this goal impractical.

A combat brigade roundout unit creates a larger combat force at a reduced cost. This level of roundout may require an increase in the number of training days for reserves in order to gain sufficient training in the extensive synchronization, integration, and coordination of continuous fire, maneuver, and support operations required in the high-technology battlefield. These units may also require less time between Combat Training Center rotations to be effective.

Another alternative is to use lower levels of combat roundout at the battalion or company level, where there are fewer requirements for synchronization during battlefield operations. These units would require less time to train in preparation for their role and would be stand-alone units, such as anti-tank units for light divisions.

The roundout concept for combat support and combat service support units could also be implemented at the battalion or company level. These units would be easier to train and to maintain proficiency. With this option, mobilization timelines would be less of a factor.

The average level of training for a reservist—39 days—is generally sufficient in combat service support units where functions, such as transportation, medical, civil engineering, and stevedoring, are often the same as those that reservists perform in their civilian lives. In contrast, combat maneuver and combat support units, which have a higher level of organization, need more time and intensive training to

maintain combat readiness due to the complexities of combined arms and maneuver warfare.

The roundout concept seems highly applicable to ground forces in general. It should be more closely examined for the advantages it can contribute in maintaining a force capable of responding to major combat operations as well as other contingencies, while mitigating risk as the force transforms.

Maintaining a Strategic Reserve

The Department of Defense has historically maintained a strategic reserve to act as a hedge against future uncertainty. Currently, DoD is reviewing the role a strategic reserve would play in the emerging defense strategy. In the past, the Reserve components have proven to be a cost-effective means for retaining military capabilities not needed on a frequent or immediate basis. Correctly sizing the strategic reserve, determining its optimum organization, and defining both peacetime and wartime missions, has important fiscal and strategic considerations. The answers involve analyzing the risks and balancing these risks against the costs of maintaining capability.

There continues to be a requirement today for a strategic reserve. However, alternatives for employing the strategic reserve are also under study. Its traditional role has been as a hedge against uncertainty—a "deep bench" hedge—to mitigate the risks of extended conflict or nuclear warfare, or to conduct selected contingency operations. Under the Army National Guard Restructure Initiative, divisions would perform this traditional role as well as be available for and able to conduct multiple types of operations. Providing a "deep bench" hedge has been a role well suited to the Reserve components, since adequate training for this role can be accomplished during normal training periods. This review suggests that a strategic reserve is still prudent and should consist of some number of divisions—possibly two—to be maintained in the Army National Guard.

The Department is also considering designating a rapidly employable combat element in the strategic reserve—one that is not committed to a particular combatant commander, but maintains a high level of readiness. These forces could rapidly reinforce the nation's forward deterrent forces to swiftly defeat attacks and, where necessary,

assure access for follow-on forces. Rather than maintain the entire strategic reserve in the Reserve components, the combat forces for this rapid-response capability should be provided mainly by the Active component if this employment strategy is adopted.

SMALLER SCALE CONTINGENCIES

Smaller scale contingencies are emergencies caused by natural disasters, terrorists, or subversives and that require military operations. The uncertain nature of these situations calls for special plans and procedures to ensure rapid response and the safety and readiness of personnel, installations, and equipment. Small scale contingencies can vary in duration, frequency, intensity, and number of personnel required. The new defense strategy calls for the use of rotational forces in manning long-standing, small scale contingencies, as part of the U.S. forward deterrence posture.[16]

Reserve force participation in small scale contingency operations has steadily increased over the past decade. As these operations became more commonplace during the 1990s, the various phases through which they evolve—early, transitional, and mature—became more predictable and allowed for a larger role for the Reserve components.

The early phases of these contingencies tend to be immediate, rapid-response operations, best suited to a force that is largely manned by the Active component, but augmented by Reserve component units and individuals whose capabilities are required in the initial phases of the operation. The AEF packages, used by the Air Force, have comprised the largest number of reservists in the early phases of a small scale contingency.

As small scale contingencies stabilize and become more predictable in nature, the Reserve components can begin to augment Active forces in greater numbers. During this transitional phase, units supporting the contingency can be shifted from predominantly Active forces to mainly Reserve forces, by establishing a rotational presence to support the mission.

[16] *The Quadrennial Defense Review Report*, page 21.

In the mature state, small scale contingencies can evolve in several directions—the Department can execute a specified exit strategy to close out U.S. activity in the region or can transition the operation to one of long-term presence. This phase, typically characterized by greater regional stability and more predictable tasks, can be appropriate for Reserve forces.

Sharing the responsibilities for small scale contingencies between Active and Reserve forces extends the overall capability of the Total Force. With the Active component shouldering most of the responsibility in the rapid-response phase and the reserves taking on responsibility as the predictability of the operation increases, the United States can achieve its desired goals in a region with less risk. As the reserves take on a greater role in these contingencies, Active forces can be available for other contingencies that may arise, increasing overall force readiness.

OVERSEAS PRESENCE

The U.S. military plays a critical role in assuring allies and friends that the nation is a reliable security partner. The presence of American forces overseas is a symbol of the nation's commitment to its allies and friends. It also serves as a deterrent to potential aggressors. The United States maintains a "permanent" presence in various locations around the world, including Japan, Korea, Southwest Asia, and Europe. In addition, U.S. forces participate in a variety of non-combat activities in overseas areas, most notably an assortment of peacekeeping missions—activities that have increased significantly since the end of the Cold War.

Thus far, the Reserve components have played a small, but growing, role in the overseas presence mission. The Reserve components have participated in operational missions such as Northern and Southern Watch, Multinational Force and Observers currently in the Sinai Peninsula (MFO-Sinai), Bosnia, and Kosovo. They have also participated in Partnership for Peace,[17] in humanitarian assistance and

[17] The Partnership for Peace is a NATO initiative to foster dialogue and cooperation with emerging central and eastern European democracies, as well as traditionally neutral countries such as Finland; twenty-seven partners are involved in the program. Augmenting the goals and objectives of this program is the State Partnership Program, which builds long-standing institutional and individual relationships among states.

demining programs, as well as in exercises and joint and combined training and experimentation.

Through these experiences, the benefits of employing the reserves in established overseas missions have become increasingly apparent. The Reserve components have provided a cost-effective means to sustain military capability that can be drawn on when the demand arises. Using the Reserve components in overseas presence missions has allowed the Services to do all of the following: better manage the operational tempo of the Total Force; preserve force readiness for rapid response operations; provide better training while continuing to support the National Security Strategy; provide the Reserve components with an opportunity to participate in current operations; and conduct additional operations while maintaining overall military readiness and capability.

There is an opportunity to modify the role of the Reserves in overseas presence. More deliberate planning for the use of Reserve forces could help to expand force capability. A number of possibilities exist:

- ***Peacekeeping***. In the early 1990s, Reserve component participation in peacekeeping operations was limited to providing support. The Active component led the operation and provided most of the troops. In the last several years, that situation has changed. Army National Guard division staffs now lead operations in Bosnia, and the majority of the troops are from the Reserve component. In other peacekeeping and humanitarian support operations (MFO-Sinai and Hurricane Mitch), the Guard and Reserve comprised the majority of the forces. With predictability, the Guard and Reserve can plan and train to assume these missions on a long-term basis, using rotations of leaders and troops.
- ***Deterrence***. To be effective, overseas presence need not be conducted on an around-the-clock, 365-day-a-year basis, as has been traditionally the case.[18] Research shows that deterrence can be achieved by predictable,

Programs exist with 34 countries around the world. The National Guard is the lead agent for the State Partnership Program, with support from other Reserve components.

[18] Ongoing research, James Thomason, Institute for Defense Analyses.

intermittent presence. Rotational units, comprised of either Active or Reserve forces or both, could take the place of some permanently stationed Active forces.

- ***Infrastructure Development and Humanitarian Aid***. Reserve component personnel have participated in this mission—in both civilian and military applications—for many years during annual training periods. The U.S. Southern Command, for example, makes extensive use of Army, Air Force, and Navy Reserve components deployed on temporary duty for civic actions and training exercises. Participation could be extended to other areas, providing valuable field experience to reserve units, reduced Active component operating tempo, and support to combatant commanders.
- ***Military-to-Military Contacts***. Reserve personnel conduct a wide variety of military-to-military contacts. Examples include providing technical instruction to or networked training activities with foreign military personnel overseas. Many such programs have been established with European nations; expanding these programs into Asia could be an effective way to strengthen ties in that region.
- ***Logistics Preparation***. Reserve personnel with particular expertise could be used as members of small peacetime "advance teams" for assessing and negotiating the use of foreign facilities in remote areas to which the United States may need access in the future.

The key to involving the reserves in overseas presence is identifying appropriate missions. An important factor is predictability. Predictability and advance planning allow reserve units to plan, prepare, and train for the mission. It is also important that the skills and capabilities in the Reserve components can be made available in a timely manner. In some cases, such as civil affairs and psychological operations, the skills may be available only or primarily in the reserves and need to be deployed quickly. But the best cases are those in which an extended planning period exists and where personnel are to serve a short, voluntary tour.

The duration of the mission must also be considered to ensure that the burden on the reserve members and their civilian employers is not

excessive. Yet, capitalizing more broadly on the use of reserve personnel to volunteer for extended tours is something the Department should consider, and will be described further in the following chapter. Finally, both short- and long-term costs must be considered. These include direct dollar costs as well as the effect on unit readiness and on near-term capability to respond to a major combat operation.

Employing the Reserve components in overseas presence missions is a viable option. The Department is already refocusing its overseas presence mission on a joint presence policy that will integrate assets from all the military departments. The Department should expand this philosophy to include more deliberate use of both Active and Reserve components.

Changing Priorities for Traditional Missions
Summary Findings

Converting lower priority Reserve component forces to multi-purpose forces enhances the flexibility of the force and can help to resolve force constraints and imbalances.

Use of the Reserve component frees Active component capabilities needed to alleviate skill shortages and meet other requirements.

IN SUMMARY

Together, the options described in this chapter serve to

- Provide a full spectrum of capabilities in both the Active and Reserve components
- Increase the flexibility of the force
- Enable better management of operational tempo
- Foster closer integration of the Active and Reserve components

The Department can enhance the capability of the Total Force through rebalancing the mix of Active and Reserve forces and reassigning missions. The options presented in this chapter—for resolving constraints and imbalances, meeting the demands of emerging missions, and changing priorities for traditional missions—are intended not only to meet the challenges that the Services face today but also those that will arise in the future. They help to infuse greater agility and flexibility in the force. The Services can be more responsive if they are aggressive and innovative in applying the concepts described in this chapter and summarized below.

CONSTRAINTS AND IMBALANCES

Constraints and imbalances in the force can result in either shortages of high-demand platforms or shortages of individuals with high-demand skills.

To address platform-based shortages, this review recommends that the Department

- Expand the use of multi-component and associate units to maximize operational capabilities and to increase shifts and crew ratios.
- Upgrade older, less capable equipment in reserve units to improve interoperability, address platform shortages, and ease operational burdens.

To address skills-based shortages, the Department should

- Increase the rotational pool in the Active and Reserve components by rebalancing force structure to resolve constraints and imbalances.
- Use a combination of building and borrowing force structure to ease shortages in inherently military skills. In building structure, if the skills are needed every day, build active structure; if needs are intermittent in peacetime or war, build a deeper pool of reservists.
- Ease shortages in civilian-acquired skills by increasing the rotational pool in the Reserve components and developing

innovative programs to recruit, train, and retain individuals with needed skills and capabilities.

EMERGING MISSIONS

Homeland Security is receiving priority focus across the federal government. While the precise roles and missions of the many agencies involved in Homeland Security are being evaluated, it is certain that the Department of Defense will have a role in several areas, to include homeland defense, civil support, and emergency preparedness. ***While Homeland Security is a Total Force mission, the Reserve components will be able to make a significant contribution. This review recommends the following:***

- Fighter interceptor operations—a part of CONUS air defense—need to be shared between the Air National Guard and active Air Force fighter units and, in selected geographic locations, with the Air Force Reserve, Navy, and Marine Corps units.
- The Department should plan and program to use a mix of active and reserve personnel in support of the missile defense mission, to include development and deployment of the missile defense test-bed.
- In the area of weapons of mass destruction response, Reserve component forces should be "dual missioned" for wartime and domestic support missions using the concept of "rotational watch" as a basis for assignments.

The battlefield has become an increasingly high-technology arena. Mastering new technologies and incorporating them into weapon systems will continue to be essential to meeting the demands of emerging missions. High-technology functions such as intelligence, information operations, space, and unmanned aerial operations will require highly skilled talent which can, in part, be met by capitalizing on reachback.

Reservists offer a blend of military and civilian-acquired skills that make them valuable in support of high-technology missions. Mission assignments must ensure that both active and reserve personnel are used as effectively as possible. This review recommends that the Department

- Capitalize on Reserve components' military and civilian expertise in high-technology functions such as intelligence, information operations, space, and unmanned vehicle operations by expanding the use of reachback.
- Optimize the use of assets in the Reserve components in joint intelligence and information operations.
- Develop alternative approaches to accessing Reserve component personnel with technical, state-of-the-art skills that are difficult to train and retain in the Active force. This review recommends the use of new forms of affiliation and partnerships with private industry to enhance the Department's access to private-sector expertise in areas of rapidly expanding technology and for unique private-sector functions.

Experimentation is another emerging area that will play an important role in transformation.

- Establish a reserve lead agency to plan and execute for reserve participation in long lead-time experiments.

TRADITIONAL MISSIONS

Despite the demands of new and emerging missions, the Department must continue to be prepared to respond to traditional missions. The ultimate test of the Total Force is engaging in major combat operations. Smaller scale contingencies place varying demands on the force depending on their duration, frequency, intensity, and personnel requirements. At the lower end of the spectrum are overseas presence missions—more predictable operations that are an important symbol of U.S. commitment to allies and friends.

The Guard and Reserve can make a significant contribution to the execution of traditional missions. This review recommends the following:

- Convert some Army National Guard heavy combat forces to more flexible, multi-purpose forces. While the Army is incorporating similar concepts as it redesigns the force, implementation needs to be accelerated and supported by DoD.

- Use the roundout concept as a means to balance risk by converting force structure to multi-purpose forces. Company- and battalion-level reserve combat, combat support, and combat service support units can "round out" active units to free some active structure for more immediate requirements and to resolve force imbalances.
- Plan for Reserve component forces to assume a role in smaller scale contingencies. As these operations stabilize and become more predictable, Reserve forces can plan and organize to take on an increasing role and, with a fixed number of rotations, execute an exit strategy.
- Increase the use of rotational units, both active and reserve, in place of permanently stationed Active forces in overseas presence operations.
- Plan for the Reserve components to assume a role in peacekeeping operations and to expand military-to-military contacts.

Rebalancing is important, even essential. However, management policies in place today are in many cases likely to frustrate the Services' attempts to pursue the recommendations of this review. A fundamental change in force management is needed and is the topic of the following chapter.

CHAPTER 4.

CREATING FLEXIBILITY IN FORCE MANAGEMENT

While the options for rebalancing force mix and reassigning missions, suggested in the previous chapter, can be implemented on their own, these options will be less effective with a business-as-usual approach to managing the Active and Reserve components. A more effective alternative is to pair such changes with a transformation in management—a fundamentally new approach to how the Department manages and organizes its forces.

Over the past decade, the use of the Reserve components has undergone significant change. Not only has operational tempo increased overall, but also some capabilities traditionally resident in the Reserve components have been in near-continuous use. As a result, an increasing number of reservists perform duty more than the traditional 39 days each year. Yet management practices have not evolved to optimize employment of the Reserve force. The Department could more effectively employ its force—both active and reserve—across the full range of operational requirements if it adopted

- ***A new availability and service paradigm***—referred to here as a "continuum of service"—that provides individual service members greater flexibility in becoming involved in and supporting the Department's mission. In turn, the Department would have greater flexibility in accessing the variety of skills required to meet its evolving requirements.
- ***More flexible force management tools*** to support the continuum of service. Dramatic change is needed in the personnel and financial systems. Today the system "works" because managers "work around" manpower and personnel policies and practices that have changed little since World War II—policies that need to be revitalized to meet future demands.

A CONTINUUM OF SERVICE

The use of the Reserve components has evolved over the past three decades with the advent of the All-Volunteer Force and the emphasis on a Total Force policy. No longer a "force in reserve," today's Reserve components are involved across the spectrum of military operations—from humanitarian and peacekeeping missions to homeland security to wartime operations. The reserves are called on more frequently, and they operate in ways different from their traditional role during the Cold War. Much of this participation is voluntary.

Yet despite these changes, the Department is managing its force using a personnel management system rooted in a World War II and Cold War paradigm. Military personnel are essentially managed as two separate elements: "full-time" active-duty personnel who serve 365 days a year and "part-time" reserve personnel who typically serve the required 39 days per year. This system was not designed with the flexibility needed to effectively use the Reserve components in ways other than to conduct their training regimen or as a mobilized force. *The Department needs a new availability and service paradigm for the 21st century—one that reflects the changing patterns of use and enhances the capabilities of tomorrow's military.*

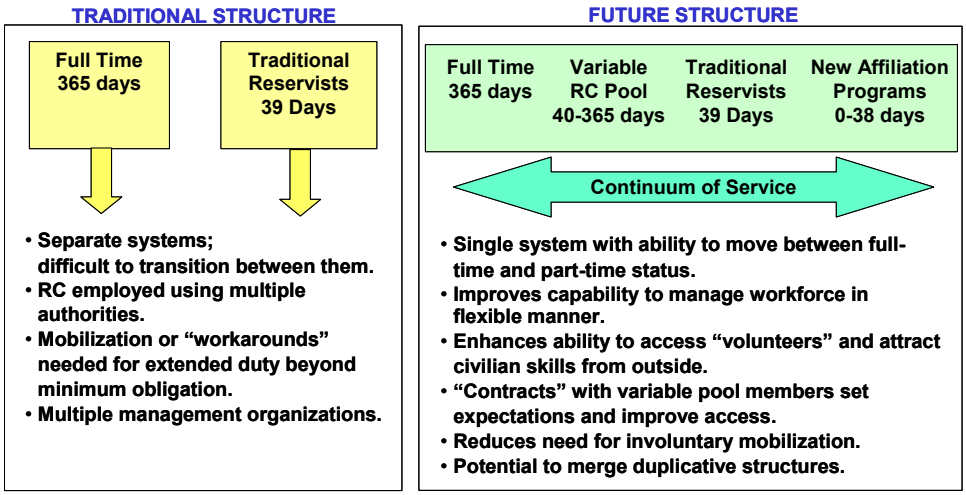
A NEW APPROACH

The concept behind a continuum of service sets aside the traditional definitions of Active and Reserve components, as described on the left side of Figure 2, and recognizes that service may range from full-time duty to availability in the event of mobilization without participation in military training or performance of duty on a regular basis.[19] Between these extremes is a pool of individuals who can be involved at varying levels of participation, as depicted on the right side of Figure 2, who may move along the continuum as circumstances in their lives and needs of the Department evolve, and who may move to varying levels of service throughout a career. Movement along the continuum should

[19] The Defense Science Board described and recommended a similar concept in the *Report of the Defense Science Board Task Force on Human Resources Strategy*. (Washington DC: Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics), February 2000, pp. 49-52.

be transparent, or seamless, and supported by a continuum of benefits that match service member contributions.

Figure 2. Toward a Continuum of Service



The benefits of such an approach are many:

- Service members can more easily change their level of participation and, as a result, may be more likely to stay engaged in military service for a longer period of time. Members are more likely to make a career commitment, since the Department is able to better meet their individual expectations while they simultaneously fulfill military requirements.
- The Department has better access to and management of trained, skilled service members—a better way to capitalize on the investment it has made in individuals during the course of their career. It may also be possible to reach new pools of talent at the "low end" of participation, such as skilled members of the Individual Ready Reserve, military retirees, and auxiliary volunteers.
- The Department has greater opportunity to access talent in the civilian labor market. Increasingly, the civilian labor market contains people who may be able to arrange blocks

of time away from school or job for active duty or extended duty.

In essence, a continuum of service offers the Department far more flexibility in accessing and managing personnel throughout a career than exists today. It recognizes that the support provided by military members can vary substantially throughout a career. It also addresses the fact that military requirements vary in duration, creating a fluctuating but continuous demand over time for augmentation and support.

These are not new revelations, yet the Department does not effectively manage its force today in a way that reflects these circumstances. It is increasingly important that the Department structure its management systems and processes to support the continuum that has naturally evolved with a smaller Total Force, the emergence of new and demanding missions, the use of the Reserve components to perform a broader range of military operations, and the need to address constraints and imbalances created by changing supply and demand for capabilities.

Operating within a continuum of service paradigm will be particularly effective in helping to attain and retain skills that are hard to acquire and maintain in the military environment—particularly in fields involving cutting-edge technology. Many individuals with no military experience have much to offer the Department, but there is no real mechanism to access those talents outside the traditional bounds of military service. A continuum of service offers the flexibility to develop new affiliation programs and recruiting approaches to reach valuable talent; partnerships with industry are one example. Moreover, examples from history show the success of innovative affiliations. Many civilians with engineering, city planning, and local government skills were given direct commissions and put into service for the reconstruction of Germany and Japan after World War II. These personnel performed their jobs successfully, returning afterwards to their civilian careers in those fields.

A continuum of service offers a model for addressing the changing demographics of a workforce that is increasingly more educated and inclined to migrate between jobs in pursuit of enhanced career opportunities. Moreover, the labor market has undergone significant change in recent years, spurred by the information and technology

revolutions. Companies are employing more individuals on a part-time basis; more services are contracted for outside traditional company boundaries. These factors have created greater flexibility in the civilian labor market. The Department needs to transform its human resource systems to access these individuals and manage them in this new environment. The continuum of service concept offers just such an approach.

Through the continuum of service paradigm, an *operationally* integrated Total Force would also be *administratively managed* as an integrated force. Ultimately, it could be a single force—without distinction of active or reserve status—but that is a far-reaching goal that need not be pursued at the outset. Instead, the Department could take advantage of more near-term benefits, such as a variable pool of reserves and opportunities for new affiliation programs described below.

VARIABLE POOL OF RESERVES

One particular benefit of operating under a continuum of service is the opportunity to create a variable pool of reserves—a new approach to managing part-time personnel in selected mission areas. The variable pool would consist of a small group of reserve individuals and units—probably less than five percent of Reserve forces, initially—who would no longer be constrained by the structure of the traditional 39-day training program for reservists. Reserve members in the variable pool would voluntarily participate as individuals and units to meet warfighting requirements in selected functional areas. The length of annual service would vary and be stipulated in service agreements.

The concept of a variable pool of reserves has its roots in current operational practices. Over the last six years, reservists have provided between 12.5 and 13.5 million man-days of effort annually in support of departmental missions. To accomplish this level of effort, many reservists have volunteered for more than the traditional 39 days, agreeing to serve for various lengths of time. These tours have been accomplished on a more *ad hoc* basis, often involving time-consuming efforts to work around current personnel and financial policies and management system constraints.

Areas where volunteers perform extended duty include Air Force Reserve maintenance and aircrew personnel, Navy and Marine Corps reservists who serve on command staffs, and Army reservists who serve as exercise command and control elements. A variable pool could help meet these requirements more easily. It could also help to access talent needed in emerging and high technology mission areas such as space, information operations, intelligence, computer security, and medicine.

Granting the Services the ability to craft formal agreements with individuals in a variable pool of reserves has a number of benefits. It would provide commanders with greater flexibility to voluntarily access reserves in selected functional areas when and where they are needed, without the need for mobilization to the extent to which it is now required. The variable pool concept is beneficial to individuals who would like to serve in the armed forces, but for whom the 39-day training program is not a good alternative. Moreover, it provides an option to reach a wider variety of individuals in today's changing civilian labor market—those who frequently change jobs, work flexible hours, work in a virtual setting, or work part-time.

Reservists in the variable pool could be a source of personnel to meet mission requirements that are not required 365 days a year but require more duty time than today's processes and procedures for employing reservists can easily support. The traditional 39-day training program would remain a viable alternative for many individuals, but the variable pool opens the door to a richer set of options for part-time service. Overall, the level of service provided by reservists is expected to remain the same as it is today, but the continuum of service—with the variable pool of reservists as a key element—provides the Department with greater flexibility to tailor reserve service to meet specific requirements.

NEW FORMS OF AFFILIATION

Another benefit of adopting a continuum of service is the opportunity it offers to develop new forms of affiliation between the military and individuals. The value of doing so is particularly evident when considering the challenge faced by the military in developing and keeping cutting-edge skills—though the concept is more broad in application.

Technology is changing so rapidly that the active-duty military can no longer train people fast enough or retain them long enough to stay on the cutting edge without better partnering with the private sector. The challenge is most visible in key areas such as information technology and biometrics—areas where the military finds it hard to provide compensation and working conditions that will attract and retain specialists for an entire career. Without tapping into this talent, cutting-edge technological advantage is lost to the military. While outsourcing may solve some of the problem, it is not a complete solution.

Through innovative forms of affiliation, the Reserve components offer an opportunity to attract individuals on a part-time basis, appealing to a combination of patriotism and the opportunity to work on interesting national security challenges. Certain of these innovative practices can result in more efficient access to and use of skilled and available military retirees. Creating new forms of affiliation and participation may require the Department to change the conventional relationship between reservist, employer, and the military. Some can be achieved relatively quickly and at low cost, while others may take a more concerted effort.

Several new affiliation concepts, described previously, are reviewed below:

- ***Virtual Operations***. Some duty can be performed through virtual presence—at home or in designated sites close to home, for example—and still satisfy the needs of combatant commanders and the Services through the full spectrum of military requirements. Information operations and intelligence analysis are two fields where remote service can be effectively employed.
- ***Corporate Partnerships***. By building mutually supportive relationships with various corporations, DoD could obtain access to certain employees who, through their civilian jobs, have obtained skills that are needed by the military. For example, a partnership arrangement might be structured such that DoD provides employees with entry-level training and leadership skills and, possibly, certain employee benefits, which would save the company money. In return the company might provide advanced

and sustainment training and guaranteed access to these employees when the Department needs their unique skills for a particular project. One model of such an arrangement is the British Sponsored Reserve program.[20] The Army's Partnership for Youth Success program is another model.[21]

In addition to these concepts, there are other types of affiliation programs that the Department might consider, such as controlled specialty Individual Ready Reserve, retiree volunteers, and volunteer auxiliaries.

Controlled Specialty Individual Ready Reserve

A new pool of participating Individual Ready Reserve (IRR) members, with critical or emerging skills, could be used on an "as needed" basis to meet the immediate needs of the combatant commanders and Services. This concept is based on an existing Air Force practice that aims to identify, track, and reward a subset of IRR members who want to serve and have particular cutting-edge skills—such as language or technical skills. Participating IRR members would come as a nearly "free good." They would require a modest administrative burden but, as IRR members, would not count against unit strengths or ceilings.

There are a range of IRR participation programs that exist today. In FY 2001, these programs resulted in nearly 150,000 days of duty being performed. The structure and administration of these programs can accommodate the participation of a broader pool of members with critical skills.

---

[20] The Sponsored Reserve concept refers to "a provision in a defense contract that requires the contractor to have a specified number of its employees participate as military reservists." These reservists may be deployed to support contingency operations as members of the uniformed military rather than civilian contractor personnel. Studied and used in Great Britain, Australia, and Canada, the British are the farthest ahead in implementing the concept, with promising results. See: Bo Joyner, "The Future Total Force," *Citizen Airman*, April 2001, http://www.afrc.af.mil/hq/citamn/apr01/future.html.

[21] Already in existence for the Active component, the Army's Partnership for Youth Success program attracts young people into the Army who are interested in obtaining high-quality civilian employment after serving their terms of enlistment. During their enlistment in the Army, soldiers learn technical skills required by industry along with work ethics, teamwork, communication, and leadership. After completing their active-duty tour, soldiers transition to the company selected during the recruiting process. A similar program could be developed for the Reserve component.

Retiree Volunteers

Following the terrorist attacks on the World Trade Center and the Pentagon, many military retirees—active and reserve—offered their support. In response, the Department developed a conceptual strategy for employing retirees in both compensated and uncompensated capacities and directed the Services to establish a systematic approach for capturing information about those who volunteered.

Military retirees represent a large and relatively untapped source of trained and highly experienced manpower. Many retirees would like to provide support to the Department under various conditions, but there are limited opportunities to do so. With possible changes in laws and policies and with the development of innovative programs, the Department could significantly expand the participation of retirees in a variety of assignments. For such a program to be successful, the Services will need to identify opportunities, establish conditions, and implement policies under which retirees may volunteer their services. In addition, information on retirees' military and civilian-acquired skills should be catalogued along with Active component personnel, as suggested in other force management initiatives.

Volunteer Auxiliaries

Volunteer auxiliaries—organized along the lines of the Civil Air Patrol or the Coast Guard Auxiliary—can attract individuals from all age groups to associate and identify with military service, culture, and core values. One example, similar to the Civil Air Patrol, is a civil cyber corps that could foster partnerships in the information technology arena. This is a potential avenue for partnerships between DoD and industry in key areas such as information technology security.

Another example might be to partner with the nation's colleges and universities, which have a long history of producing cutting-edge technical innovations and comprehensive social and geopolitical insights for federal agencies. In fact, DoD has many grant and partnership programs that leverage the skills of university faculty, staff, and students. Basic and applied research has been funded in areas such as super computing, biotechnology, communications technology, disaster management, acoustics, and defense against terrorism. To capitalize on this pool of talent, the Department might develop a special

affiliation program in which these individuals would only be called when needed.

STREAMLINING MANAGEMENT PRACTICES

The current DoD human resource management practices still operate as though the Reserve components are an "augmentation" force. Under this paradigm, the Reserve components are presumed to function primarily as a force held in reserve, not as an engaged force. Accordingly, personnel policies, compensation, benefits, and training requirements are based on an assumption that Reserve component personnel are either training or mobilized, with participation between these extremes intended to be the exception rather than the rule.

Over time, artificial limitations have been rigidly imposed to control participation in the "middle" of the continuum, thus limiting use of the reserves between 39 and 365 days. Such barriers include:

- 15 days required for annual training
- 39 days of required training—annual training and inactive duty for training
- 139 days as the threshold for a permanent change-of-station move
- 180-day threshold for counting against active-duty end strength—although there are currently eleven exceptions under which Reserve component members are on active duty but do not count against active-duty end strength
- 270-day exception from end strength accounting when on active duty for special work in support of a combatant commander

These barriers cause seams in the continuum and create burdensome manpower and personnel management practices to accommodate service that is outside the traditional duty performed by reservists. They complicate participation and can have a negative impact on service members because of gaps in or loss of benefits and entitlements.

Given a potential range of Reserve component participation that runs from zero to 365 days, current constraints on reserve utilization need to be reviewed. *A new management paradigm is needed—one that encourages participation along a continuum and one that minimizes barriers which unnecessarily inhibit movement along that continuum.*

Revitalization of the Department's policies is needed in several areas:

- Simplify access rules, duty statuses, and end strength accounting
- Revise personnel policies
- Overhaul the compensation system to support a continuum of benefits
- Streamline funding of pay
- Accelerate development and implementation of a single personnel and financial system

Each of these areas will be described in the remainder of this chapter.

ACCESS RULES, DUTY STATUS, AND END STRENGTH ACCOUNTING

To manage using a continuum of service, the Department needs to reevaluate the purpose and structure of the Reserve components. As prescribed in section 10102 of title 10, United States Code, the purpose of the Reserve components is tied directly to mobilization. This stated purpose, however, does not readily recognize the potential for greater participation or necessarily provide for peacetime (non-mobilization) use of the reserves along the continuum of service. Thus, recognizing the expanded role played by the reserves in accomplishing a full spectrum of military requirements—most often in a voluntary role—is an important first step in achieving a transformation in management.

Even with a change in the purpose of the Reserve components, a new manpower structure with new personnel categories would facilitate the more effective employment of the Reserve force. Today's structure is tied to the historic purpose of preparing Guard and Reserve members

for mobilization. Instead, a fundamental change, as defined in Table 1, would enable a more fluid employment of military members, as needed to meet the Department's requirements.

To support the continuum of service, it will be necessary to simplify access rules and streamline the complex duty status system to facilitate participation of varying lengths. In addition, a better method of accounting for Reserve component members while they are on duty is needed.

Table 1. Manpower Structure for the 21st Century

Category	Availability	Type
Full-Time	365 duty days/year	Active, Guard and Reserve
Variable Pool	39 – 365 duty days/year	Selected units and individuals with commitment to specific missions for specified periods.
Traditional Reserve	39 duty days/year	Units and individuals who train primarily for mobilization.
Standby Manpower	0 – 38 duty days/year	Individuals with skills needed intermittently, who have little or no participation in ongoing training.

Access Rules and Duty Status

The Reserve components bring individuals onto duty using a system of "duty statuses" dating in some aspects to colonial times and a training regimen that was established in the National Defense Act of 1916. Unlike the Active components, in which a member is simply on "active duty," Reserve component members serve in a wide array of statuses that vary with respect to a number of factors: authority in U.S. Code, funding appropriation, commitment (voluntary or involuntary), mission, duty category (active or inactive), end strength accountability, time constraints, or number constraints.

There are more than 30 different duty statuses—a complex array that despite their number fail to meet the changing requirements of the Department. Participation patterns have changed, with Reservists

increasingly serving in a part-time status, not just the traditional 39 days of reserve participation comprised of monthly drills and two weeks of annual training each year. Training and support—traditionally viewed as distinct activities—are more often blended.

Problems With the Current System

To deal with these changing requirements, personnel managers have created ways to work around the system, and duty statuses are being used in ways not originally intended. In some cases a duty status is used improperly to accomplish a mission or complete a requirement. In other cases, personnel managers have been unable to access the reserve personnel they need because of constraints on the various duty statuses. The multiplicity of statuses and their adaptive use creates problems for personnel managers and leads to difficulty in budgeting and execution. This system makes it difficult to gain a real understanding of requirements for and use of Reserve component members.

The current duty status system does not fit today's needs nor does it support the continuum of service concept. The system is complex, aligns poorly to current training and mission support requirements, fosters inconsistencies in compensation, and complicates rather than supports effective budgeting. While the current system can be adjusted, many of these same problems would persist.

A Duty Status System for the Future

Instead of modifying the current system, what is needed is a radically different system that encourages greater participation by members and provides for a seamless flow along the continuum of service.

The salient features of a "duty status system for the future" could more appropriately consist of

- A system that focuses on the concept of "a day of duty is a day of duty"
- Elimination of varying statuses, with duty predominantly performed on active duty, and inactive duty reserved for "virtual"-type duty

- Management of Reserve forces to accommodate both required training and mission support
- Legal authorities, funding appropriations, end strength accountability, time and number constraints, and benefits and entitlements consistent with duty performed

This approach offers simplicity and consistency. It is based on "a day of duty" as the standard for utilizing both the Active and Reserve components. It incorporates current training and support requirements, provides flexibility to meet emerging requirements, provides benefits and entitlements consistent with the work performed, and simplifies budgeting practices.

End Strength Accounting

The current methods by which the Services account for end strength have also required administrators to work around regulations to avoid accounting for Reserve component members performing active duty. This strategy is frequently used when it is desirable to continuously (or near-continuously) employ a given individual. Some reservists serve on repetitive or consecutive active-duty tours, each of 179 days or less, thus masking the Department's full-time equivalent military manpower requirements. Changes in strength accounting practices are necessary to ease the constraints that are hampering the ability of the Services to employ those members who are available to perform longer periods of duty. While the Services have been somewhat successful at allowing for greater participation, new methods of strength accounting must be instituted to make the continuum of service function effectively.

PERSONNEL POLICIES

DoD's current personnel policies do not provide the tools and flexibility needed to attract, develop, employ, and separate military personnel across a continuum of service. For the Reserve components, a more efficient system is needed that aligns the active and reserve personnel systems—perhaps ultimately merges the two systems—so they are less complex and provide greater efficiency. Changes are needed in recruiting, career development, promotion, separation, and retirement.

Recruiting

One of the strengths of the Reserve components is the experience of their members. This experience comes from accessing service members who have elected to leave active duty and continue their career in the Guard or Reserve. Unlike the Active components, which primarily recruit individuals with no prior military experience, the Reserve force recruits from both the prior-service and non-prior-service markets.

The cornerstone of the continuum of service is the seamless flow between active and reserve service. But to support the continuum, better systems need to be established that encourage active-duty members to serve in the Guard or Reserve when they no longer want to pursue a full-time military career or simply need a break from full-time service. The ability to attract and transition prior service members from an Active component to a Reserve component will be a critical pillar in future recruiting programs.

Career Development

Career development programs, education, and assignments differ between the Active and Reserve components. It is important to recognize that reservists have commitments to a civilian employer and other constraints that control the time they are available for military service.

Artificial constraints imposed by the Department should be minimized in order to allow reservists to prepare for and perform duty along the continuum that best fits their circumstances. Maximizing the use of technology will enhance the ability of reservists to obtain the training and education that will enable them to succeed. Common education and training programs that take advantage of advanced distributed learning technology is but one approach to enhancing current capabilities. Moreover, a duty status system—as just described—that fosters greater participation will enable Guard or Reserve members to gain valuable experience and better prepare them for a broader range of assignments.

Promotion

The current officer promotion system may create a disincentive for reservists to participate at the higher end of the continuum of service—a condition that imposes a barrier to effective implementation. Today's promotion system for Reserve component members works adequately while Guard or Reserve officers remain under their respective systems. Yet when reservists serve on active duty for other than short-term requirements, they may be required to compete for promotions in the active-duty system—competing for promotion with officers who have a more robust history of assignments and experience. In some cases, ways are found to allow reserve officers to continue to compete with fellow reserve officers. But in general, the current approach disadvantages the reserve officer and can be a barrier to increased participation. Thus, a review of the promotion systems is warranted to ensure these systems support the continuum of service.

Separation and Retirement

The current "up or out" system is based on time-in-grade limits, high-year tenure restrictions, and maximum years of commissioned service ceilings. This system may unnecessarily limit career lengths and deprive the Department of trained and experienced individuals who are willing to serve and can make a valuable contribution to military requirements.

Greater flexibility in selective retention programs is needed. The policies and laws governing separation should be reviewed to ensure that the Services have the authorities to achieve the right mix of experience, training, and education and to reduce excessive, burdensome administration.

While the current active and reserve retirement systems are complementary, there may be adjustments that could better support the continuum of service. An integrated active and reserve military retirement system that has a portability feature could greatly enhance access to many individuals, such as those with technical skills who might serve under a new affiliation program. A more compatible retirement system could also encourage increased participation under the continuum of service concept. But caution must be exercised in designing an integrated system to ensure it supports the retention goals of both the Active and Reserve components.

COMPENSATION

Adjustments to the current compensation system are likely to be needed to ensure effective personnel management within a continuum of service. These adjustments must be made within the accepted principles of compensation, which call for a system that is compatible with technology and tactics, fair in its treatment of service members, effective in peacetime and wartime, flexible enough to adjust quickly to changing conditions, and designed to motivate or encourage performance. These principles can best be achieved by ensuring compatibility between the reserve personnel management and compensation system and that of the Active force.

Regular Military Compensation

Regular military compensation, in general, applies equally to active and reserve members serving on active duty.[22] Yet there are differences based on type or duration of duty that, in some cases, may require reservists to incur out-of-pocket expenses when performing military duty. Some of these differences relate to compensation paid when reserve members perform inactive duty training and can be resolved by implementing changes to the duty status system described earlier.

However, there are certain thresholds imposed at particular points in service before a reservist is eligible to receive the same pay as a member serving full-time. The most notable is the 140-day threshold to receive the basic allowance for housing at the rate prescribed for a geographic region. Review of such thresholds will be essential to ensure the compensation system supports both changes in personnel policies (such as in the duty status system) as well as the continuum of service approach overall.

Bonuses

Bonus programs enhance readiness by inducing individuals to join or remain a member of the Military Services, and are primarily targeted to those individuals who enter a critical skill area or possess a critical skill. Recently, two new bonuses were authorized for the Active

[22] Regular military compensation consists of basic pay, allowances for housing and subsistence, and the federal tax advantage derived from the tax-exempt status of both the housing and food allowances.

component. A critical skills retention bonus authorizes payment of up to $200,000 over a career to an officer or enlisted member with a designated "critical skill," provided the member agrees to serve a minimum of one year on active duty. A second bonus authority allows the payment of up to $60,000 to an individual who agrees to accept a commission and serve on active duty in a critical officer skill.

No parallel bonus authorities exist for those who serve part-time. While small increases in the maximum bonus amount have recently been enacted for the reserve enlistment and reenlistment bonuses, more flexible bonus authorities may be required in order to meet skill requirements that are in high demand and to support the varying participation levels associated with managing individuals through a continuum of service.

Just as the Department enters into bonus agreements in exchange for a commitment to serve on active duty or in the Selected Reserve, this same concept can be applied to the variable pool. One option may to be to enter into a bonus contract with those individuals who agree to perform military duty at a higher level than the traditional 39 days. While not everyone who might be available for service beyond 39 days would be needed or be eligible for a bonus, a bonus authority targeted to guarantee higher levels of service duty on a more frequent basis would address availability concerns expressed by the combatant commanders and could mitigate the need for frequent involuntary call-ups.

Special and Incentive Pays

Special and incentive pays provide compensation for specific types of career occupations requiring unusual degrees of responsibility, for specific skills that are considered hard to fill, or for skills that are inherently dangerous, hazardous, or unattractive. Both active and reserve members who qualify for one or more of these pays are compensated for every day or period they are in a duty status. For reservists, this means the pay is prorated at $1/30^{th}$ of the monthly rate for each day of active duty or each period of inactive duty training. While this method of compensation appears consistent with the principles of compensation on the surface, there are skill sets—most notably foreign language skills that are in short supply—where the member must maintain that skill during non-duty time. With this in

mind, some increased flexibility in paying monthly special and incentive compensation may be needed when it can be clearly demonstrated that training for and maintaining a skill set is accomplished predominately during non-duty time.

Changes in Compensation Policy

The compensation system must be looked at in a new light—one that is consistent with the principles of compensation and supports, rather than hinders, performance of duty along the continuum of service. To be effective, the compensation system should be changed as follows:

- To the maximum extent possible, the reserve personnel management and compensation system should be based on reservists performing a "day of duty" which entitles the reservist to basic pay, housing and subsistence allowances, and any special pays or duty-related pay for each *day* of duty.
- Greater flexibility is needed in the bonus program, to allow the Services to quickly respond to pending or growing shortfalls in critical, hard-to-fill occupations—much like the purpose of the recently enacted retention bonuses for the Active force.
- Identify those special and incentive pays that require a member to maintain a skill during off-duty hours (such as a foreign language) and consider paying those incentives at the full monthly rate.
- Ensure consistency in payment of allowances when reservists perform duty. This is readily accomplished with changes to the duty status system under which all duty except for virtual duty is performed as active duty.
- Provide additional flexibility to compensate members who agree to participate at a level greater than the traditional reservist but less than the full-time active-duty member; a participation bonus is one example. This type of bonus could be authorized for specified periods of reserve service or a commitment to a combination of active duty and reserve service.

- Targeted incentive packages, consisting of benefits such as retirement or health care, can be used instead of traditional forms of pay as incentives to individuals with skills in particular need by the Services.

FUNDING OF PAY

Similar to the vast array of duty statuses, there are a number of different pay categories that are used to compensate Guard and Reserve members, with corresponding limitations and rules for their use.

Each Reserve component has a separate military pay appropriation consisting of two budget activities. Annual training, weekend drills, and some types of additional training assemblies are paid from Budget Activity 1. School attendance and "active duty for special work," as well as pay for full-time support personnel (Active Guard and Reserve), is paid from Budget Activity 2. Once the Congress has appropriated these funds, the Reserve components have the flexibility to move only $10 million between budget activity accounts. When Guard and Reserve members are brought on active duty to perform operational missions—either in a voluntary or involuntary status—the Services can pay them from their Active component military pay appropriations.

The restrictions in the use of these accounts and the barriers limiting the movement of funds between accounts require the Services to sometimes devise creative ways to access needed reserve personnel. In some cases, for example, Reserve component members are consecutively placed on orders for different duty statuses that relate to the type of money that is available. Along with the simplification in the duty status system proposed earlier in this chapter, this review recommends that the Department conduct an in-depth review to correspondingly simplify the funding accounts to better support the continuum of service, particularly the variable pool.

A SINGLE PERSONNEL AND FINANCIAL SYSTEM

In 1995, the Defense Science Board Task Force on Military Personnel Information Management recommended to the Secretary of Defense that the Department move to a single all-Service and all-component, fully-integrated personnel and pay system. This system,

called the Defense Integrated Military Human Resource System (DIMHRS) is under development today. When implemented, it will help to address a number of problem areas that impede effective personnel management:

- The combatant commanders' need for accurate, timely personnel data to assess operational capabilities
- The ability to track personnel when they enter or are in a theater of operation
- The lack of standard data definitions for making comparisons of personnel capabilities across the Services
- The occasion when reservists who are called to duty are sometimes "lost" in the system, with negative impact on pay, benefits, and credit for service

DIMHRS will collect data on every aspect of a service member's career across the full operational spectrum—peacetime, mobilization, war, demobilization, deployment, and redeployment both in theaters of operation and at home bases. The data will maintain a single comprehensive record of service that is consistent for all members, regardless of status. This system will be essential to managing according to a continuum of service, ensuring service members receive correct pay, accurate credit for service, and appropriate benefits regardless of component, status, or type of duty.

IN SUMMARY

The demands on the Department of Defense have evolved since the end of the Cold War, which in turn has placed different and in some cases more complex demands on its military forces. Both the Active and Reserve components are being used more frequently and in a wider variety of missions. Demands on the military are evolving, and the uncertainty and change in today's security environment are likely to continue.

A capabilities-based force, which can quickly respond to unknown requirements in the future, requires a new approach to force

management and organization. To accomplish this transformation, the DoD should

- ***Adopt a new availability and service paradigm—a continuum of service—as the basis for managing its Active and Reserve forces***. This continuum will allow for participation from 0 to 365 days and allow for a "variable pool" of reservists who might serve beyond the traditional 39 days of service in selected missions or functional areas. It also provides the opportunity to develop innovative forms of affiliation to enhance the Department's ability to attract and retain cutting-edge skills. Such a continuum provides the Department with greater flexibility in accessing and managing its Total Force—active and reserve. By allowing individuals to change levels of participation with greater ease, the Department can better leverage its investment in training and education to meet operational requirements.
- ***To be most effective, the continuum of service must be supported by a new management paradigm that simplifies access to the reserves and streamlines personnel management practices.*** Key elements include:
  - Simplifying the duty status system to include fewer duty statuses.
  - Incorporating more flexibility in personnel policies to provide the tools needed for recruiting, career development, promotion, and separation and retirement. It is essential that the system enable service at any point along the continuum of service by eliminating complexity, which will yield greater efficiency.
  - Ensuring benefits and entitlements are consistent for all members, with the goal of equitable compensation and benefits for a day's work.
  - Developing an approach to medical benefits that ensures continuity of health care for reservists and their families.

- Continuing with the development and deployment of a single personnel and financial system.

These elements are the keys to a transformation in managing the Total Force. Some can be adopted easily; others will require a sustained commitment on the part of the Department. Some can be implemented with changes in internal departmental directives, but others will require legislative changes—revisions to titles 10, 32 and 37 of the United States Code are among the most significant. For example, changes to title 10 might include: (1) revision of the purpose of Reserve components, (2) revision of Reserve component categories based on level of participation, (3) a change in mandatory active-duty training and inactive duty training requirements to minimum days of annual active-duty participation, and (4) adjustment to the promotion system for greater flexibility. In title 37, changes might include greater consistency in pay and allowances, and greater flexibility in bonus authorities.

This is the path on which the Department should embark if it is to achieve the needed flexibility in force management.

CHAPTER 5.
NEXT STEPS

In a recent issue of *Foreign Affairs*, the Secretary of Defense described the need for the Department of Defense to adapt to a world defined by surprise and uncertainty—the need to defend against "the unknown, the uncertain, the unseen and the unexpected." Dealing with future threats has led the DoD to fundamentally revise its defense strategy from a "threat-based" strategy to a "capabilities-based" approach. Rather than planning a defense according to who might threaten the United States, the Military Services are looking at how the country might be threatened. Success against this type of threat will require a combination of new, high technology weapons and new ways of thinking and fighting.[23] In essence, it will require transformation.

As the preceding chapters have demonstrated, the Reserve components have a role to play in the Department's transformation. This review proposes new ideas and extensions of existing ideas for building force capabilities and creating flexibility in management that can assist the Department in meeting its transformation goals. In particular, steps can be taken in two broad areas to improve efficient and effective use both the Active and Reserve components.

First, Total Force capabilities can be enhanced through rebalancing the active and reserve mix and reassigning missions. Across the range of operations, from traditional to emerging missions, changes can be made to the active and reserve mix that will provide a full spectrum of capabilities in each component, increase force flexibility, enable better management of operational tempo, and foster closer integration between the Active and Reserve components. In addition, these changes will allow the Services to use each component to its greatest advantage. Because reservists are a part-time force, there is a limit to how much, how often, and in what missions they can be deployed. But judicious use of the reserves will ensure their continued contribution to the full spectrum of Total Force missions.

[23] Donald H. Rumsfeld, "Transforming the Military," *Foreign Affairs* 81, no 3 (May/June 2002): 20-32.

Second, a transformation in management is needed to facilitate the effective utilization of all elements of the Total Force. The Department must begin to manage its force in a way that is consistent with its use. A new availability and service paradigm that operates along a continuum of service will provide the Department needed flexibility in accessing and managing its full- and part-time force. It will also allow individuals more flexibility to participate in the Department's mission. The continuum of service must be supported by more flexible force management tools to include revised personnel policies, simplified duty status and access, changes in the compensation system, streamlined personnel funding categories, and a single personnel and financial system.

Some of the options described in the preceding chapters will require a sustained, long-term commitment by the Department of Defense; others can be implemented in the relative short-term. In either case, it is essential that the Department begin to take action now. This review recommends that the following steps be taken.

- ***Develop and promote a legislative agenda that supports the Continuum of Service.*** Several near-term legislative proposals have already been initiated as a result of this review.[23] Over time, however, more robust legislative and policy changes will be required to enhance the Department's flexibility in human resource management and support full implementation of the continuum of service concept.
- ***Obtain funding for near-term initiatives*** in the FY 2004 program budget. Some of the principles described in this report can be put into practice in the near term with adequate and timely funding.
- ***Submit proposals for the Defense Policy Guidance*** that encourage the Services to rebalance their forces—both between and within the Active and Reserve components—consistent with the recommendations in the preceding

[23] After the initial findings of this report were briefed to Deputy Secretary of Defense Paul Wolfowitz, he directed (in an August 31, 2002 memorandum) that the Under Secretary of Defense for Personnel and Readiness establish an initial legislative package supporting the continuum of service concept. A number of these legislative proposals were submitted prior to the publication of this report and are being considered for adoption.

chapters. Proposals should also encourage implementation of continuum of service initiatives.

- ***Develop an agenda to guide long-term research and program demonstrations.*** Over the long term, additional research will help to further develop concepts presented in this report and to support additional legislative and policy proposals. In addition, the Office of the Secretary of Defense can work with the Services and Reserve components to develop and conduct pilot and demonstration programs to test and further mature concepts, as appropriate.[24]

The Reserve components will continue to be a significant part of the Total Force. This review suggests ways to ensure that the contributions of the Guard and Reserve will best support the operational requirements and transformation of the Department, today and in the future. The recommendations presented take advantage of the core competencies of both the Active and Reserve components to enhance the capabilities of the Total Force.

[24] In his August 31, 2002 memorandum, Deputy Secretary Wolfowitz also directed that Concept Validation Teams be established to further explore the concepts proposed in this review in the following areas: resolve constraints and imbalances, defense of the homeland, high-technology/experimentation, and traditional missions. The teams successfully explored how proposed concepts could be applied practically in the future. Their work has served to influence near-term initiatives and can also help to guide both further research and the development of pilot and demonstration programs.

REFERENCES

The Annual Report of the Reserve Forces Policy Board. Washington DC: Office of the Secretary of Defense, May 2001.

Assessing the Structure and Mix of Future Active and Reserve Forces. Santa Monica, CA: RAND, 1992.

Audit Report: Equipment Procurement for the National Guard and Reserve Forces. Report No. D-2001-047. Washington DC: Office of the Inspector General, Department of Defense, February 7, 2001.

Bottom-Up Review, Section VI: Defense Foundations Reserve Component Forces. Washington, DC: Department of Defense, October 1993.

Brown, Roger Allen, William Fedorochko, Jr., and John F. Schank. *Assessing the State and Federal Missions of the National Guard*. Santa Monica, CA: RAND, 1995.

Carr, Bill. *Managing and Protecting the All-Volunteer Force: Integrating the Management of Faces, Spaces, and Bucks*. Office of the Under Secretary of Defense for Personnel and Readiness, undated.

Cartland, John, Gilbert Brauch, Jr., Mike Konvalinka, Jeffrey McCurdy, and Paul Wilke. *Reserve Component Equipment Compatibility*. RA904R1. McLean, VA: Logistics Management Institute, November 2000.

Cheney, Dick and Gen. Colin Powell, USA. "Reducing and Reshaping the Reserves: Make Sense, Sound Policy." *Defense*, (May/June, 1992): 21-23.

Concepts for the Objective Force. United States Army White Paper, Secretary of the Army, October 1999.

Cronin, Patrick M., ed. *2015: Power and Progress*. Washington, DC: National Defense University Press, July 1996.

Defense Reorganization: A Historical and Comparative Overview. Second Edition. Washington, DC: United States Navy, January 1986.

Directions for Defense, Report of the Commission on Roles and Missions of the Armed Forces. Washington, DC: U.S. Government Printing Office, 1995.

Dunlap, Charles J. Jr. "The Origins of the American Military Cop of 2012." *Parameters, U.S. Army War College Quarterly*, (Winter 1992-93): 2-20.

Enhancing the National Guard's Readiness to Support Emergency Responders in Domestic Chemical and Biological Terrorism Defense. National Guard Bureau Report to Congress, July 20, 1999.

Flournoy, Michele A., ed. *QDR 2001: Strategy-Driven Choices for America's Security*. Washington, DC: National Defense University Press, April 2001.

Future Total Force: A Transformational Initiative for the 21st Century Air Force. Washington, D.C.: United States Air Force), 2001.

Hawkins, Charles F., John R. Brinkerhoff, and Stanley A. Horowitz. *Conference on Force Integration: Seeking Better Reserve Component Capability and Credibility*. IDA Document D-1849. Alexandria, VA: Institute for Defense Analyses, May 1996.

Joyner, Bo. "The Future Total Force," Citizen Airman, April 2001, http://www.afrc.af.mil/hq/citamn/apr01/future.html.

Lewis, Leslie, C. Robert Roll and John D. Mayer. *Assessing the Structure and Mix of Future Active and Reserve Forces: Assessment of Policies and Practices for Implementing the Total Force Policy*. Santa Monica, CA: RAND, 1992.

Mayer, John D., James M. Jondrow, John V. Hall, Burnham C. McCaffree, and Ronald F. Rost. *Navy Active and Reserve Force Structure and Mix Study*. CRM 92-191. Alexandria, VA: Center for Naval Analyses, December 1992.

McKenzie, Kenneth F., Jr. *The Revenge of the Melians: Asymmetric Threats and the Next QDR*. McNair Paper 62. Washington, DC: Institute for National Strategic Studies, National Defense University, 2000.

National Guard and Reserve Equipment Report for Fiscal Year 2002. Washington DC: Office of the Assistant Secretary of Defense for Reserve Affairs (Materials and Facilities), February 2001.

Nunn, Senator Sam. *Domestic Missions for the Armed Forces*. Carlisle Barracks, PA: Strategic Studies Institute, U.S. Army War College, February 1993.

Operation JOINT FORGE, SFOR7 – Citizen-Soldiers in Bosnia. Fort Levenworth, KS: U.S. Army Training and Doctrine Command, July 2000.

Palmer, Adele R., James H. Bigelow, Joseph G. Bolten, Deena Dizengoff, Jennifer H. Kawata, H. Garrison Massey, Robert L. Petruschell, Michael G. Shanley. *Assessing the Structure and Mix of Future Active and Reserve Forces: Cost Estimation Methodology*. Santa Monica, CA: RAND Corporation, 1992.

Plewes, Lt. Gen. Thomas J. "Reserve Duty Changed Forever," American Forces Press Service, Washington DC, January 22, 2002.

Quadrennial Defense Review Report. Washington, D.C.: Department of Defense, September 30, 2001.

Rader, Steve, Birger Bergesen, Fred Dolan, Jim Forbes, and Wes Girvin. *Going to War: Mobilizing and Deploying the Army National Guard Enhanced Separate Brigades.* McLean, VA: Science Applications International Corporation, April 30, 1999.

Rader, Steve, Birger Bergesen, Fred Dolan, and Wes Girvin. *Mobilizing an Infantry Company: The Experience of Calling up C/3-116th Infantry (Virginia Army National Guard) for Operation JOINT GUARD*. McLean, VA: Science Applications International Corporation, August 25, 1998.

Rader, Steven, Birger Bergesen, and Kemper Gay. *Home Station Mobilization: An Assessment of the Direct Deployment of the 41st Personnel Services Company (Oregon Army National Guard) in the Second Rotation of Operation JOINT ENDEAVOR*. McLean, VA: Science Applications International Corporation, January 6, 1997.

Rader, Steve, Dennis Tighe, Birger Bergesen, and Jim Forbes. *Leading the Force: Employment of Army National Guard Division Headquarters for Small-Scale Contingency Missions*. McLean, VA: Science Applications International Corporation, April 19, 2001.

"Report of the Chairman of the Reserve Forces Policy Board" *in the Annual Report to the President and the Congress,* Donald H. Rumsfeld, Secretary of Defense, 2002, http://www.defenselink.mil/execsec/adr2002/html_files/rfpb_rpt.htm.

Report of the Defense Science Board Task Force on Human Resources Strategy. Washington, DC: Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, February 2000.

Report of the National Defense University Quadrennial Defense Review 2001 Working Group. Washington, DC: National Defense University, November 2000.

Reserve Component Employment Study—2005. Washington, DC: Department of Defense, 1999-2000.

Reserve Components of the Armed Forces: Reserve Component Categories. Washington DC: Office of the Assistant Secretary of Defense for Reserve Affairs, November 2001.

Road Map for National Security: Imperative for Change. Phase III Report of The United States Commission on National Security/21st Century, February 15, 2001.

Robbert, Albert, William Williams, and Cynthia Cook. *Principles for Determining the Air Force Active/Reserve Mix*. Santa Monica, CA: RAND, 1999, http://www.rand.org/publications/MR/MR1091.

The Roles and Missions of the Reserve Forces. A White Paper, Reserve Officers Association of the United States, 2001.

Rosenau, William. "Non-Traditional Missions and the Future of the U.S. Military." *The Fletcher Forum of World Affairs*, 18 (1), (Winter/Spring 1994): 31-48.

Rumsfeld, Donald H. "Transforming the Military." *Foreign Affairs* 81, no 3 (May/June 2002): 20-32.

Setear, John K., Carl H. Builder, M. D. Baccus, and Wayne Madewell. *The Army in a Changing World: The Role of Organizational Vision*. Santa Monica, CA: RAND, June 1990.

Structuring the Active and Reserve Army for the 21st Century. Washington, DC: Congressional Budget Office, December 1997.

Tangredi. Sam J. *All Possible Wars? Toward a Consensus View of the Future Security Environment, 2001-2025*. McNair Paper 63. Washington, DC: Institute for National Strategic Studies, National Defense University, November 2000.

Tillson, John C. F., Philip A. Brehm, John R. Brinkerhoff, and Charles F. Hawkins. *Reserve Component Roles, Mix, and Employment*. D-1708. Alexandria, VA: Institute for Defense Analysis, May 1995.

Transforming Defense: National Security in the 21st Century. Report of the National Defense Panel, December 1997, http://www.fas.org/man/docs/ndp/toc.htm.

U.S. Congress. Senate. Posture Statement of General Richard B. Myers, USAF, Chairman of the Joint Chiefs of Staff before the Senate Armed Services Committee. 107th Cong., February 5, 2002.