Annual Report

to the
President
and the
Congress

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Secretary of Defense

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ANNUAL REPORT TO THE PRESIDENT AND THE CONGRESS

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MESSAGE FROM THE SECRETARY OF DEFENSE

On September 11, terrorists attacked the symbols of American freedom, prosperity, and military might. They visited violence on thousands of innocent people—small children, mothers and fathers, people of many nationalities and religions. In less than a month, the United States responded. The President issued the call. Like-minded countries joined with the United States in flexible coalitions to fight the threat of terrorism to international security. Military forces took up forward positions in Central and South Asia. The United States set the conditions to prevail in Afghanistan, sent in forces on the ground to work with anti-Taliban Afghan forces, and launched devastating military attacks against Taliban and al Qaeda strongholds in Afghanistan. And before the fires at the World Trade Center had burned out, the Taliban had been driven from power and the foreign terrorists they sheltered, while not gone completely, were on the run.

Americans can rightfully take pride in the courage and achievements of the men and women in uniform. But U.S. forces will face even greater challenges ahead. U.S. military actions to date represent only the beginning of a long, dangerous, and global war against international terrorism. And even as U.S. forces fight the war against terrorism, other challenges loom on the horizon.

A New Imperative: Winning the War While Transforming the Force

The attacks of September 11 showed that the United States is in a new and dangerous period. The historical insularity of the United States has given way to an era of new vulnerabilities. Current and future enemies will seek to strike the United States and U.S. forces in novel and surprising ways. As a result, the United States faces a new imperative: It must both win the present war against terrorism and prepare now for future wars—wars notably different from those of the past century and even from the current conflict. Some believe that, with the U.S. in the midst of a difficult and dangerous war on terrorism, now is not the time to transform our Armed Forces. The opposite is true. Now is precisely the time to make changes. The attacks on September 11th lent urgency to this endeavor.

Transforming the U.S. Armed Forces is necessary because the challenges presented by this new century are vastly different from those of the last century. During the Cold War, America faced a relatively stable and predictable threat. The challenges of the 21st century are much less predictable. Who would have imagined, only a few months ago, that terrorists would hijack commercial airliners, turn them into missiles, and use them to strike the Pentagon and the World Trade Center Towers? But it happened. America will inevitably be surprised again—by new adversaries striking in unexpected ways. As adversaries gain access to weapons of increasing range and power, future surprise attacks could grow vastly more deadly than those on September 11. Surprise and uncertainty thus define the challenge the Department of Defense faces in this new century—to defend the nation against the unknown, the unseen, and the unexpected.

Charting a New Course: The First Year

Well before September 11th, the senior civilian and military leaders of the Department were in the process of determining new approaches to deterring and defeating adversaries. With the Quadrennial Defense Review, senior leaders took a long, hard look at the emerging security environment—and came to the conclusion that a new approach to defense was needed.

Much has been accomplished in fashioning such an approach. In the past year, the Department of Defense:

- Adopted a new defense strategy;
- Replaced the decade-old two major theater war construct to sizing U.S. forces with a new approach more appropriate for this century;
- Reorganized and revitalized the missile defense research and testing program, free of the constraints of the Anti-Ballistic Missile Treaty;
- Reorganized to provide better focus on space capabilities;
- Fashioned a new Unified Command Plan to enhance homeland defense and accelerate transformation;

- Adopted a new approach to strategic deterrence through the Nuclear Posture Review that increases our security while reducing the number of strategic nuclear weapons; and
- Adopted a new approach to balancing risks.

These achievements were accomplished while fighting a war on terrorism—not a bad start for a Department that historically has had a reputation for resisting change.

Accelerating Transformation

Transformation lies at the heart of this new approach to defense. The development of transformational capabilities and forces will be given strategic focus by the principal challenges and opportunities under the new strategy. The Department has distilled these into six operational goals. In developing future capabilities, U.S. forces must:

- Above all, protect critical bases of operations (most importantly, the U.S. homeland) and defeat weapons of mass destruction and their means of delivery;
- Project and sustain power in distant anti-access and area-denial environments;
- Deny enemies sanctuary by developing capabilities for persistent surveillance, tracking, and rapid engagement;
- Leverage information technology and innovative network-centric concepts to link up joint forces;
- Protect information systems from attack; and
- Maintain unhindered access to space—and protect U.S. space capabilities from enemy attack.

These six goals represent the operational focus for our efforts to transform U.S. Armed Forces. Our experiences on September 11th and in the Afghan campaign have reinforced the importance of moving the U.S. defense posture in these directions. The Department has established an Office of Force Transformation to help to ensure these goals will be met. It will also seek to ensure that changes occur not only in the systems DoD acquires, but

also in military culture and the organizations that drive those investment decisions.

Through the 2003 budget, the Department has laid out the signposts for transformation. Over the next decade, a portion of the force will be transformed. It will serve as a vanguard and signal of the changes to come. Ground forces will be lighter, more lethal, and highly mobile. They will be capable of insertion far from traditional ports and air bases and will be networked with long-range precision-strike systems. Naval and amphibious forces will be able to overcome anti-access and area-denial threats, operate close to an enemy's shores, and project power deep inland. Aerospace forces will be able to locate and track mobile enemy targets over vast areas, and in combination with land and sea forces, strike them rapidly at long ranges without warning. The joint force will be networked in order to conduct highly complex and distributed operations over vast distances and in space.

Managing Risks

The Department of Defense cannot achieve the goals of the new defense strategy without a new approach to managing different kinds of defense risks. The previous threat-based approach placed overwhelming priority on the near-term operational risks associated with the two major theater war construct. This had the effect of crowding out investments in other critical areas. During the past decade, the Department of Defense invested too little in people, modernizing equipment, and maintaining the defense infrastructure. As we create the 21st century military, the defense program must invest with an eye toward balancing the various risks.

For the first time, the program of the Department of Defense is presented in this report in terms of a new risk framework. It identifies the following four areas of risk and the Department's programs to address each.

- *Force management risk* results from issues affecting the ability to recruit, retain, train, and equip sufficient numbers of quality personnel and sustain the readiness of the force while accomplishing its many operational tasks.

- *Operational risk* stems from factors shaping the ability to achieve military objectives in a near-term conflict or other contingency.
- *Future challenges risk* derives from issues affecting the ability to invest in new capabilities and develop new operational concepts needed to dissuade or defeat mid- to long-term military challenges.
- *Institutional risk* results from factors affecting the ability to develop management practices, processes, metrics, and controls that use resources efficiently and promote the effective operation of the Defense establishment.

The purpose of this framework is to allow the Department to consider tradeoffs in allocating resources among fundamental objectives. In creating the 21st century military, it would be imprudent to neglect any of these areas. The Department of Defense must wisely allocate resources and structure programs to create a portfolio of capabilities that is balanced appropriately for the variety of challenges we face. The President's FY 2003 Budget Submission to the Congress establishes such a balance.

The problems of the Department—and the risks they pose—have developed over many years and will take time to redress. The immediate task before the Department is to stop the erosion in capability resulting from underinvestment during the past decade. The current budget request focuses on this task while seeking additional investments to put the Armed Forces on a path to reducing and managing all four categories of risk.

Conclusion

Today, one often hears that everything has changed after September 11. While the nation is united in support of the courageous efforts of its Armed Forces, the danger exists that complacency will slowly return. The temptation will arise to return to the old ways of doing things. Free people must be vigilant to not forget—or disregard—the lessons of September 11. One of those lessons is that dangers are likely to increase, not diminish. Our lives and liberties—and those of future generations—depend on the contribution of the U.S. Armed Forces. To preserve our freedom, security, and prosperity, we must ensure our men and women in uniform have the resources they need to contribute to peace and security in our still dangerous world.

Each generation must bequeath to the next the capabilities to ensure its security. Today, we have the security of future generations of Americans in our hands. We must get it right.

SECTION A
FASHIONING A NEW APPROACH TO DEFENSE

In January 2001, the Bush Administration entered office committed to the goal of restoring the strength and vitality of the Armed Forces. After a decade of declining readiness, the new administration was determined to reverse these trends, to rebuild U.S. military capability, and to invest in preparing for future challenges. As President Bush said in his Inaugural Address, "We will build our defenses beyond challenge, lest weakness invite challenge."

The Department has accepted the President's challenge to fashion a new approach to defense. It has thought anew about how to protect the nation and its interests, reassessing the challenges and opportunities inherent in a changing international security environment, and developing a new defense strategy to cope with those changes. During the past year, the Quadrennial Defense Review (QDR) and the Nuclear Posture Review, as well as informal policy review processes, were the vehicles for this strategic reappraisal. The attacks of September 11 did not deflect the Department's efforts to chart this new course. In fact, the challenge of the war against terrorism confirmed many elements of the Department's analysis and created a new imperative to fight the war against terrorism while transforming the Armed Forces.

This section of the Annual Report to Congress summarizes the conclusions of the Department's efforts to respond to this twin imperative. Chapter 1 provides the findings of the Department's reassessment of the security environment. It highlights the fact that geopolitical and military-technical trends create greater uncertainty, unpredictability, and potential for surprise. Chapter 2 provides an overview of the new strategic course charted in the Quadrennial Defense Review. The new course calls for the United States to change its approach to structuring its global presence, current defense planning, transforming the force, and managing the various risks that affect the ability of the Armed Forces to protect the United States, its allies, friends, and interests. Chapter 3 provides a report on the war against terrorism, including an early assessment of lessons learned from the first phase of the conflict.

CHAPTER 1
REASSESSING THE SECURITY ENVIRONMENT

America's Role in the World

America's goals are to promote peace, sustain freedom, and encourage prosperity. U.S. leadership is premised on sustaining an international system that is respectful of the rule of law. America's political, diplomatic, and economic leadership contributes directly to global peace, freedom, and prosperity. U.S. military strength is essential to achieving these goals, as it assures friends and allies of an unwavering U.S. commitment to common interests.

America's security role in the world is unique. It provides the basis for a network of alliances and friendships. It provides a general sense of stability and confidence, which is crucial to the growing prosperity that benefits much of the world. And it warns those who would threaten the nation's welfare or the welfare of U.S. allies and friends that their efforts at coercion or aggression will not succeed.

Yet, as the events of September 11 have made clear, there are many threats against our country and our people, and they take many forms. They range from the threat of major war to the faceless threat of terror. America's approach to security is to defend our way of life, our people and territory, assist allies and friends in their defense and help create the conditions for international stability and confidence.

U.S. Interests and Objectives

The purpose of the U.S. Armed Forces is to protect and advance U.S. national interests and, if deterrence fails, to defeat threats to those interests. The United States has interests, responsibilities, and commitments that span the world. As a global power with an open society, the United States is affected by trends, events, and influences that originate from beyond its borders.

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Ensuring U.S. security and freedom of action is a paramount interest, and includes protecting U.S. sovereignty, territorial integrity, and freedom; the safety of U.S. citizens at home and abroad; and critical U.S. infrastructure.

The U.S. must also honor and uphold its international commitments. This involves protecting the security and well being of allies and friends; preventing hostile domination of critical areas, particularly Europe, Northeast Asia, the Asian littoral, and the Middle East and Southwest Asia; and promoting prosperity in the Western Hemisphere.

The U.S. also has an interest in the vitality and productivity of the global economy; the security of international sea, air, and space, and information lines of communication; and access to key markets and strategic resources.

Protecting these interests requires commitment and support. It includes effective diplomacy, a strong economy, and a watchful and ready defense. When U.S. interests are protected, America and its friends prosper from peace and freedom. When U.S. interests are challenged, the nation must possess the strength and resolve to defend them.

A Changed Security Environment

The American people were relieved when the Cold War ended a decade ago. They looked around and did not see an adversary whose stated intent was to destroy the United States. They saw the growth of market economics and governments based on representative democracy taking root around the globe. They saw a powerful U.S. economic expansion creating unprecedented prosperity. There was a temptation to believe that this favorable circumstance was a permanent condition.

The events of September 11 presented a different view of the world: The 21st century security environment is different from that we faced in the 20th century—in important ways it is more complex and dangerous.

Well before the events of September, senior Defense Department officials, through the vehicle of the Quadrennial Defense Review, determined that contending with uncertainty must be a central tenet in U.S. defense planning. Too much of the Department's planning over the decade of the

1990s had focused on a few familiar dangers rather than the broad array of potential challenges of consequence to U.S. interests and the nation's inherent vulnerability to asymmetric attacks. They concluded that U.S. defense planning must assume that surprise is the norm, rather than the exception. Adapting to surprise—adapting quickly and decisively—must be a hallmark of 21st century defense planning.

The Department's senior leadership identified features and trends of the security environment that define today's geopolitical and military-technical challenges, and which highlight critical operational challenges that the nation's armed forces will need to master in the future.

Current Security Trends

Although U.S. military forces enjoy advantages in many aspects of armed conflict, the U.S. will be challenged by adversaries that possess or seek capabilities and design novel concepts to overcome those advantages. The United States cannot predict with a high degree of confidence the identity of the countries or the actors that may threaten its interests and security. But it is possible to identify the trends that will provide adversaries with capabilities and opportunities to do harm to the U.S.

Diminishing protection afforded by geographic distance. As the events of September 11 have demonstrated, the geographic position of the United States will not provide immunity from direct attack on its people, territory, or infrastructure. Enemies are finding new ways to overcome the difficulties of geographic distance. It is clear that over time an increasing number of states have and will acquire cruise and ballistic missiles of steadily increasing range. Moreover, economic globalization and the increase in travel and trade across U.S. borders have created new vulnerabilities and opportunities for hostile states and actors to exploit and to perpetrate attacks on the U.S. homeland.

Regional Security Developments. Regional powers are developing capabilities to threaten stability in regions critical to U.S. interests. In particular, Asia is gradually emerging as a region susceptible to large-scale military competition. Along a broad arc of instability that stretches from the Middle East to Northeast Asia, there exists a volatile mix of rising and

declining regional powers. The governments of some of these states are vulnerable to radical or extremist internal political forces or movements. Many of these states field large militaries and already have or possess the potential to develop or acquire weapons of mass destruction. Iraq, Iran, and North Korea are arming with long-range missiles and are seeking or acquiring nuclear, biological, and chemical (NBC) weapons. Analyses of regimes continue to support global terrorist organizations and to terrorize their own people.

Asia. Maintaining a stable balance in Asia will be both a critical and formidable task. The possibility exists that a military competitor with a substantial resource base will emerge in the region. The Asian littoral represents a particularly challenging area for operations. The distances are vast and the density of U.S. basing and en route infrastructure is lower than in other critical regions. This places a premium on securing additional access and infrastructure agreements and on developing systems capable of sustained operations at long distances with minimal theater-based support.

Middle East. The U.S. and its allies and friends will continue to depend on the energy resources of the Middle East, a region in which several states pose conventional military challenges and seek to acquire NBC weapons. Iran aggressively pursues these weapons. Iraq has worked to develop anthrax, nerve gas, and nuclear weapons for over a decade. Both states are also developing ballistic missile capabilities and expanding their military means to coerce states friendly to the U.S. and to deny U.S. military forces access to the region.

Europe. With the notable exception of the Balkans, which though not at war remains unstable, Europe is largely at peace. Central European states are becoming increasingly integrated with the West, both politically and economically. An opportunity for cooperation exists with Russia. It does not pose a large-scale conventional military threat to NATO. It shares some important security concerns with the United States, including the problem of vulnerability to attack by ballistic missiles from regional aggressors, the danger of accidental or unauthorized launches of strategic weapons, and the threat of international terrorism. Yet, at the same time, Russia pursues a number of policy objectives contrary to U.S. interests, both overt and covert.

Western Hemisphere. While the Western Hemisphere remains largely at peace, the danger exists that crises or insurgencies might spread across borders, destabilize neighboring states, and place U.S. economic and political interests at risk. U.S. homeland security cannot be divorced from that of its neighbors.

Increasing challenges and threats emanating from the territories of weak states and ungoverned areas. The absence of capable or responsible governments in many countries in wide areas of Asia, Africa, and the Western Hemisphere creates a fertile ground for non-state actors to engage in terrorism, acquisition of NBC weapons, illegal drug trafficking, and other illicit activities across state borders. A terrorist underworld—including such groups as al Qaeda, Hamas, Hezbollah, Islamic Jihad, and Jaish-I-Mohammed—operates in such areas. In an era of catastrophic terrorism, the United States cannot afford to ignore the anarchy that threatens a number of regions of the world.

In several regions, the inability of some states to govern their societies, safeguard their military armaments, and prevent their territories from serving as sanctuary to terrorists and criminal organizations poses a threat to stability and places demands on U.S. forces. Afghanistan is but one example of the security implications for the U.S. of such weak or ungoverned areas. Conditions in some states, including some with nuclear weapons, demonstrate that threats can grow out of the weakness of governments as much as out of their strength.

Diffusion of power and military capabilities to non-state actors. September 11th demonstrates that terrorist groups possess both the motivation and capabilities to conduct devastating attacks on U.S. territory, citizens, and infrastructure. Often these groups have the support of state sponsors or enjoy sanctuary and protection of states, but some have the resources and capabilities to operate without state sponsorship. Terrorist networks and their supporters are exploiting globalization and actively seek NBC technology. There can be little doubt that terrorist organizations like al Qaeda that possessed such weapons would attempt to use them.

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Increasing diversity in the sources and unpredictability of the locations of conflict. Together, these trends produce a geopolitical setting that is increasingly complex and unpredictable. Unlike the recent past, the U.S. will not be able to develop its military forces and plans primarily to confront a specific adversary in a specific geographic area. The United States could face the need to intervene in unexpected crises against opponents with a wide range of capabilities. Moreover, these interventions may take place in distant regions where urban environments, other complex terrain, and varied climatic conditions present major operational challenges.

Key Military-Technical Trends

Technology in the military sphere is developing as rapidly as the changes reshaping the civilian sector. The combination of scientific advancement and globalization of commerce and communications have contributed to several trends that significantly affect U.S. defense strategy and planning:

Rapid advancement of military technologies. The ongoing revolution in military affairs is changing the conduct of military operations. Technologies for sensors, information processing, precision guidance, and many other areas continue to advance at a rapid pace. On the one hand, states hostile to the U.S. are significantly enhancing their capabilities by integrating widely available off-the-shelf technologies into weapon systems and armed forces. On the other hand, the revolution in military affairs holds the potential to confer on the United States the opportunity to sustain and extend its advantages in key areas of military technology, systems, and operational practices. Exploiting the revolution in military affairs requires not only technological innovation but also development of operational concepts, new organizational adaptations, and training and experimentation to transform a country's military forces.

Increasing proliferation of nuclear, biological, and chemical weapons and ballistic missiles. The proliferation of NBC technology, materiel, and expertise has provided potential adversaries with the means to challenge directly the safety and security of the United States and its allies and friends. The pace and scale of ballistic missile proliferation has exceeded earlier intelligence estimates and suggests this challenge may grow at a faster pace than previously expected. Likewise, the biotechnology

revolution and bio-terror portend a future with increasing threats of advanced and more sophisticated forms of attack. Hostile regimes and terrorist organizations will seek to acquire and use NBC weapons and ballistic missiles to attack the vulnerabilities of open societies.

Emergence of new arenas of military competition. Technological advances create the potential for new forms of competition in space and cyberspace. Space and information operations have become the backbone of networked, highly distributed commercial civilian and military capabilities. No nation relies more on space for its national security than the United States. Yet elements of the U.S. space architecture—ground stations, launch assets, and satellites in orbit—are threatened by capabilities that are increasingly available. This opens up the likelihood that assuring the use of space—while denying the use of space to adversaries—will become a key objective in future military competition. Similarly, many states are developing offensive information operations to attack and disrupt military and commercial information systems.

Increasing potential for miscalculation and surprise. Together, these military-technical trends create an increased potential for miscalculation and surprise. In recent years, the United States has been surprised by the speed with which other states have progressed in developing weapons of mass destruction and ballistic missiles. In the future, it is unlikely that the United States will be able to predict accurately how successfully other states will exploit the revolution in military affairs, how rapidly potential or actual adversaries will acquire NBC weapons and ballistic missiles, or how competitions in space and cyberspace will develop.

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CHAPTER 2
CHARTING A NEW STRATEGIC COURSE

The challenges and opportunities of the new security environment, as well as the demands of the war against terrorism, required that the Department chart a new strategic course. During the past decade, the Department made some modifications in the U.S. defense strategy and force structure. However, they involved only marginal changes in the strategy and called for a similar but smaller version of the Armed Forces of the Cold War. During the past year, the Department has reformulated U.S. defense policy goals, defined a new set of tenets that comprise the new defense strategy, and created a new framework for managing risks.

Defense Policy Goals

The Department of Defense has developed a new strategic framework to defend the nation and secure a viable peace. This framework is built around four defense policy goals:

- Assuring allies and friends;
- Dissuading future military competition;
- Deterring threats and coercion against U.S. interests; and
- If deterrence fails, decisively defeating any adversary.

Assuring Allies and Friends. The presence of American forces overseas is a clear symbol of the U.S. commitment to its allies and friends and to global stability. The U.S. military presence plays a critical role in assuring allies and friends that the nation will honor its obligations and will continue to be a reliable security partner. Through its willingness to use force in its own defense, defend others and advance common goals, the United States demonstrates its resolve, steadiness of purpose, and the credibility of the U.S. military to meet the nation's commitments and responsibilities. Toward these ends the Department of Defense, in conjunction with the Department of State, promotes security cooperation with allies and friendly nations. A primary objective of U.S. security cooperation is to help allies and friends create favorable balances of power in critical areas of the world

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to deter aggression or coercion. Security cooperation serves as an important means for linking DoD's strategic direction with those of U.S. allies and friends.

Dissuading Future Military Competition. Through its strategy and actions, the U.S. has an influence on the nature of future military competitions. U.S. decisions can channel threats in certain directions and complicate military planning for potential adversaries in the future. Well-targeted strategy and policy can therefore help to dissuade other countries from initiating future military competitions. The U.S. exerts influence through the conduct of its research, development, test, and demonstration programs and by maintaining or enhancing advantages in key military capabilities. Given the availability of advanced technology and systems to potential adversaries, dissuasion also requires the U.S. to experiment with revolutionary operational concepts, capabilities, and organizational arrangements and to encourage the development of a culture within the military that embraces innovation and risk-taking. To have a dissuasive effect, this combination of technical, experimental, and operational activity has to have a clear strategic focus. DoD is developing new processes and organizations to provide this focus and has provided the six operational goals to guide transformation efforts.

Deterring Threats and Coercion Against U.S. Interests. A multifaceted approach to deterrence requires forces and capabilities that provide the President with a wide range of options to discourage aggression or any form of coercion. In particular, it places emphasis on peacetime forward deterrence in critical areas of the world. It requires enhancing the offensive and defensive capacity of forward deployed and stationed forces, coupled with global intelligence, strike, and information assets, in order to deter aggression or coercion with only modest reinforcement from outside the theater. Improving intelligence capabilities is vital to collect information regarding the intentions, plans, strengths, weaknesses, and disposition of key assets of actual or potential adversaries. Deterrence also requires non-nuclear forces that can strike with precision at fixed and mobile targets throughout the depth of an adversary's territory, active and passive defenses, and rapidly deployable and sustainable forces that can swiftly defeat any adversary.

If Deterrence Fails, Decisively Defeat Any Adversary. U.S. forces must maintain the capability to support treaty obligations and defeat the efforts of adversaries to impose their will on the United States, its allies, or friends. U.S. forces must maintain the capability, at the direction of the President, to impose the will of the United States and its coalition partners on any adversaries, including states or non-state entities. Such a decisive defeat could include changing the regime of an adversary-state or occupation of foreign territory until U.S. strategic objectives are met.

Strategic Tenets

These defense policy goals are supported by an interconnected set of strategic tenets.

Managing Risks. The U.S. faces a world in which change occurs with ever-increasing speed. New challenges are constantly emerging, while longstanding threats endure. DoD must prepare for future challenges over time, while meeting extant threats at any given time. The tension between preparations for the future and the demands of the present requires the United States to balance the risks associated with each. Because resources are always finite, hard choices must be made to take into account a wider range of risks than was necessary in the past. Some of these risks are familiar, such as the possibility of a major war. Other risks, such as the possibilities of mass casualty terrorism, cyber warfare, or nuclear, biological, and chemical weapons, are less well understood.

The 2001 Quadrennial Defense Review elaborated, for the first time, a new risk management framework comprised of force management risk, operational risk, future challenges risk, and institutional risk to support the defense strategy.

A Capabilities-Based Approach. The new U.S. defense strategy is built around the concept of shifting to a "capabilities-based" approach to defense. That concept reflects the fact that the U.S. cannot know with confidence what nation, combination of nations, or non-state actors will pose threats to vital U.S. interests or those of our allies and friends decades from now. It is possible, however, to anticipate the capabilities that an adversary might employ to coerce its neighbors, deter the U.S. from acting

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in defense of its allies and friends, or directly attack the U.S. or its deployed forces. A capabilities-based model—one that focuses more on how an adversary might fight than on whom the adversary might be and where a war might occur—broadens the strategic perspective. It requires identifying capabilities that U.S. military forces will need to deter and defeat adversaries who will rely on surprise, deception, and asymmetric warfare to achieve their objectives. Because such adversaries are looking for U.S. military vulnerabilities and building capabilities to exploit them, the Department is shoring up potential weak spots (e.g., by strengthening our information protection capabilities and developing countermeasures to anti-access threats) to close off such avenues of attack.

Defending the United States and Projecting U.S. Military Power.
Defending the nation from attack is the first priority of the new U.S. defense strategy. As the events of September 11 demonstrated, potential adversaries will seek to threaten the centers of gravity of the United States, its allies, and its friends. As the U.S. military has increased its ability to project power at long range, adversaries have noted the relative vulnerability of the U.S. homeland. Adversaries are placing greater emphasis on the development of capabilities to threaten the United States directly in order to counter U.S. operational advantages. The new U.S. defense strategy restores the emphasis once placed on defending the United States and its land, sea, air, and space approaches. It is essential to safeguard the nation's way of life, its political institutions, and the source of its capacity to project decisive military power overseas. In turn, the ability to project power at long ranges is essential to deter threats to the United States and, when necessary, to disrupt, deny, or destroy hostile entities at a distance. As the President said, "We are protected from attack only by vigorous action abroad, and increased vigilance at home." To preserve peace at home, the United States must be prepared both to project power abroad and to defend against attacks on the homeland.

Strengthening Alliances and Partnerships. America's alliances and security relations give assurance to U.S. allies and friends and pause to U.S. foes. These relationships create a community of nations committed to common purposes. The defense strategy calls for efforts to strengthen America's alliances and partnerships and to develop new forms of security cooperation. The American commitment to these security arrangements

bolsters the security of U.S. allies and friends. Likewise, as witnessed in the wake of the events of September 11, NATO's invocation of Article V demonstrates the commitment of America's partners to collective defense, which bolsters the security of the United States. These mutually reinforcing security relationships underpin the political stability on which the prosperity of civilized nations is built. And these arrangements are based on the recognition that a nation can be safe at home only if it is willing and able to contribute to effective security partnerships and arrangements abroad.

The need to strengthen alliances and partnerships mandates a new approach to security cooperation. Security cooperation must be more agile and adaptable, helping not only to enable a sustained, multilateral campaign against international terrorism, but also to posture the United States, allies, and friends to respond effectively to surprises when they occur. U.S. forces must train and operate with allies and friends in peacetime as they would operate in war. This includes enhancing interoperability and peacetime preparations for coalition operations, as well as increasing allied participation in activities such as joint and combined training and experimentation. Particularly critical in this regard are enhanced, secure, responsive, and interoperable command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems.

Enhancing U.S. Global Military Posture. The global U.S. military posture must be reoriented for a new strategic environment in which U.S. interests are global and new challenges, particularly anti-access and area-denial threats, are emerging. The U.S. military will develop an enhanced forward deterrent posture through the integration of new combinations of immediately employable forward stationed and deployed forces; globally available reconnaissance, strike, and command and control assets; information operations capabilities; and rapidly deployable, highly lethal and sustainable forces that may come from outside a theater of operations. Over time, this reoriented global posture will render forward forces capable of swiftly defeating an adversary's military and political objectives with only modest reinforcement.

The defense strategy places emphasis on maintaining favorable military balances in critical geographic areas. By maintaining such balances, the

United States can secure peace, extend freedom, and assure its allies and friends. It can impose high costs on decisions by potential adversaries to pursue dangerous forms of military competition. Finally, it may convince potential adversaries that the benefits of hostile acts against the interests of the United States and its allies and friends are far outweighed by their costs and consequences.

Developing a Broad Portfolio of Military Capabilities. Creating substantial margins of advantage across key functional areas of military competition, such as power projection, space, and information, will require developing and sustaining a portfolio of key military capabilities to prevail over current challenges and to hedge against and counter future threats. Building upon the current superiority of U.S. conventional forces, this portfolio will include capabilities for conducting information operations, ensuring U.S. access to distant theaters, defending against threats to the United States and allied territory, and protecting U.S. assets in space. It will also require exploiting U.S. advantages in superior technological innovation, unmatched space and intelligence capabilities, sophisticated military training, and an ability to integrate highly distributed military forces in synergistic combinations to conduct highly complex joint military operations.

Transforming Defense. Finally, the defense strategy calls for the transformation of the U.S. defense establishment over time. Transformation is at the heart of the new strategy. It includes new technologies, but goes well beyond. To transform the Department, we will need to change the culture of the institution in important areas. We must think and act in a world that changes too rapidly for the archaic budgeting, acquisition, personnel, and management systems in place today. Without change, the current defense program will only become more expensive to maintain over time, and we will forfeit many of the opportunities available to the United States today.

New Framework for Managing Risks

One of the new strategic tenets—managing risks—is particularly central to the Department's new way of thinking about defense. In an enterprise as complex as the Department of Defense, it is essential to create a framework to manage responses to the different sources of risk—that is, the issues and

factors that can undermine the ability of the organization to achieve the goals of defense policy. The success or failure of U.S. forces depends on the quality of the men and women who serve in uniform, their training and equipment, the readiness to meet near-term operational challenges, the investment of resources to develop capabilities for the future, the institutional processes of the Department, and many other factors. Unless the Department has a framework to allocate resources and effort against these risks in a systematic way, it will most certainly over-invest in measures to stem certain risks while paying inadequate attention to others. The goal of a risk management framework should be to guide the investment of defense dollars to create a balanced portfolio of risks.

During the past year, the Department has developed a new risk management framework. It is based on the view that there are four categories of risk that affect the ability of the United States to achieve its defense policy goals:

- *Force management risk* results from issues affecting the ability to recruit, retain, train, and equip sufficient numbers of quality personnel and sustain the readiness of the force while accomplishing its many operational tasks.

- *Operational risk* stems from factors shaping the ability to achieve military objectives in a near-term conflict or other contingency.

- *Future challenges risk* derives from issues affecting the ability to invest in new capabilities and develop new operational concepts needed to dissuade or defeat mid- to long-term military challenges.

- *Institutional risk* results from factors affecting the ability to develop management practices and controls that use resources efficiently and promote the effective operation of the Defense establishment.

Because a failure to address any one of these sources of risk could imperil U.S. capabilities, the Department must work to address each and every one. Previously, however, incremental budget and policy choices produced the Department's portfolio of risks across these categories. The Department's way of operating tended to over-invest in countering near-term operational

risks, while under-investing in the other categories. This new framework is designed to give the Department a way to consider tradeoffs in allocating limited resources among fundamental objectives. The Department of Defense must strive to consciously allocate resources and structure programs to create a portfolio of risks that is balanced appropriately for the many challenges we face.

In a sense, the risk management framework is the driver that enables the Department to fulfill its other strategic tenets. It provides a system to ensure that sufficient attention and resources are put against the needs of maintaining a capable and ready force, the requirements of near-term operations and contingencies, the demands of transforming the Armed Forces for the future, and the imperatives to streamline and modernize internal processes in the Department. Because this new way of thinking is at the core of the Department's new strategic course, the section of the Annual Report to Congress on current programs and plans has been structured in terms of the new framework for risk management.

CHAPTER 3
FIGHTING THE WAR ON TERROR

I said to the Taliban, turn them over, destroy the camps, free people you are unjustly holding. I said, you've got time to do it. But they didn't listen. They didn't respond, and now they're paying a price. They are learning that anyone who strikes America will hear from our military, and they're not going to like what they hear. In choosing their enemy, the evildoers and those who harbor them have chosen their fate.
—President George W. Bush, October 17, 2001

Shortly after taking office, the President directed a fundamental reappraisal of U.S. defense strategy. No one doubted the fact that the United States had the most effective armed forces in the world. The issue was whether changes in the world were creating a dangerous mismatch between the U.S. military capabilities that had proven so effective in dealing with past threats and the requirements posed by the new challenges looming on the horizon.

The Department concluded that changes in the security environment outweighed the continuities and that fundamental shifts in U.S. strategy were needed. The Department concluded that uncertainty and surprise were defining characteristics of the 21st century security environment. Although every conflict will involve different circumstances and present its own challenges, some lessons for the future can be drawn from recent events.

Tragically, these conclusions were validated by the horrific attacks of September 11. The terrorists achieved the element of surprise by exploiting the openness of our society to kill thousands of innocents on the territory of the United States. The country faced a new kind of war. No war plan or doctrine provided clear guidance on how to respond. Yet, in the first phase of the war against terrorism, the men and women of the Armed Forces showed the kind of ingenuity and courage needed to win decisively in Afghanistan—characteristics essential to carrying forward this success in the next phases of the war and to transforming the military to cope in the longer term with the new challenges of a dangerous world.

Launching a War on Terrorism

In his address to the joint session of Congress on September 20, the President explained that the stakes in the conflict were freedom and the American way of life and that the war against terrorism would not be short or easy and would involve the danger of future attacks and casualties on the home front as well as the battlefield.

Just as important, the President articulated a fundamentally new approach to stopping terrorism when he announced, "Our war on terror begins with al Qaeda, but it does not end there. It will not end until every terrorist group of global reach has been found, stopped and defeated." And not just the terrorists would be held accountable. The President stated, "Every nation, in every region, now has a decision to make. From this day forward, any nation that continues to harbor or support terrorism will be regarded by the United States as a hostile regime." The course set by the President was a fundamental departure in international security policy.

From the outset, the President made clear that this would be a different kind of war and that it would involve more than just military force. At the same time the armed forces prepared to take the war to our enemies, it was clear that more than military force alone was needed to win the war. The President established the White House Office of Homeland Security to coordinate a government-wide effort to improve the security of the home front. American diplomats forged different coalitions of nations willing to engage in the war on terrorism in a variety of ways. Law enforcement agencies, at home and abroad, worked around the clock to uproot terror networks and disrupt potential attacks. Financial regulators and law enforcement combined forces to deprive terrorists of sources of financial support. The Reserves and the National Guard patrolled U.S. skies and bolstered the security of airports and other public places. The U.S. intelligence community redoubled efforts to gain needed intelligence and prepared for a series of covert actions. U.S. foreign assistance agencies— and even America's school children—mobilized resources to help feed starving families in Afghanistan.

In his State of the Union Address on January 29, President Bush reaffirmed his strategic vision. He stressed that, far from ending in Afghanistan, the

war against terrorism was only beginning. "Our Nation will continue to be steadfast and patient and persistent in the pursuit of two great objectives," he explained. "First, we will shut down terrorist camps, disrupt terrorist plans, and bring terrorists to justice. And, second, we must prevent the terrorists and regimes who seek chemical, biological, or nuclear weapons from threatening the United States and the world."

President Bush pointed out that the threat remained acute because terror camps existed in at least a dozen countries and thousands of terrorists who were trained in Afghanistan remain at large. He emphasized the importance of moving simultaneously on several fronts: "While the most visible military action is in Afghanistan, America is acting elsewhere. We now have troops in the Philippines, helping to train that country's armed forces to go after terrorist cells that have executed an American, and still hold hostages. Our soldiers, working with the Bosnian government, seized terrorists who were plotting to bomb our embassy. Our Navy is patrolling the coast of Africa to block the shipment of weapons and the establishment of terrorist camps in Somalia." And he highlighted the need to take action to prevent future attacks: "I will not wait on events, while dangers gather. I will not stand by, as peril draws closer and closer. The United States of America will not permit the world's most dangerous regimes to threaten us with the world's most destructive weapons."

The war aims and strategy, set forth by the President, are clear and comprehensive. The Department has accepted this challenge and call to action, and has set forth to carry out his orders.

First Engagement: Liberating Afghanistan and Denying Terrorists Sanctuary

On October 7, less than one month after the terrorist attacks in New York, Washington and in the skies over Pennsylvania, the United States launched Operation Enduring Freedom in Afghanistan, the first military action in that country in what would be a broad and sustained campaign utilizing every element of American influence and power.

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The Secretary of Defense outlined the objectives of the military operations:

- To make clear to the Taliban leaders and their supporters that harboring terrorists is unacceptable and carries a price;

- To acquire intelligence to facilitate future operations against al Qaeda and the Taliban regime that harbors the terrorists;

- To develop relationships with groups in Afghanistan that oppose the Taliban regime and the foreign terrorists that they support;

- To make it increasingly difficult for the terrorists to use Afghanistan freely as a base of operation;

- To alter the military balance over time by denying to the Taliban the offensive systems that hamper the progress of the various opposition forces; and

- To provide humanitarian relief to Afghans suffering truly oppressive living conditions under the Taliban regime.

By the end of October, U.S. heavy bombers were pounding frontline Taliban troops around Mazar-i Sharif and other key locations. U.S. military might, in conjunction with coalition partners on the ground, brought liberation from Taliban rule to key cities in rapid succession: to Mazar-i Sharif on November 10, to Kabul on November 16, to Konduz on November 26, and to Kandahar on December 7. By December 14, U.S. Marines entered Kandahar Airport. Within two months of the initiation of action, U.S. forces and its coalition partners achieved their initial objective, creating the conditions for sustained anti-terrorist and humanitarian relief operations in Afghanistan. The brutal Taliban regime was rapidly removed from power and the groundwork was laid for the return of law, good governance, and basic human rights.

Initial successes in Afghanistan were the direct result of a new style of warfare. Special Operations Forces, working with anti-Taliban Afghan forces on the ground, effectively leveraged long-range air power launched from carriers in the Arabian Sea, land bases in the region, and even the

continental United States. Similarly, a combination of intelligence assets provided U.S. forces with persistent surveillance of Afghanistan and the movement of enemy forces. Special Operations Forces on the ground provided indispensable human intelligence. Manned and unmanned surveillance aircraft patrolled the skies. The combination of radar systems, electro-optical and infrared cameras, and signals intelligence collection systems on board these aircraft developed a common operational picture for U.S. forces and guided attacks against al Qaeda and Taliban targets.

The battle for Mazar-i Sharif—which set in motion the collapse of the Taliban regime—demonstrated the potential of highly networked joint operations. By linking AC-130 gunships, Predators, Global Hawks, and JSTARS, Operation Enduring Freedom has demonstrated that high pay-offs result from early network-centric warfare concepts of operations. The Special Operations Forces on the ground, as well as sophisticated overhead reconnaissance systems, served as a network of sensors that provided a picture of the battlefield. This permitted coalition forces to combine a wide variety of existing military capabilities—ranging from advanced laser-guide weapons to old B-52s updated with modern electronics—and to coordinate them with the most rudimentary weapon system: men on horseback. Dramatically improved communications between pilots and Special Operations Forces on the ground reduced the time it took from a soldier identifying a target to an aircraft attacking it from hours to minutes.

Even after the fall of the Taliban regime, the task in Afghanistan is far from complete. U.S. forces continue in the dangerous mission of rooting out Taliban and al Qaeda elements hiding in the mountains. In addition, the United States will help the new government of Afghanistan.

Initial Lessons Learned

In the few months it took to topple the Taliban regime, U.S. forces proved highly adaptable. They went to war in Afghanistan without an on-the-shelf plan in a very difficult environment. They showed ingenuity in tackling the challenges of operating half way around the world in some of the most forbidding terrain on the planet. And the fact that a key breakthrough at Mazar-i Sharif was secured by the first American cavalry charge of the 21st century merely underscores the point. This capacity for adaptation is a

precious commodity. It will be essential not only in the ensuing phases of the war against terrorism but also in transforming the Armed Forces to cope with the very different challenges that will emerge in the future.

Already some of the important lessons of the war in Afghanistan are clear. This conflict does not present a model for the next military campaign, which in all likelihood will involve very different circumstances and impose very different demands. This is true both for future engagements in the war against terrorism and for future operations more generally. Nevertheless, some lessons can be drawn from recent events and can be applied to the future.

First, wars in the 21st century will increasingly require use of all elements of national power—economic, diplomatic, financial, law enforcement, and intelligence, as well as both overt and covert military operations.

Second, the ability of forces to communicate and operate seamlessly on the battlefield will be critical to our success in future wars. The victories in Afghanistan were won by "composite" teams of U.S. Special Forces on the ground, working with Navy, Air Force and Marine pilots in the sky. Special Forces identified targets, communicated targeting information, and coordinated timing of air strikes through interoperable data links—with devastating consequences for the enemy.

Third, wars are best fought by coalitions of the willing—but they should not be fought by committee. The mission must determine the coalition. The coalition must not determine the mission.

Fourth, defending the United States requires prevention and sometimes preemption. It is not possible to defend against every threat, in every place, at every conceivable time. The only defense against is to take the war to the enemy. The best defense is a good offense.

Fifth, the United States must rule nothing out in advance—including the use of ground forces. The enemy must understand that the United States will use every means at its disposal to defeat him and that it is prepared to make whatever sacrifices are necessary to achieve victory. In short, for a persuasive deterrent, the United States must lean forward, not back. And the enemy must see that.

Sixth, victory in the war against terrorism requires steady pressure on the enemy, leaving him no time to rest and nowhere to hide. This means that the United States should give no strategic pauses that would allow the enemy breathing room or time to regroup. In Afghanistan, this has proved to be the more humane course because it brought a more rapid end to the brutality of Taliban rule. Ultimately, it means bringing the war to an end earlier, with fewer casualties on all sides.

Seventh, the new and the high-tech have not totally replaced the old and conventional. In Afghanistan, precision-guided bombs from the sky did not achieve optimal effectiveness until the United States placed old-fashioned boots on the ground to tell the bombers exactly where to drop their munitions. Putting U.S. Special Forces on the ground early to assist with reconnaissance, communications and targeting dramatically increased the effectiveness of the air campaign.

Eighth, the United States must link military operations directly with humanitarian assistance, radio broadcasts, rewards, and other efforts to help the local population and rally them to the U.S. cause.

Ninth, and finally, American leaders must be straight with the American people. Tell them the truth—and when you can't tell them something, tell them that you can't tell them. The American people understand what their Armed Forces are trying to accomplish and what is needed to get the job done. They also understand that this war is not going to be easy. And they must know that—good news or bad—their leaders will tell it straight. The enormous public support for the war effort stems from the bond of trust and common purpose that has been forged between the people and the President. This bond is a key to victory.

While much can be learned from this initial engagement in the war against terrorism, the United States must not make the mistake of believing that terrorism is the only threat of the 21st century. Terrorism is a deadly asymmetric threat but not the only possible one. The next threat could be from missiles or cyber attack. Moreover, the rise of asymmetric threats does not preclude the possibility that in the future great regional powers will seek to challenge the United States or its allies and friends by conventional means. Even as the United States wages the war against

terrorism, it must prepare for challenges beyond this war. The Armed Forces must be prepared for the next war—a war that could be nothing at all like the one they must fight today. And DoD must balance a wider range of risks.

SECTION B
REDUCING FORCE MANAGEMENT RISK

The first element of the formal risk management framework of the Department of Defense is force management risk. This risk stems from issues affecting the ability to recruit, retain, train, and equip sufficient numbers of quality personnel and sustain the readiness of the force while accomplishing its many operational tasks.

During the past decade, the Department under-invested in its people, both in terms of compensation and quality of life factors such as housing. At the same time, the increase in deployments led to excessive operational tempo for units and excessive personnel tempo for service members. Together, these trends took a toll on military families and contributed to the reduced ability to retain military personnel with key skills and leadership abilities as well as reduced morale. This negative cycle illustrates the kind of force management risk that the Department must monitor and control.

Just as the Department invests to maintain the operational readiness of its forces, it will now also consciously invest dollars to mitigate force management risks. Section B describes the array of analytical work and program initiatives that are underway or planned to invest in the military and civilian workforce and to modernize and transform the training of the Armed Forces. These actions are indispensable in terms of sustaining the nation's commitment to an all-volunteer force, and to keeping faith with the men and women who serve in the uniform.

CHAPTER 4
INVESTING IN PEOPLE AND READINESS

Today's security environment, both at home and abroad, demands that the United States maintain the best trained and most highly prepared military force in the world. Recruiting, retaining, training, and providing for U.S. military personnel is one of the top priorities of the Department of Defense. The risk of not properly underwriting this priority—force management risk—is closely monitored by the Department's senior leadership. This risk is directly related to the nation's success in managing an all-volunteer military. Measuring force management risk will involve assessments of deployment frequency, equipment readiness, operational availability, the adequacy of infrastructure, recruiting and retention rates, and other areas.

Manpower and Personnel

No major enterprise could survive under the policies the Department currently applies to its personnel. Current rules encourage, and often force, members of the services to retire after twenty years in service, after the Department has spent millions of dollars on their training and while they are still at the peak of their talents and skills. Because the system is designed to produce generalists, officers are most often rotated out of assignments every 12 to 24 months, a process that gives them a flavor of all things, but expertise in few, if any. On the civilian side, the problem is that hardly any career path exists at all. These policies exact a toll in institutional memory, skill, and combat readiness. The Department urgently needs to employ the tools of modern business, including more flexible compensation packages, modern recruiting techniques, and better training.

People are the key to overall readiness. The Defense family has changed over the last several decades. U.S. military and civilian personnel are more senior, educated, and diverse. More military spouses work, and they are better educated than they were ten years ago. DoD's personnel policies and programs must address these changing demographics and the expectations of a 21st century military force. The Department must keep its side of the bargain by providing relevant programs and policies for the families who support members of the Armed Forces. To this end, DoD has embarked on

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a new approach to managing its military (Active and Reserve Component) and civilian force.

The Department is developing a comprehensive human resource strategic plan that will recommend the best mix of policies, programs, and legislation to ensure that the right number of personnel have the requisite skills and abilities to execute assigned missions effectively and efficiently. It focuses on recruiting the right number and quality of people; developing, sustaining, and retaining the force; transitioning members from active service; and preserving programs that maintain long-term capability. It addresses issues such as no-term enlistments, longer tours, fewer moves, expanding promotion windows, adjusting retirement for longer service; expanding entry programs; and enabling a seamless flow between Active and Reserve Components. The goal is to ensure that DoD has modern personnel practices to meet the needs of a modern force. Intrinsic to the improvement of human resource management practices, particularly in recognition of the increasing diversity of the force, is a continuing unwavering commitment by senior DoD leadership to equal opportunity. Key elements of this plan are improvements in pay, recruiting and retention.

Pay. The first installment of this approach can be seen in the military pay raise enacted last year and the raise proposed in this year's budget. Through the work of the Ninth Quadrennial Review of Military Compensation the Department discovered the enlisted force is increasingly more college educated. Past practices that had based pay on comparisons of mid-grade non-commissioned officers with high school graduates are no longer valid. Similarly, pay for a mid-grade officer has fallen relative to earnings of college graduates since the mid-eighties. In the President's FY 2002 budget request, in addition to a base increase of 4.6 percent, an additional $1 billion was targeted to raise pay for mid-grade officers and noncommissioned officers. This year, in addition to a base increase of 4.1 percent, additional dollars have once again been proposed to better align pay for this group with the compensation offered by the private sector.

These actions, combined with the implementation of the Thrift Savings Program, continued reductions in out-of-pocket housing expenses, initiation of Hardship Duty Pay to recognize service in arduous conditions, and

improvements in Career Sea Pay, are the foundation of a compensation strategy for a 21st century force.

Recruiting. Despite some of the lowest unemployment trends in the history of the All-Volunteer Force, all Active and Reserve components except the Air National Guard—met their numeric goals for recruitment and retention. The Army National Guard and Naval Reserve fell short of the high school diploma benchmarks, but all other components met the programmed quality objectives.

The Department's recruiting success came at a cost. To meet the challenges at all times, DoD has elevated its investment per recruit by about half during the past decade. Moreover, recruiter manning is at the highest level since the 1980s, offering more enlistment bonuses to more specialties than ever before. Future recruiting may be even more challenging, as a greater proportion of America's youth chooses college over military service. Also, fewer of today's "influencers"—the parents, coaches, and teachers who advise young people on future options—are likely to recommend the military as a career choice since fewer have served. The Department will address the need to inform America of the value and nobility of military service in future recruiting initiatives.

Retention. The Army, Navy, and Marine Corps achieved planned levels of aggregate enlisted retention. While the Air Force missed its retention goals by approximately 1,700 airmen, it met its initial reenlistment goal for the first time in three years and held steady on second term retention. Despite success in overall enlisted retention, shortages in several technical enlisted specialties persist. Officer retention challenges continued in FY 2001, particularly with regard to pilots and those holding technical and scientific skills that are in demand in the private sector. The Department expects the Critical Skills Retention Bonus Program, contained in the FY 2001 National Defense Authorization Act, to improve retention in targeted critical skills.

The Civilian Human Resource Strategy

The Department has developed a comprehensive civilian human resources strategic plan. This plan promotes focused, well-funded recruiting to hire

the best talent available; promotes and sustains an effective workforce that reflects the diversity of the American population; recommends investment in human capital; provides career planning and management systems and tools that support informed decision-making; focuses the human resources community on the needs of its customers; and promotes work-life balance.

In addition to demographic changes, twelve years of downsizing have resulted in skills and age imbalances in the civilian workforce. Sixty-six percent of the civilian workforce will be eligible to retire by 2006. The Department will have to compete with the private sector for quality replacements. Existing rules under which the civilian workforce is managed are inflexible—a stark contrast to the recruiting environment where technology is revolutionizing the workplace, and where work-life balance issues are becoming more important as retention factors. DoD is reexamining these rules and plans to use current demonstration program authorities and temporary flexibilities approved by the Office of Personnel Management to test and evaluate more flexible management processes. The Department will recommend changes to current laws based on the lessons learned from these temporary authorities.

DoD has expanded authority to pay for college degrees and repay student loans, proposed legislation for exchanges with industry, and launched a scholarship program for Information Technology professionals. The Department has also proposed legislative initiatives to modernize recruiting, improve compensation, and develop the workforce. The Defense Leadership and Management Program has been restructured to be more flexible, cost effective, and efficient in meeting short- and long-term requirements for capable leaders.

Leveraging Civilian Experience of Reserve Component Personnel

To ensure U.S. military superiority, the Department must maintain a technological edge. Professionals employed with firms developing technologies for America's future are significant assets while serving in their additional capacity as Reserve Component members. Attracting and retaining these professionals may require innovative approaches, such as partnering with industry. DoD is exploring ways to capitalize on this

specialized talent through the Reserve Components. The review will be completed by the end of May 2002.

A New Compact with Warfighters

The partnership between the American people and the military and their families is built on a tacit understanding that military families, as well as Service members, contribute enormously to the readiness and strength of America's Armed Forces. Unfortunately, past paradigms no longer address the needs of the modern military family. Thus, as the 2001 Quadrennial Defense Review stated, "...the Department must forge a new compact with its warfighters and those who support them." Responding to the Quadrennial Defense Review, the Department has developed a new compact.

To understand the full dimension of what is needed in this new compact, the Department undertook a review of quality of life programs. The results of this review have charted a course for the future of the Department's quality of life programs, which include:

- Providing a world-class health care system;
- Accelerating by three years—to 2007—the time allotted to meet the goal to eliminate all inadequate housing; and
- Emphasizing lifelong learning and the connectivity Service members need to succeed.

Because 60 percent of Service members have children, efforts also include a renewed commitment to support family programs. Programs will be refocused to address the dynamic needs of young families, particularly the large population of Reservists, and families living off base, and to address spousal desires for employment in a mobile lifestyle. In addition, efforts to provide affordable, high quality programs for child care and youth activities will continue, as will improvements in education for children, as well as access for home schooled children to facilities and programs. As the Secretary of Education has said: *"How can Department of Defense schools take diverse, highly mobile groups of students and do so well on national test scores? The answer is they set high standards, they demand accountability, and they encourage parental involvement."* This year's

budget includes funding to modernize school facilities, provide better access to on-line learning opportunities, and broaden curricula at small high schools.

Because deployments will continue to be a way of life for the military family, connectivity is an important issue for Service members and families. State-of-the-art technology will provide members and families opportunities to connect with each other and with a wide array of quality of life support programs.

Together, these efforts will forge a new compact with warfighters and their families, recognizing the mutual roles contributed by each in sustaining a strong military community and culture. This compact will reflect changing demographics, the transformation of the military, and the patriotic work of the men and women who serve.

Readiness and Training

In addition to manpower and personnel issues, force management risk is shaped by factors influencing readiness and training. Because of the burdens of increasing operational tempo in the 1990s, the Department is changing its approach to readiness even as it must meet the demands of the war against terrorism. It is placing more emphasis on managing the amount of time service personnel spend away from home. At the same time, it will adopt new approaches to training the force to place priority on developing the kind of integrated, joint combat capabilities that have proven so effective in Afghanistan.

Readiness

Deployments are part of military life and could well increase as the war on terrorism unfolds; however, the Department is fully aware of the effects of excessive time away from home on the morale and quality of life. The DoD also understands that these factors ultimately affect the readiness of Service members.

As a result, the Department has implemented revised personnel tempo guidance to control explicitly the amount of time DoD personnel are

deployed away from their home stations or stationed outside the United States. The Services began collecting data under the revised personnel tempo system in FY 2001. This new system, and the data collected, is undergoing a validation and verification process by the Services, and the new system should be fully implemented by the end of FY 2002. The new system will standardize definitions and contribute to the Department's efforts to assess and mitigate force management risk.

Training the Force

The Department's strategic focus is shifting from attrition and maneuver warfare to asymmetric and effects-based warfare. While it is not possible to predict the exact nature of future military operations, it is possible to identify key elements of tomorrow's operational environment. That environment will be more joint, more network centric, more multinational, more interagency and intergovernmental. To build a force more agile in addressing future threats in such environments, the Department must look at fundamental changes to doctrine, organizations, training, materiel, leadership and education, policy, and facilities to better enable future joint forces.

The FY 2001 Quadrennial Defense Review highlighted military training as a key enabler for achieving the operational goals of DoD transformation. Training will be driven by an overarching "living" strategy that allows adjustments to the increasingly dynamic global security environment. Tomorrow's training must incorporate the full range of new technologies.

Future Joint Training. The Department must expand the scope of joint training. As the Department experienced with Operation Enduring Freedom, "joint" is not only the military interactions between the Armed Services, but it now also includes working more closely with other U.S. agencies and our multinational partners. In addition, given the requirements of homeland defense, intergovernmental organizations must now be part of the training team, too.

One of the principal goals of the future training strategy will be developing a Joint National Training Center that would support interoperability and joint tasks training. This will likely require modern, common

instrumentation to support both advanced live training concepts and create a Joint Battlespace Environment linking live training with simulators.

Modernizing Ranges. Modern weapons and sensors allow for longer-range engagements, but also require more operating space to adequately test and train with those improved capabilities. At the same time, opposition, aggressor, and adversary forces for training are becoming more diverse and expensive, which makes it more difficult to create relevant scenarios with live forces. In addition, aging instrumentation with its limited capabilities is hindering DoD efforts to establish adaptive challenging environments that allow us to test and train for multi-platform, network centric, joint warfare. The Department's Training Transformation Strategy and the follow-on Training Transformation Implementation Plan will develop options for dealing with each of these limitations in range capabilities.

Sustaining Ranges. Outside pressures—increasing urbanization around installations, reallocation of electronic spectrum to commercial sectors, and constraints on rangeland to support environmental legislation such as the Endangered Species Act—increasingly restrict space available for military training. Over the past decade, encroachment on DoD test and training ranges has become a significant impediment to essential training and testing. These pressures strain the Department's ability to conduct essential training and testing. Over the next decade, the effects of encroachment will only worsen unless appropriate action is taken.

The Sustainable Range initiative represents the Department's overarching response to the numerous forms of encroachment pressure. The effort to date has emphasized nine critical encroachment issue areas: (1) Endangered Species Act, (2) Unexploded Ordnance and Other Constituents, (3) Frequency Encroachment, (4) Maritime Sustainability, (5) National Airspace System, (6) Air Quality, (7) Airborne Noise, (8) Urban Growth, and (9) Outreach. Preliminary action plans have been developed for each of the nine issues. DoD has created an Integrated Product Team, led by the Office of the Under Secretary of Defense for Personnel and Readiness, to act as the DoD coordinating body for developing the strategy to preserve the military's ability to train.

Advanced Distributed Learning. The Department's Advanced Distributed Learning (ADL) initiative is a collaborative effort among government, industry and academia to establish a common framework for the interoperability of learning tools and content on a global scale. The goal is to ensure access to high-quality education, training, and job performance materials that can be tailored to individual needs.

Training commands have created ADL programs and are increasing investments in advanced learning technologies to improve ways to provide individual and collective education and training. The National Guard has an ADL program to extend education and training resources across the local, state, and federal communities and the Joint Staff has initiated Doctrine Networked Education and Training and the U.S. Joint Forces Command's Advanced Distributed Learning Network Service.

Health Issues

An essential element of the new compact is a high-quality, affordable, convenient Military Health System (MHS). The MHS attends to the needs of all military beneficiaries around the globe both in peacetime and wartime. The FY 2001 National Defense Authorization Act (NDAA) introduced sweeping changes in the military medical benefit program—expanding eligibility for TRICARE coverage and improving access to care. While this expanded coverage has broad support, an increased percentage of the Department of Defense budget expenditures is required for health care. The long-term ability of the Department to stabilize these costs will depend on new approaches to providing care within the Department, other federal agencies, and the private sector. To address the costs of TRICARE for Life, Congress provided the Department with an accrual trust fund for the health cost related to military retirees and their family members age 65 and over.

Force Health Protection

The recent acts of terrorism increased the Department's attention to medical surveillance, detection, response, and treatment following a nuclear, biological, or chemical event. Renewed emphasis has been placed on

training military healthcare personnel in recognizing symptoms of and refreshing treatment plans for exposure to chemical and biological agents.

A high-level working group from DoD and Health and Human Services is focused on improving defense against chemical and biological terrorism.

Reserve Healthcare

To date, more than 60,000 Reserve and National Guard personnel were called to active duty in response to the September 11 terrorist attacks; all are eligible for the same healthcare and dental benefits as other active duty Service members. For Service members activated for 30 days or more, their family members are also eligible for TRICARE. The recently introduced TRICARE Reserve Family Demonstration Project provides special benefits to Reserve Component families to preserve continuity of care with their existing healthcare providers. In addition, the FY 2002 National Defense Authorization Act provides that reservists who are employed in the federal civil service workforce may have their Federal Employee Health Benefit paid for by their home agency when they are called to active duty for more than 30 days in support of a contingency operation.

Healthcare Delivery

The Military Health System seeks to create a stable business environment by ensuring that military medical facilities are fully funded and able to provide the best clinical and business practices. It is developing a new generation of managed care support contracts that have greater financial predictability, are less cumbersome, create more competition and reduce administrative costs. Equally important, the Department is strengthening relationships with other federal health partners, particularly the Department of Veterans Affairs (VA) and the Centers for Medicare and Medicaid Services.

TRICARE

TRICARE leverages private sector healthcare contracts with the Department's medical assets to ensure the delivery of high quality healthcare. Working in concert with the military departments, other federal

agencies, and beneficiary/constituent organizations, most key elements of the 2001 NDAA expanded healthcare benefits are in place.

One of the most significant provisions of the 2001 NDAA was TRICARE for Life, the extension of TRICARE benefits to military retirees and their family members age 65 and over—almost 1.5 million beneficiaries. As of October 1, 2001, TRICARE covers authorized healthcare costs incurred by dual-eligible, military/Medicare beneficiaries, not paid by Medicare. Beginning April 1, 2001, Medicare-eligible beneficiaries became entitled to the same TRICARE pharmacy benefit as retirees under age 65. This includes prescription medications through the National Mail Order Pharmacy, the TRICARE network, or non-network retail pharmacies. In addition, Active Duty family members enrolled in TRICARE Prime no longer have co-payments for healthcare services, except prescription drugs, point of service charges and fees associated with the Program for Persons with Disabilities. Families residing with TRICARE Prime Remote active duty members will soon be able to enroll in TRICARE Prime Remote themselves.

This expanded coverage has broad support. An increased percentage of the Department of Defense budget will be expended on these healthcare initiatives. The long-term ability of the Department to stabilize these costs will depend on new approaches to providing care within the Department, other federal agencies, and the private sector.

SECTION D
REDUCING FUTURE CHALLENGES RISK

The third element of the Department's formal risk management framework is future challenges risk. This risk derives from issues affecting the ability to develop new capabilities and new operational concepts needed to dissuade or defeat mid- to long-term military challenges. In light of the dynamic changes in the security environment, a premium has been placed on the need to manage future challenges risk.

During the past year, the Department has accepted the need to place greater priority on investments to meet future challenges. The mismatch between present U.S. forces and the requirements of responding to the potential capabilities of future adversaries is becoming ever more apparent. The attacks of September 11 only underlined this trend. While many elements of the existing force will continue to contribute to U.S. capabilities, there is acceptance of the need to develop new, leading-edge capabilities.

As described in Section D, the Department is moving forward on three fronts to manage future challenges risk. The first front is transformation, which is at the heart of the new defense strategy. Chapter 6 describes the Department's approach to transforming the force. The new strategy identifies the operational goals that give strategic focus to transformation programs. It requires the Military Departments and Defense Agencies to submit roadmaps for their efforts to contribute toward the achievement of those goals. It also foresees a process of experimentation with new capabilities and transformational operational concepts. This process will be overseen by the new Office of Force Transformation, which reports to the Secretary of Defense and the Deputy Secretary of Defense.

The second front, which is covered in Chapter 7, involves the redesign of the U.S. strategic forces. While current forces were appropriate to address the Cold War threat, they are inadequate to meet future challenges. For example, many leaders of rogue states and terrorist organizations are intent on acquiring weapons of mass destruction. Unlike the leaders of the Soviet Union, these new leaders are subject to few if any institutional restraints

that might preclude the use of these powerful weapons. To respond to this new challenge, the United States needs a New Triad, one that combines conventional and nuclear weapons and offensive and defensive systems in ways that enhance the credibility of the U.S. deterrent, reassure allies, and conform to American values. To meet the future challenges of strategic deterrence and strategic strike, the United States must invest in the transformation of its strategic systems.

The third front of the Department's efforts to manage future challenges risk is focused on space, information, and intelligence. U.S. capabilities in these areas contribute to all of the major operational goals identified in the new strategy. Because of their crosscutting contributions to transformation, these areas merit separate, sustained attention. The Department's initiatives in space, information, and intelligence are presented in Chapter 8.

Together, the Department's initiatives along these three fronts constitute a concerted effort to manage future challenges risk. The investments made under the FY 2003 budget represent a down payment to overcome the failure to invest in future challenges during the past decade. More certainly needs to be done. Yet, over time, external limitations on resources might not be as important an obstacle to meeting future challenges as self-imposed limitations on new thinking and risk taking. Thus, as we invest in new technologies and capabilities, we must also labor to change the ethos of the Department, without which the reality of transformation will never be realized.

CHAPTER 6
TRANSFORMING THE FORCE

For many years, a focus on near-term operational risk resulted in short-changing preparations for the future. By the time pressing warfighting and readiness requirements were met, there was little funding or attention available for addressing the risk posed by less familiar and seemingly less urgent future challenges. September 11 made manifest the danger of postponing preparations for the future. We must prepare now to anticipate future surprises and mitigate their effects.

During the Quadrennial Defense Review, the senior civilian and military leadership of the Department recognized the need to give greater emphasis to mitigating the risk posed by future challenges. Mitigating that risk requires investing now in many capabilities and forces that will not materialize for a decade or more. But we owe it to our posterity to begin a sustained process of investment and military transformation to meet and dissuade future challenges.

Accelerating Transformation

Transformation lies at the heart of our efforts to reduce the risk posed by future challenges. Transformation is fundamentally about redefining war on our terms by harnessing an ongoing revolution in military affairs. As the President has said, "This revolution is only beginning, and it promises to change the face of battle."

Through an iterative process of transformation and working with our friends and allies, we will attempt to shape the changing nature of military competition and cooperation. Using new combinations of operational concepts and capabilities and the use of old and new technologies and new forms of organization, transformation seeks to exploit our nation's advantages and protect against our asymmetric vulnerabilities. The goal is to help sustain our strategic position, which helps underpin peace and stability in the world.

The transformation of the Department of Defense is likely to result in fundamental changes in the forms of military operations—such as the way war is waged in the air, on land, and at sea—and over time in a rebalancing of the U.S. portfolio of capabilities and forces. As investment priorities change, the balance in the portfolio of capabilities will shift between manned and unmanned systems, short- and long-range systems, non-stealthy and stealthy systems, between sensors and shooters, and between unprotected and hardened systems.

Transformation has conceptual, cultural, and technological dimensions. Fundamental changes in the conceptualization of war as well as in organizational culture and behavior are required to bring it about. These changes are similar to those occurring in the commercial sector as it transitions from the industrial age to the information age. Succeeding during this period of discontinuous change will require fostering a culture of innovation and experimentation that encourages intelligent risk taking.

The U.S.-led effort in Afghanistan exemplifies how transformation can alter the conditions and very nature of conflict. As President Bush stated in December 2001, our approach in Afghanistan has proven "that an innovative doctrine and high-tech weaponry can shape and then dominate an unconventional

> *"The enemy who appeared on September 11th seeks to evade our strength and constantly searches for our weaknesses. So America is required once again to change the way our military thinks and fights. And starting on October 7th, the enemy in Afghanistan got the first glimpses of a new American military that cannot, and will not, be evaded."*
> *—President George W. Bush, 11 December 2001*

conflict. The brave men and women of our military are rewriting the rules of war with new technologies and old values like courage and honor."

Focusing Transformation Efforts on Six Operational Goals

To provide focus to DoD's transformation agenda, the Department has identified six critical operational goals addressing the most significant challenges and opportunities U.S. forces may face in the future:

- Protecting critical bases of operations (U.S. homeland, forces abroad, allies and friends) and defeating NBC weapons and their means of delivery;
- Projecting and sustaining U.S. forces in distant anti-access or area-denial environments and defeating anti-access and area-denial threats;
- Denying sanctuary to enemies by providing persistent surveillance, tracking and rapid engagement with high-volume precision strike, through a combination of complementary air, ground, and naval capabilities, against critical mobile and fixed targets at various ranges and in all weather and terrains;
- Leveraging information technology and innovative concepts to develop an interoperable, joint C4ISR architecture and capability that includes a tailorable joint operational picture;
- Assuring information systems in the face of attack and conducting effective information operations; and
- Enhancing the capability and survivability of space systems and supporting infrastructure.

Each of these goals is detailed below.

Protecting Critical Bases of Operations and Defeating Nuclear, Biological, and Chemical Weapons

Above all, U.S. forces must protect critical bases of operations and defeat weapons of mass destruction and their means of delivery. No base of operations is more important than the U.S. homeland. Defending the American homeland from external attack is the foremost responsibility of the U.S. Armed Forces. Vast oceans and good neighbors do not insulate the United States from military attacks that emanate from abroad. The attacks of September 11 revealed the vulnerability of America's open society to terrorist attacks. The anthrax letters sent last fall also made manifest the danger terrorists armed with NBC weapons pose. Future adversaries will have a range of new means with which to threaten the United States, both at home and abroad. These means will include new forms of terrorism—advanced nuclear, biological, and chemical weapons; ballistic and cruise missiles; and weapons of mass disruption, such as information warfare

attacks on critical information infrastructure. The Department is addressing these emerging operational challenges. For example, it has refocused its missile defense program to better defend U.S. territory, deployed forces, allies and friends against ballistic missiles of any range. It has also emphasized science and technology programs aimed at defending against advanced biological threats.

Projecting and Sustaining Forces in Anti-Access Environments

Future adversaries are seeking capabilities to render ineffective much of the current U.S. military's ability to project military power overseas. Today, U.S. power projection depends heavily on access to large overseas bases, airfields, and ports. Saturation attacks by ballistic or cruise missiles armed with nuclear, biological, or chemical warheads could deny or disrupt U.S. entrance into a theater of operations. Advanced air defense systems could deny access to hostile airspace to all but low-observable aircraft. Military and commercial space capabilities, over-the-horizon radars, and low-observable unmanned aerial vehicles could give potential adversaries the means to conduct wide-area surveillance and track and target American forces. Anti-ship cruise missiles, advanced diesel-powered submarines, and sophisticated mines could threaten the ability of U.S. naval and amphibious forces to operate in littoral waters. Surreptitious attacks employing persistent chemical or biological warfare agents could deny strategic areas to U.S. forces and terrorize U.S. and allied populations.

New approaches for projecting power are needed to meet these threats. These approaches will place a premium on enhancing U.S. active and passive defenses against missiles and NBC weapons; distributing forces throughout a theater of operations and developing new network-centric concepts of warfare; reducing the dependence of U.S. forces on major air and sea ports for insertion; increasing U.S. reliance on stealth, standoff, hypersonic, long-range, and unmanned systems for power projection; enhancing capabilities to project and sustain power directly from an integrated seabase; continuing to improve capabilities for littoral engagements; and developing ground forces that are lighter, more lethal, more versatile, more survivable, more sustainable, and rapidly deployable.

Denying Enemy Sanctuary

Adversaries will also seek to exploit territorial depth and the use of mobile systems, urban terrain, and concealment to their advantage. Mobile ballistic missile systems can be launched from extended range, exacerbating the anti-access and area-denial challenges. Space denial capabilities, such as ground-based lasers, can be located deep within an adversary's territory. Accordingly, a key objective of transformation is to develop the means to deny sanctuary to potential adversaries—anywhere and anytime. This will require the development and acquisition of robust capabilities to conduct persistent surveillance of vast geographic areas and long-range precision strike—persistent across time, space, and information domains and resistant to determined denial and deception efforts. As the President has said, "When all of our military can continuously locate and track moving targets—with surveillance from air and space—warfare will be truly revolutionized." Denying enemies sanctuary will also require the ability to insert special operations and other maneuver forces into denied areas and to network them with long-range precision strike assets. The awesome combination of forces on the ground with long-range precision strike assets was amply demonstrated in Afghanistan. It offered a glimpse of the potential future integration efforts can confer if consciously exploited through U.S. transformation and experimentation efforts.

Leveraging Information Technology

U.S. forces must leverage information technology and innovative network-centric concepts of operations to develop increasingly capable joint forces. New information and communications technologies hold promise for networking highly distributed joint and multinational forces and for ensuring that these forces have better situational awareness—about friendly forces and those of adversaries—than in the past. C4ISR systems draw combat power from the networking of a multitude of platforms, weapons, sensors, and command and control entities, which are collectively self-organized through access to common views of the battlespace.

In the war in Afghanistan, the United States demonstrated the ability to strike at global range with a variety of networked combat elements from all the services. These included Special Operations Forces from all Services,

the Air Force's intercontinental-range B-2 bombers, elements of an Army Division, several Aircraft Carrier Battle Groups, and a Marine Expeditionary Unit. Yet, this joint action only hints at the potential opportunities that can be exploited through new ways to connect seamlessly our air, sea, and ground forces.

Information technology holds vast potential for maximizing the effectiveness of American men and women in uniform. We must move toward network-centric warfare, increase the importance of connectivity and interoperability as critical performance factors in the design and acquisition of C4ISR and weapons systems, increase the visibility of the Department's evolving Global Information Grid and improve DoD's oversight processes—in requirements, programming and acquisition—for assessing portfolios of capabilities rather than specific weapons platforms. The goal is to enable U.S. forces to communicate with each other, share information about their location and that of the enemy simultaneously, and see the same, precise, real-time picture of the battlespace.

Assuring Information Systems and Conducting Information Operations

Information systems must be protected from attack, and new capabilities for effective information operations must be developed. The emergence of advanced information networks holds promise for vast improvements in joint U.S. capabilities, and it also provides the tools for non-kinetic attacks by U.S. forces. This can include influence operations that seek to shape the mind of an opponent, electronic warfare, and in some instances, computer network attack. At the same time, the increasing dependence of advanced societies and military forces on information networks creates new vulnerabilities. Potential adversaries could exploit these vulnerabilities through their own computer network attacks. The falling barriers to entry in the information realm, brought about through declining costs and diffusion of technology, have increased the range of potential adversaries capable of conducting information attacks. Closely coordinating U.S. offensive and defensive capabilities and effective integration of both with intelligence activities will be critical to protecting the current U.S. information advantage.

Enhancing Space Capabilities

The Department of Defense must enhance the capability and survivability of its space systems. Activities conducted in space are critical to national security and the economic well-being of the nation. Both friends and potential adversaries will become more dependent on space systems for communications, situational awareness, positioning, navigation, and timing. In addition to exploiting space for their own purposes, future adversaries will likely also seek to deny U.S. forces unimpeded access to and the ability to operate through and from space. Space surveillance, ground-based lasers, space jamming capabilities, and proximity micro-satellites will become increasingly available. A key objective for transformation, therefore, is not only to capitalize on the manifold advantages space offers the United States but also to close off U.S. space vulnerabilities that might otherwise provoke new forms of competition. U.S. forces must ensure space control and thereby guarantee U.S. freedom of action in space in time of conflict.

Taken together, these six goals will guide the U.S. military's transformation efforts and improvements in our joint forces. Over time, they will help to shift the balance of U.S. forces and capabilities. U.S. ground forces will be lighter, more lethal, and highly mobile; they will be capable of insertion far from traditional ports and air bases; and they will be networked to leverage long-range precision attack capabilities. Naval and amphibious forces will assure U.S. access even in area-denial environments, operate close to enemy shores, and project power deep inland. Air and space forces will be able to locate and track mobile targets over vast areas and strike them rapidly at long-ranges without warning. These future attributes are the promise of U.S. transformation efforts.

Transformation Pillars

Transformation is a process, not an endpoint. To cement the Department's culture of continual transformation, DoD has emphasized several pillars of activities.

Strengthening Joint Operations and Organizations. DoD is taking steps to better integrate and deploy combat organizations capable of rapid response to events that occur with little or no warning. U.S. forces must train as they

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fight and fight as they train. Because U.S. forces operate jointly in conflict, they must train and operate together in peacetime so that they are ready to fight when needed. These joint forces must be scalable and task-organized into modular units that allow combatant commanders to draw on the appropriate forces to deter or defeat an adversary. They must be organized to enhance the speed of deployment, speed of employment and the speed of sustainment. The forces must be highly networked with joint and multinational command and control, and they must be better able to integrate into multinational operations than the forces of today.

Joint forces will be employed to manage crises, forestall conflict, and conduct combat operations. They must be more agile, more lethal and maneuverable, survivable, and more readily deployed and employed in an integrated fashion. They must be not only capable of conducting distributed and dispersed operations, but also able to force entry into anti-access or area-denial environments.

Joint and Multinational Command and Control. Future military responses will require the rapid movement, integration, and employment of joint and multinational forces. To be successful, operations will demand a flexible, reliable, and effective joint command and control architecture that provides the flexibility to maneuver, sustain, and protect U.S. forces across the battlefield in a timely manner. Such a joint command and control structure must reside not only at the joint command, but also extend down to the operational service components. The structure must be networked to ensure shared battlespace awareness. It must be supported by the appropriate doctrine, tactics, techniques, and procedures, as well as a highly trained operational force. Most importantly, it must develop and foster a joint professional culture, a requirement that presents a significant challenge to service and joint training and professional education programs.

The joint command and control system—both the information that flows through the network and the infrastructure upon which it resides—must be secure and protected from an adversary's information operations or other attacks. U.S. forces require the ability to communicate not only with one another, but also with other government agencies and allies and friends. Such joint and multinational interoperability requires forces that can immediately "plug" into the joint battlefield operating systems—for

example, command and control, intelligence, fire support, and logistics—and perform effectively and efficiently. These forces need compatible doctrine, tactics, techniques, and procedures as well as compatible systems with interoperable standards.

Standing Joint Task Force Headquarters and Standing Joint Task Forces. To strengthen joint operations, the Department is developing options to establish Standing Joint Task Force (SJTF) headquarters in each of the regional combatant commands. Each headquarters will be established under uniform, standard operating procedures, tactics, techniques, and technical system requirements, thereby permitting the movement of expertise among commands. Each SJTF headquarters will have a standardized joint C4ISR architecture that provides a common relevant operational picture of the battlespace for joint and multinational forces. It will also have mechanisms for a responsive integrated logistics system that provide warfighters easy access to necessary support without burdensome lift and infrastructure requirements. SJTF headquarters will also utilize adaptive mission planning tools that allow U.S. forces to operate within the adversary's decision cycle and respond to changing battlespace conditions. In July 2002, U.S. Joint Forces Command will test a prototype SJTF headquarters during Millennium Challenge 2002, an experiment aimed at determining the extent to which the joint force is able to execute rapid decisive operations in this decade.

In addition, the newly established Northern Command will be organized from its inception as a joint command devoid of individual service components.

Related to the development of such headquarters, the Department is also examining options for establishing actual Standing Joint Task Forces (SJTFs). SJTF organizations could provide the organizational means to achieve a networked capability. They would employ new concepts to exploit U.S. asymmetric military advantages and joint force synergies at lower total personnel levels. A single Standing Joint Task Force could serve as the vanguard for the future transformed military. It could undertake experiments as new technologies become available as well as offer immediate operational benefits.

In this regard, the Department is exploring the feasibility of establishing a SJTF for unwarned, extended-range conventional attack to enhance its ability to deny enemies sanctuary. By developing the capability to continuously locate and track mobile targets at any range and rapidly attack them with precision, the United States could overcome a significant future operational challenge. Doing so would require enhanced intelligence capabilities, including from space-based systems and close-in collection assets, additional human intelligence and airborne systems that can locate and track moving targets and transmit that information to strike assets. It would require the ability to strike without warning from the air, from the sea, on the ground, and through space and cyberspace. It will also require that SJTF forces be networked to maximize their combined effects.

Experimentation and New Concepts of Operation

Experimentation

To identify the best available solutions to emerging operational challenges, joint forces and individual services will employ military field exercises and experiments. Over the last century, military field exercises and experiments oriented toward addressing emerging challenges and opportunities at the operational level of war have been important enablers of military innovation and transformation.

Field exercises that incorporate experimentation—at both the joint and the service levels—provide an indispensable means for solving emerging challenges. For instance, with respect to the challenge of projecting power in an anti-access environment, field exercises and experiments will enable the military to identify promising operational concepts for deploying forces into theater for immediate employment and conducting extended-range precision strikes against mobile targets. Further, these exercises and experiments will help to determine if secure access to forward bases is possible and to identify ways to sustain operations for a period sufficient to achieve U.S. objectives. They will also assist the United States in determining which new systems and capabilities will be required, which existing systems and capabilities should be sustained and what combination of transformational and legacy systems should be created.

To ensure that sufficient forces are available for experimentation, the Quadrennial Defense Review stated that Joint Forces Command will be authorized to draw up to 5 percent of U.S.-based forces each year for experimentation activities within tempo guidelines and acceptable operational risk. The findings of this program of field exercises and experiments will feed back directly into the process for determining systems, doctrine, and force structure requirements. Monitoring this program and providing the Secretary with policy recommendations based on its findings will be an important responsibility of the Director of Force Transformation, working with the Chairman of the Joint Chiefs of Staff.

New Concepts of Operation

To lend momentum to the transformation effort and to foster innovation and experimentation, the Secretary has established the Office of Force Transformation within the Office of the Secretary of Defense. This Office will work closely with the Offices of the Under Secretaries of Defense for Policy and Acquisition, Technology and Logistics, and with the Joint Staff, and will report directly to the Secretary and the Deputy Secretary of Defense. The foremost goal of the Office of Force Transformation will be to ensure that transformation efforts are fully linked to the broad elements of national and departmental strategy. The Director of Force Transformation will evaluate the transformation efforts of the Department, recommend steps needed to integrate the work of the Military Departments into other ongoing transformation activities, and monitor ongoing experimentation programs encompassing activities involving risk management and associated metrics.

Coupled with experimentation, the development of joint operational concepts and operational architectures will drive material and non-material transformation solutions and establish standards for interoperability. New operational concepts—the end-to-end stream of activities that define how force elements, systems, organizations, and tactics combine to accomplish military tasks—are therefore critical to the transformation process and may even hold the promise of accomplishing U.S. aims at lower overall force structure and personnel levels. The Chairman of the Joint Chiefs of Staff, supported by the Joint Requirements Oversight Council (JROC), is responsible for developing and validating joint operational concepts and

operational architectures. The Chairman is also responsible for ensuring the compliance of future joint requirements with those concepts and architectures. All DoD components—Services, Combatant Commanders, Joint Staff and Office of the Secretary of Defense elements and Defense Agencies—have a critical role to play in this process.

The Commander-in-Chief, U.S. Joint Forces Command (JFCOM) is functionally responsible to the Chairman for the definition, validation, and exploration of new operational concepts that support realization of breakthrough joint capabilities. In accordance with the Chairman's joint experimentation guidance, JFCOM develops a joint experimentation plan that uses seminars and workshops, wargames, synthetic environment experiments, and field experiments to develop and evaluate joint concepts that are coherently joint, effects-based, knowledge-centric, and highly networked. This summer, JFCOM will test its concept of Rapid Decisive Operations (RDO) in the Millennium Challenge 2002 field experiment. RDO is an experimental concept developed by JFCOM to achieve rapid victory by attacking the coherence of an enemy's ability to fight. It is the synchronous application of the full range of U.S. national capabilities in timely and direct effects-based operations. It employs U.S. asymmetric advantages in the knowledge, precision and mobility of the joint force against an enemy's critical functions to create maximum shock, defeating his ability and will to fight. To the maximum extent practicable, Millennium Challenge 2002 will apply the experiences of Operation Enduring Freedom to determine what transformation lessons they may offer.

Equipping Forces for 21st Century Challenges

While transformation is about more than new capabilities and systems, the integration of new technologies is nevertheless a critical component of transformation. Transformational programs account for 17 percent (about $21 billion) of all procurement and RDT&E investment in 2003, rising to 22 percent by 2007. This defense program accelerates the development of a number of transformation signposts including the following:

Missile Defense. The Administration established the Missile Defense Agency (MDA) to develop an integrated missile defense system to provide

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protection for the United States, its forces, and its allies and friends. Funding has been provided to allow the MDA to develop and test a layered missile defense system to intercept ballistic missiles in all phases of flight and to enable the military services to field elements of the missile defense system as soon as practicable, including the use of prototype and test assets to provide early capability, if necessary. This capability supported the transformational goals of protecting critical bases of operations and defeating NBC weapons, as well as projecting and sustaining power in anti-access environments.

Unmanned Systems. Unmanned surveillance and attack aircraft like Global Hawk and Predator offered a glimpse of their potential in Afghanistan. The 2003 budget increases the number of unmanned aircraft being procured and accelerates the development of new unmanned combat aerial vehicles capable of striking targets in denied areas without putting pilots at risk. The budget includes $1 billion to increase the development and procurement of Global Hawk, Predator, and several new varieties of unmanned vehicles and to begin development of the Navy's Unmanned Underwater Vehicle.

SSGN Conversion. Rapid engagement capabilities will increase as the Navy converts four Trident strategic nuclear ballistic missile submarines to conventionally-armed SSGNs. The FY 2003 budget allocates $1 billion to begin the conversion of four Trident submarines so that they can each launch up to 150 Tomahawk Land Attack Cruise Missiles and deliver a contingent of Special Operations Forces. This new class of submarines will provide U.S. forces with unparalleled capacity for high-volume, unwarned strike, clandestine SOF campaigns, and for experimentation involving future payloads.

Advanced Communications Networks. The Department of Defense is adopting new network-centric concepts of operations that proved so important to early successes in Operation Enduring Freedom. Supporting network-centric concepts of warfare will require increased investment in revolutionary communications systems and datalinks. DoD is accelerating the introduction of datalinks to transmit targeting information between ground, air, and naval forces almost instantaneously. Over the next five years, the Department plans to develop and field jam resistant, reliable, and secure links—investing $150 million in 2003 alone. The Multifunctional

Information Distribution System, for example, will provide a jam-resistant and secure digital network for exchanging critical information. At the same time, the Department is committed to moving more communications to space. It will spend $1.1 billion in 2003 to continue the Advanced Extremely High Frequency (AEHF) satellite communication system which will provide survivable, jam-resistant, worldwide secure communications for the warfighter and initiate the development of new space-based wideband, secure communications. Another example is the Cooperative Engagement Capability system that—using network-centric technologies—will integrate airborne and shipborne sensors to provide deployed forces a detailed, continuously updated image of the battlespace. Without adding weapons or radars, it extends the range at which a ship can engage hostile missiles to well beyond the radar horizon. If successfully developed and fielded, these capabilities would be the lynchpin of overall U.S. transformation efforts and critical to U.S. forces' ability to accomplish future missions. It would assure the ability to pass information between sensors, forces, and national decision makers nearly simultaneously anywhere in the world.

Advanced Intelligence. DoD is accelerating the development and fielding of capabilities that will provide the ability to sense information globally, continuously, and in all weather conditions, such as Space Based Radar. Space Based Radar would provide persistent surveillance coverage and enhance efforts to locate, track, and engage mobile targets. Such a capability is critical to deny enemies sanctuary. The Department is also making substantial investments in 2003 in a number of efforts to improve the responsiveness of intelligence collection systems and provide better information more rapidly to warfighters.

Long-Range Delivery Systems. In Afghanistan, we have seen the importance of long-range bombers, especially when linked to highly mobile forces on the ground. DoD is pursuing a number of enhancements that will transform the current fleets of B-1, B-2, and B-52 bombers and their ability to strike far greater numbers of fixed and mobile targets anywhere in the world. These enhancements, totaling about $600 million in FY 2003, will result in aircraft that look the same on the outside, but will have revolutionary capabilities—new avionics, communications, and targeting systems—within.

Precision Attack. DoD is taking steps to shift the balance of its weapons inventory to emphasize precision weapons—weapons that are precise in time, space, and in their effects. New classes of hypersonic weapons will provide precision in time—arriving at their designated aimpoints when they are needed. GPS-guided munitions such as the Joint Direct Attack Munition will provide precision in space—striking targets with unparalleled accuracy in any weather condition, day or night. And new classes of kinetic and non-kinetic weapons will provide precise effects—minimizing collateral effects while maximizing their intended effects whether they be holding underground facilities at risk, defeating chemical or biological weapons, or rendering enemy command and control systems unreliable. The 2003 budget also provides additional funding for new weapons, such as the small diameter bomb, which will increase the number of targets bombers can strike by nearly tenfold. The budget includes $54 million to develop the small diameter bomb and $1.1 billion to increase the rate of production for Joint Direct Attack Munition (JDAM) and Laser Guided Bombs, which have played such important roles in the war on terror.

Robust Science and Technology and Procurement

Science and Technology

A strong Science and Technology (S&T) program provides options for responding to a full range of military challenges. Technological superiority has been a characteristic of U.S. Armed Forces and one of the foundations of U.S. national military strategy. It is through the Department's investment in S&T that it develops the technology foundation necessary for modernization efforts, discovers new technologies that produce revolutionary capabilities and provides a hedge against future uncertainty. Tomorrow's military capabilities depend, in part, on today's investment in enabling technologies that can be integrated into new or existing systems and employed using new operational concepts. The Department is exploring new operational concepts, new organizational structures, and new technologies to increase the effectiveness of U.S. Armed Forces.

Maintaining the U.S. technological edge has become even more difficult as advanced technology has become readily available on the world market.

Technologies for sensors, information processing, communications, precision guidance, and many other areas are rapidly advancing and available to potential adversaries. U.S. Armed Forces depend on the Department's S&T program to deliver unique military technologies for the combat advantage that cannot be provided by relying on commercially available technology. The 2003 budget increases S&T investment to $9.9 billion (2.7% of the DoD topline). This increase underscores the Administration's commitment to a robust S&T program that keeps the United States on the forefront of technology advancement.

These areas include but are not limited to:

- Technologies supporting the development of hypersonic flight systems;
- Advanced power, fuel, and energy systems;
- Information processing, assurance, and operations;
- Sensors;
- Communications, command, and control;
- Intelligence, surveillance, and reconnaissance;
- Lasers and high power microwaves;
- Space systems;
- Biological defense;
- Hard and deeply buried target defeat munitions;
- Precision guidance;
- Combating terrorism;
- Missile defense;
- Mine countermeasures;
- Electronic warfare;
- Unmanned land, sea, and air vehicles; and
- Deep strike.

We must focus our S&T investments in areas that will support developing options for the warfighter to achieve the six critical operational goals.

CHAPTER 7
ADAPTING U.S. STRATEGIC FORCES

The Department of Defense has completed a comprehensive review of the U.S. nuclear posture. This chapter summarizes the conclusions of that review.

Nuclear forces continue to play a critical role in the defense of the United States, its allies and friends. They provide credible capabilities to deter a wide range of threats, including weapons of mass destruction and large-scale conventional military force. Nuclear capabilities possess unique properties that give the United States options to hold at risk classes of targets important to achieve strategic and political objectives.

The transformation of the nation's nuclear posture complements the transformation of America's conventional forces and capabilities. President Bush directed the Department of Defense to transform America's military forces to meet the challenges of the new century. In response to his direction, the Department of Defense used the Congressionally-mandated Quadrennial Defense Review to develop a new defense strategy and program for transforming U.S. conventional forces. Building on the strategic premises of the QDR report, the Nuclear Posture Review (NPR) offers a blueprint for transforming our strategic posture and signifies a major departure in our approach for managing strategic issues. Indeed, the findings of the NPR form the foundation for the Moscow Treaty signed by President Bush and Russian President Putin and awaiting ratification by the Senate.

The Nuclear Posture Review began with the recognition that the security situation at the start of the 21st century differs substantially from that of the early 1990s when the last Nuclear Posture Review was conducted. The end of the Cold War can no longer be considered a recent phenomenon. Russia is no longer an enemy and the collapse of the Soviet Union is now more than a decade past. At the same time, new dangers have emerged that are both less familiar and less predictable, including terrorists and rogue states intent on acquiring and using weapons of mass destruction. Unlike the former Soviet Union, their leaders are subject to few institutional restraints

on using such weapons. Their decision-making processes are obscure and behavior at times unpredictable. Their actions increase the complexity of managing international security. In this environment, the probability of surprise and ubiquity of uncertainty are dominant strategic considerations for the U.S.

Meeting the challenges of surprise and uncertainty requires a new approach to deterrence. While nuclear forces made an indispensable contribution to deterring Warsaw Pact aggression during the Cold War, a strategic posture that relies solely on offensive nuclear weapons is insufficient to support the nation's defense policy goals. The Nuclear Posture Review concluded that deterrence should not be limited to the threat of retaliation, nor rely exclusively on nuclear forces. The U.S. will need a broader range of capabilities to assure friends and foe alike of its resolve. Nuclear forces, moreover, are unsuited to many of the contingencies for which the U.S. prepares. A mix of capabilities, offensive and defensive, nuclear, and conventional is required. Such a mix will provide additional military options that are credible to enemies, reassuring to allies, and appropriate to Americans.

Following the direction laid down for U.S. defense planning in the QDR, the Nuclear Posture Review shifts the basis for strategic forces planning from specific threats to emerging capabilities that could exploit U.S. vulnerabilities or confer advantages on adversaries.

This capabilities-based approach is the foundation for transforming the U.S. nuclear posture:

- Replace the Strategic Triad of the Cold War with a New Triad that integrates conventional and nuclear offensive strategic strike capabilities, active and passive defenses, and a responsive infrastructure to provide a more diverse portfolio of capabilities against immediate, potential and unforeseen contingencies; and
- Adopt a new approach to strategic nuclear force reductions that provides the flexibility to respond to changes in the security environment and to technological surprise.

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The New Triad

The application of a capabilities-based approach to U.S. nuclear forces has resulted in a decision to transform the existing triad of U.S strategic nuclear forces—intercontinental ballistic missiles (ICBMs), heavy bombers, and submarine-launched ballistic missiles (SLBMs)—into a New Triad composed of a diverse portfolio of offensive and defensive, nuclear, and conventional systems. The New Triad is designed to give the President and the Secretary of Defense a broad array of options to address a wide range of possible contingencies.

The elements of the New Triad are depicted in Figure 7.1 and summarized below:

- Strike capabilities, both non-nuclear and nuclear, and their associated command and control;
- Active and passive defenses, including the command and control for air and missile defenses; and
- Research and development (R&D) and industrial infrastructure for developing, building, and maintaining offensive forces and defensive systems.

Figure 7.1 The New Triad

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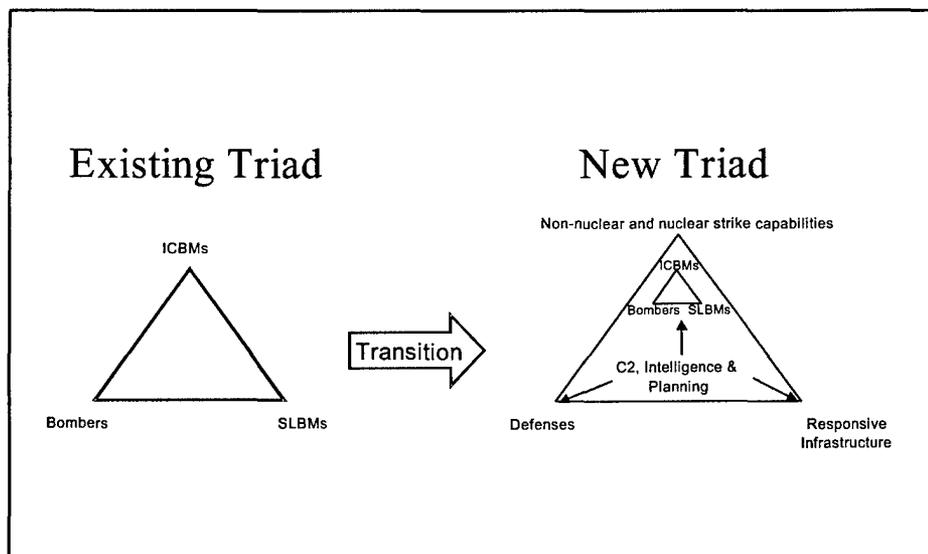
The efficiency and military potential of the individual elements of the New Triad are maximized by timely and accurate intelligence, adaptive planning, and enhanced command and control. Enhancing these capabilities is critical to realizing the potential inherent in the New Triad concept.

With respect to nuclear forces, once the planned warhead reductions are completed, the New Triad will include about one-third of the operationally deployed warheads of the current strategic nuclear force. It will retain a vital role in deterring Weapons of Mass Destruction (WMD) threats, assuring allies of U.S. security commitments, holding at risk an adversary's assets and capabilities that cannot be countered through non-nuclear means, and dissuading potential adversaries from developing large-scale nuclear, biological, chemical, or conventional threats.

As other elements of the New Triad are developed and integrated, they could assume tasks now assigned exclusively to nuclear forces. Under such circumstances the required number of operationally deployed nuclear weapons might be further reduced.

Elements of the New Triad

There are six underlying elements that support the legs of the New Triad:

Strike Capabilities. Non-nuclear strike capabilities include advanced conventional weapons systems, offensive information operations, and Special Operations Forces. Deployed nuclear strike capabilities include the three legs of the existing strategic triad and theater-based, nuclear-capable dual-role aircraft. Nuclear-armed sea-launched cruise missiles, removed from ships and submarines under the 1991 Presidential Nuclear Initiative, are maintained in a reserve status.

Defenses. Active defenses include ballistic missile defense and air defense. Passive defenses include measures that reduce vulnerability through mobility, dispersal, redundancy, deception, concealment, and hardening; warn of imminent attack and support consequence management activities.

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This element of the New Triad comprises defenses for the U.S. homeland, forces abroad, allies, and friends.

Infrastructure. The R&D and industrial infrastructure includes the research facilities, manufacturing capacity, and skilled personnel needed to produce, sustain, and modernize the elements of the New Triad. A responsive infrastructure that can augment U.S. military capabilities in a timely manner provides strategic depth to the New Triad.

Planning. Careful planning will be critical to integrate and balance the three elements of the New Triad. Planning for the New Triad must consider multiple goals, a spectrum of adversaries and contingencies, and the many uncertainties of the security environment.

Command and Control. A reliable, survivable, and robust command control system will serve as a critical portion of the New Triad.

Intelligence. "Exquisite" intelligence—access to an adversary's secrets without his knowledge—is essential to provide insight into the intentions as well as the capabilities of opponents. Such intelligence should enable the United States to tailor its deterrent strategies to the greatest effect.

Creating the New Triad

Development and deployment of elements of the New Triad will require several initiatives.

Major Initiatives. Developing and sustaining the New Triad will require investment in the areas of: (1) advanced non-nuclear strike, (2) missile defenses, (3) command and control, and (4) intelligence. These investments will reinforce the nation's strategic deterrent capabilities and contribute significantly to the improvement of the military's operational capabilities.

Overhaul of Existing Capabilities. To meet the demands of the New Triad, an overhaul of existing capabilities is needed. This includes improving the tools used to build and execute strike plans so that the national leadership can adapt pre-planned options, or construct new options, during highly dynamic crisis situations. In addition, the technology base and production

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readiness infrastructures of both DoD and the National Nuclear Security Administration must be modernized so that the United States will be able to adjust appropriately to changing situations.

Nuclear Force Reductions and System Modifications. As elements of the New Triad are deployed and the number of operationally deployed nuclear warheads is reduced, adjustments may be needed to match the capabilities of the remaining nuclear forces to new missions. The large size of the Cold War nuclear arsenal allowed planners to develop weapons optimized for specific tasks. The large number of warhead types in the arsenal served to reduce the risk that technical problems with one type of warhead would substantially reduce the capability of the force overall. For the New Triad, the reduced size of the force will require more reliable systems. In addition to the efforts needed to refurbish aging weapons in the stockpile, a need may arise to modify, upgrade or replace portions of the extant nuclear force or develop concepts for follow-on nuclear weapons systems better suited to the nation's needs. It is unlikely that a reduced version of the Cold War nuclear arsenal will be precisely the nuclear force the United States will require in 2012 and beyond.

The New Triad will take time to develop as its elements are adjusted and adapted to each other. Nuclear forces assigned to the New Triad and their command and control systems are mature, but are in need of refurbishment. Advanced non-nuclear strike capabilities are comparatively new, their operational effectiveness is still developing, and planning for their employment is still evolving. Missile defenses are beginning to emerge as systems that can have an effect on the strategic and operational calculations of potential adversaries. They are now capable of providing active defense against short- to medium-range threats. The defense and nuclear infrastructure is well established, but in many respects neither is sufficiently flexible to respond quickly to new requirements.

Sizing the Nuclear Force for Immediate, Potential and Unexpected Contingencies. In setting requirements for nuclear strike capabilities, distinctions can be made among the contingencies for which the United States must be prepared. Contingencies can be categorized as immediate, potential, or unexpected.

Immediate Contingencies involve well-recognized, current dangers. During the Cold War, Soviet threats to the United States and Western Europe represented the immediate contingency for which U.S. nuclear forces were primarily prepared. Current examples of immediate contingencies include an attack using WMD on U.S. forces or a key friend or ally in the Middle East or Asia.

Potential Contingencies are plausible, but not immediate, dangers. They are contingencies which the U.S. leadership can anticipate and about which it has received timely warning. For example, the emergence of a new, hostile military coalition against the United States or its allies in which one or more members possess WMD and the means of delivery is a potential contingency that could have major consequences for U.S. defense planning. The re-emergence of a hostile peer competitor is another example of a potential contingency.

Unexpected Contingencies are sudden and unpredicted security challenges. They could occur in the near term or well into the future. Contemporary illustrations might include a sudden regime change by which an existing nuclear arsenal comes into the hands of a new, hostile leadership group or an adversary's surprise acquisition of WMD capabilities.

The operationally deployed forces are sized to provide the capabilities required to meet U.S. defense goals in the context of immediate and unexpected contingencies. That is, a sufficient number of forces must be available on short notice to counter known threats while preserving a small, additional margin in the event of a surprise development. The United States plans to reduce its operationally deployed nuclear forces over the next decade to 1,700 to 2,200 warheads, while maintaining the flexibility necessary to accommodate changes in the security environment that could affect U.S. nuclear requirements. This reduction will provide a credible deterrent at the lowest possible number of nuclear weapons consistent with national security requirements and alliance obligations.

The United States will also maintain an ability to augment the operationally deployed force to meet unanticipated or surprising potential contingencies. This augmentation would be accomplished by moving the required number of individual warheads from storage to an operational unit. This capability

is also an important tool to assure allies and friends and dissuade potential competitors. It will allow the United States to augment its operational forces over weeks, months and years to meet any potential contingencies. Depending on the time available, the United States could also pursue diplomatic, political, and economic measures to improve conditions. Additionally, it could choose to improve other elements of the New Triad.

Adopting a New Approach to Strategic Force Reductions

Figure 7.2 depicts the Department's approach toward reductions in strategic nuclear arms. The objective is an operationally deployed strategic nuclear force with 1700 to 2200 operationally deployed strategic nuclear warheads by 2012. Reductions are planned through a phased program beginning in FY 2002 that eliminates Peacekeeper ICBMs, removes 4 Trident SSBNs from strategic service, and downloads weapons from Trident SLBMs, Minuteman III ICBMs, and B-52H and B-2 bombers.

The precise method of achieving the reductions will be determined in the course of the periodic reviews the Department will conduct. The periodic reviews will:

- Review the progress to date in the reduction schedule;
- Evaluate existing assumptions regarding the risks facing U.S. national interests for the next one to three years and the role of nuclear forces in meeting those risks; and
- Review the progress made in the development of the New Triad and the capability of non-nuclear forces, defenses, intelligence, command and control, and the defense infrastructure to meet emerging risks.

Figure 7.2 Path for Nuclear Reductions
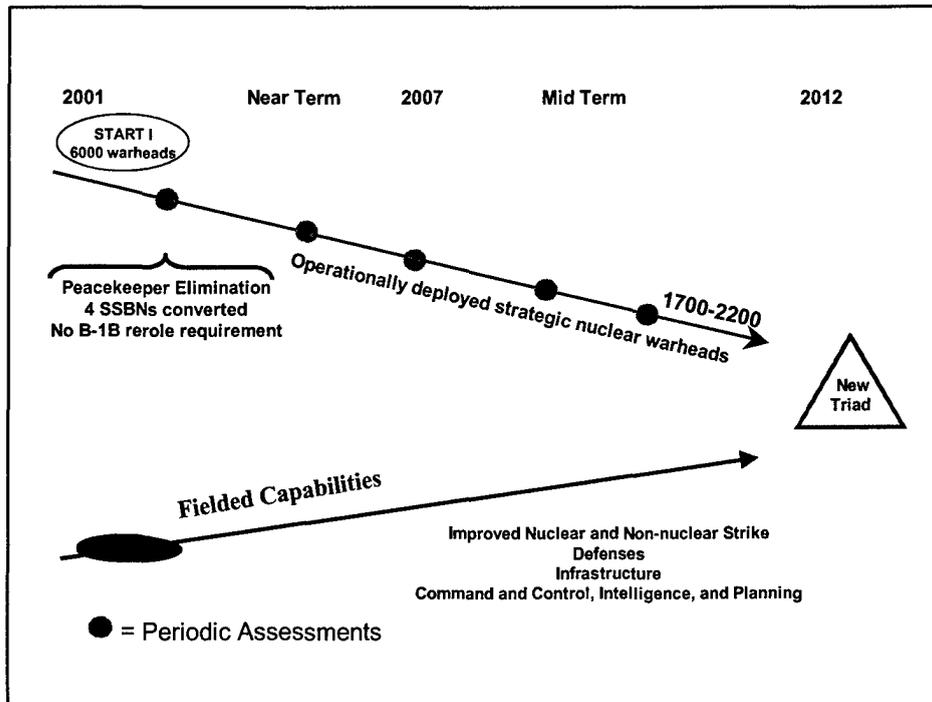
Note: The downward arrow illustrates a trend. U.S. reductions are unlikely to occur in a linear fashion.

As the President's announced reductions are implemented, the existing verification regime established by the first Strategic Arms Reduction Treaty (START I) that entered into force December 5, 1994 will remain in effect. The START I Treaty includes provisions that provide a useful baseline of transparency for offensive strategic forces. The U.S. will assess options for additional transparency and confidence-building options in the context of the new strategic relationship with Russia. In this regard, President Putin has announced that the Russian Federation also will reduce nuclear forces in line with its requirements. The United States will continue consultations with the Russian Federation on how to achieve increased transparency and predictability regarding reductions in offensive nuclear forces.

The U.S. Senate did not provide its advice and consent to the Comprehensive Test Ban Treaty (CTBT). The Administration does not support ratification of the CTBT but continues to support observance of the

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U.S. testing moratorium. The U.S. test readiness posture under a moratorium is an important aspect of the U.S. infrastructure. The Department of Defense is working with the Department of Energy to determine the appropriate test readiness standard that exercises the range of skills necessary to sustain this readiness posture and to be able to respond appropriately to unforeseen problems with the nuclear stockpile.

In sum, the U.S. strategy for its strategic forces will be transformed and adapted to meet the challenges of the decades to come. The risks associated with reductions in deployed nuclear warheads will be offset by the development and fielding of non-nuclear offensive and defensive capabilities and a revitalization of the infrastructure. The new strategy puts aside Cold War practices and planning and represents an important step in defense transformation.

CHAPTER 8
INVESTING IN SPACE, INFORMATION AND INTELLIGENCE

The Department has made significant efforts to improve capabilities in Space, Information and Intelligence (SII) to help mitigate future risks and is committed to doing more. These initiatives enhance the flexibility of our forces and their capacity to meet a wider range of contingencies. SII contributes directly to meeting all six of the QDR's operational goals. SII enhancements are increasing the speed of operations and reducing cycle times, allowing decisions to be made at proper levels, and fusing information and intelligence flows. They have made demonstrable contributions already in the global war on terrorism.

SII Objectives

DoD's space, information, and intelligence activities will focus on:

- Enhancing the capability, accessibility, and survivability of space systems;
- Providing a secure, high capacity, dependable global network;
- Populating the network with high quality information and intelligence to achieve global situational awareness and support network-centric warfare; and
- Making SII systems more robust and secure while denying similar capabilities to adversaries.

Space Systems

Last year the Commission to Assess United States National Security Space Management and Organization (Space Commission) observed:

> "The security and economic well being of the United States and its allies and friends depend on the nation's ability to operate successfully in space. . . .

Specifically, the U.S. must have the capability to use space as an integral part of its ability to manage crises, deter conflicts and, if deterrence fails, to prevail in conflict."

DoD is making organizational changes in response to the Space Commission's recommendations, for example, by consolidating space responsibilities with the Under Secretary of the Air Force. The nation is taking other steps in light of our increasing dependency on space. It also requires that the government develop commercial partnerships, and maximize dual-use capabilities and exploit commercial systems for military use to serve as a springboard to accelerate and improve military space capabilities. Military space capabilities fall into the following key areas:

- Space launch, range operations, and terrestrial control networks;
- Intelligence, surveillance, reconnaissance (ISR);
- Satellite communications (SATCOM);
- Launch detection and tracking;
- Navigation and force tracking;
- Meteorology and other environmental support to military operations; and
- Space surveillance and control.

The President's Budget and associated FYDP support important programs in each of these areas that are necessary to execute our strategy. About $200 million is being proposed for new space-related transformation programs in FY 2003, with significantly more planned in the future.

Space Launch, Range Operations, and Terrestrial Control Networks. As legacy space launch systems are flown out, the Department is partnering with industry to develop a rapid launch capability more responsive to warfighter and civil requirements. Development of the Evolved Expendable Launch Vehicle (EELV) will provide medium- and heavy-lift launch capabilities at reduced cost. First launch of the medium-lift variant is scheduled for 2002, with the heavy-lift capability in 2003. The Eastern and Western launch ranges, vital to civil and military space operations, are undergoing overdue upgrades. Partnering with industry, the Department is

developing innovative solutions to reducing launch infrastructure and operations costs, while expanding capabilities.

Intelligence, Surveillance, Reconnaissance (ISR). The Department provides detailed imagery intelligence (IMINT), signals intelligence (SIGINT), and measurement and signature intelligence (MASINT) capabilities supporting both decision makers and worldwide military operations. Space plays a critical role in many of these. The FY 2003 President's budget includes investments to improve the quality and quantity of imagery and other intelligence. One example is the Space-Based Radar, which will provide the capability to detect and track moving ground targets from space.

Satellite Communications (SATCOM) Capabilities. The Department continues to leverage commercial systems and developing technologies. The importance of leveraging commercial technology and services was demonstrated in Afghanistan. DoD was able to lease transponders on commercial satellites to extend communications reach and increase bandwidth and to distribute commercial SATCOM handsets with secure appliques to provide augmented mobile communications capabilities in the theater of operations. DoD also was able to accelerate the purchase and deployment of survivor location radios. Major SATCOM improvements are programmed over the FYDP, including satellites with complementary capabilities designed to increase greatly secure bandwidth to the warfighter and provide improved resistance to electronic jamming.

Launch Detection and Tracking. Ballistic missile launch detection and warning are capabilities essential to providing tactical warning of attack by long- and short-range missiles. That warning is essential to cueing responses, including missile defenses. These capabilities are currently provided by the Defense Support Program satellites and ground-based early warning radar systems. The budget assures these capabilities will be preserved in the near term and improved in the future. The budget also funds the Satellite Sensor Technology program that is aimed at developing a range of technologies applicable to space-based detection, tracking, and discrimination support for missile defense.

Navigation and Force Tracking. The Department provides worldwide precision position, navigation, and timing to both military and civilian users using the highly successful Global Positioning System (GPS) satellite constellation. Scheduled for launch beginning in October 2005, an upgraded generation of GPS satellites, Block IIF, will fulfill Presidential guidance by adding a second civil frequency for all users. The budget also supports development of fourth-generation satellites, GPS III, designed to increase signal power and accuracy greatly.

Meteorology and other Environmental Support to Military Operations. Weather is a critical factor in military operations, and space systems are essential in helping the warfighter predict and understand it. The Department has a series of modernization programs underway with other government agencies, plus commercial and international partners, to improve our environmental support to the operating forces.

Space Surveillance and Control. A key objective of the Department's space surveillance and control mission is to ensure freedom of action in space for the United States and its allies and, when directed, deny such freedom of action to adversaries. To enhance the capabilities of the ground-based space surveillance network, the Department is developing a space-based space surveillance system designed to identify and track satellites and debris, and provide warning or potentially hostile action against U.S. satellites or those of allies and friends.

Global Network

DoD's network strategy is to leverage the power of emerging information technology and concepts to provide seamless, secure, wide-band connectivity and interoperability. Three goals will focus our efforts in the coming years: (1) extending the reach of our communications infrastructure to all elements of the force; (2) maximizing interoperability between Intelligence networks and DoD's integrated network; and (3) eliminating bandwidth as a constraint. The 2003 budget requests $2.3 billion to leverage information technology and associated transformational programs.

Global Information Grid (GIG). The GIG is an enterprise information technology (IT) architecture that includes coverage for all Joint mission

areas, continuity of operations (COOP), Homeland Security and Defense, and all business processes. The end goal is the delivery of secure, assured, effective, and interoperable information services to the warfighter and agencies that support national security. Three critical enterprise services will be leveraged: network operations, information assurance, and information dissemination.

ISR-Operational Integration. All phases of the information cycle will be integrated with operational decision-making and weapons systems processes. For example, in Afghanistan, real-time imagery from Predator UAVs, integrated with GPS positioning information, was datalinked to aircraft enabling them to strike high priority, emerging targets in minutes rather than hours or days. Additional efforts are underway to streamline the process in support of all-weather, precision strike of time-critical targets. Technology efforts, such as DARPA's Affordable Moving Surface Target Engagement demonstration, are focused on integrating the necessary ISR and weapon systems elements into an integrated reconnaissance-strike complex.

Intelligence Initiatives

The weeks following September 11 highlight the intelligence challenges the nation faces in a world of surprise and asymmetric capabilities. The Department must transform its information and intelligence approach to meet the challenge. Two trends drive this transformation. First, as a consequence of the expanded range of missions the U.S. military is undertaking and numerous geographic locales in which it must operate, new types of information and different perspectives must be brought to bear. This requires that DoD ensure useful sources of information remain accessible. Second, information flows have become and will continue to be separated from the chain of command. Together, these trends are creating a proliferation of information sources and a fundamental change in the way information is distributed and utilized.

The resulting challenges to U.S. national security are manifold. First, the information needs of U.S. forces are less predictable and more dynamic than ever. Second, although more data will be collected, deriving valuable information required by combat commanders and policy makers will be

made difficult by the sheer volume of intelligence and continued demand for its timely reporting. Third, the United States will require robust intelligence analysis capabilities, bringing together individuals with varying perspectives and expertise to assess the available intelligence. As U.S. military concepts of operation become more and more dependent upon information, success will require placing a premium on information collection, information sharing, and collaborative intelligence processes. The United States must place more emphasis on rapidly analyzing collected data to support advanced warning, responsive decision-making, and operational forces. In addition, predictive analysis vital to supporting the long lead times required by acquisition programs and force structure development will be critical to enabling successful Departmental transformation. Transformation also requires the United States to make a fundamental change from its current push-oriented tracking, processing, exploitation, and dissemination process to a pull-oriented, collaborative process with a "post before use" policy. The goal is to provide networked, responsive intelligence capable of surprising and countering U.S. adversaries through persistent and relentless coverage and a set of robust, resilient, and hardened defense capabilities.

Many initiatives can take advantage of the global network. For example, the Joint Worldwide Intelligence Communications System, the Joint Deployable Intelligence Support System, and the Joint Intelligence Virtual Architecture are making it possible for intelligence and operations professionals in geographically separated locations and on different time schedules to view the same digital imagery and map products, collaborate on targeting activities, review battle damage assessment information, and generate rapid re-strike nominations over secure networks.

As the global network is built, it must be populated with quality information. Such information is the result of collecting the right data and being able to make the data available to a variety of users, to be processed and fused in different ways for different purposes as their needs dictate. This information includes not only intelligence about adversaries, but also friendly force content, such as locating data, personnel, medical, and logistics updates, financial management, and e-business approaches. The President's budget requests $3.3 billion for transformational information and intelligence programs. Some of the initiatives include:

Imagery. DoD and the Intelligence Community are developing the Geo-Spatial Intelligence (GSI) System to provide commanders and other military intelligence consumers better imagery support. GSI will make imagery and related products and services faster, more responsive, and less complex for the user by posting images to the network immediately for access by the entire set of users.

Signals Intelligence (SIGINT). The rapidly increasing volume and complexity of modern communications signals poses a daunting but crucial challenge for the US SIGINT system. While the challenge is ever more difficult, the benefits when success is achieved are also enormous. The Defense Department will continue to make the health and viability of SIGINT as high priority element of transformation.

New Collection Capabilities. A wide variety of new collection capabilities is becoming operational or is in various phases of acquisition. Spaceborne systems in the Future Imagery Architecture, Integrated Overhead SIGINT Architecture, Space-Based Infrared System, and Space-Based Radar will provide worldwide access to many new targets, as well as traditional ones. Improvements to the U-2 radar and electro-optical systems are being fielded. Advanced sensor phenomenologies are being demonstrated to improve detection capabilities. The Radar Technology Improvement Program will provide significantly increased capability for the Joint Surveillance Target Attack Radar System (JSTARS) and the Global Hawk Unmanned Air Vehicle (UAV) systems. Commercial satellite imagery is also being used to complement national collection capabilities. A modernization plan has been developed for Measurement and Signature Intelligence (MASINT) to invigorate MASINT capabilities and integrate them with other intelligence disciplines.

Intelligence, Surveillance, Reconnaissance (ISR) Integration. The Department will integrate systems across the space, air, land, and sea domains to make best use of the complementary capabilities in each area. Transformational concepts, such as automated sensor cross-cueing, are beginning to transition from laboratory tests into system development efforts. For example, the Airborne Targeting and Cross-Cueing System employs risk-reduction activities aimed at automatically linking existing

and planned airborne radar, electro-optical and signals collection sensor control and exploitation systems. This will provide needed links between wide-area battlefield surveillance technologies (moving target indication, wide-area radar imagery coverage, and signals collection) and reconnaissance capabilities (high-resolution electro-optical and radar imagery), while providing target identification aids to the intelligence analysts exploiting the resultant multi-source collections.

Integrating Other Kinds of Information. All available information, not just intelligence, must be brought to bear throughout the network. Systems need to be designed so that users only have to handle information once. Producers of information, wherever they may be, need to post what they know, as well as exploiting what others have learned. For example, information gathered by the radars of modern fighters need to be disseminated, just as information is disseminated from intelligence sensors. Electronic business and electronic government initiatives are being integrated across the Federal government. The DoD Chief Information Officer is responsible for ensuring the interoperability of such information as well as the efficient and effective acquisition of the IT systems to support it. Advanced analytical techniques are being developed to make sense out of the overwhelming volumes of information that will be available.

Making Space, Information and Intelligence (SII) Systems More Robust and Secure

The information domain is where warfighters command and control modern joint and coalition military forces and where a commander's intent is conveyed. Consequently, it is a domain that must be protected and defended. In a networked environment, information assurance is critical. A total of $2 billion is provided in FY 2003 to improve the robustness and security of SII systems. This is a 15.6 percent increase over FY 2002.

Defense-in-Depth. DoD's strategy for protecting the infostructure (information infrastructure) is called Defense-in-Depth. It goes beyond defensive perimeter activities, encompassing defenses layered in depth throughout the network enterprise and in breadth across decentralized and distributed network architectures. However, security, like interoperability,

must be engineered into systems from the beginning. The forging of a coherent infostructure out of many legacy systems poses a significant challenge.

To ensure the incorporation of security early in the design of new acquisitions, DoD has modified acquisition regulations to require information assurance strategies for each acquisition program. The strategies are scrutinized at major acquisition milestones and are key considerations for program continuation. Legacy systems are subject to rigorous security certification, and accreditation criteria are required for connection to both classified and unclassified networks. In addition, by July 2002, commercial-off-the-shelf information assurance and information assurance-enabled products must be evaluated against specific assurance criteria prior to purchase.

Insider Threats. A critical focus is creating strategies to mitigate risks that are applicable to personnel, physical and cyber vulnerabilities. Transforming the screening processes and reviews to reduce the backlog of clearance investigations, conducting vulnerability assessments of critical assets, increasing support to counterintelligence and industrial security, as well as leveraging technology are key thrusts. Public Key Infrastructure, high capacity encryption, and intrusion detection programs are notable efforts designed to enhance the confidentiality, authentication, and availability of infostructure services. While many challenges remain in the mitigation of insider threats, DoD systematically continues to secure its infostructure by modernizing its aging cryptographic backbone and other enterprise-wide information assurance initiatives.

SECTION E
REDUCING INSTITUTIONAL RISK

The fourth element of the Department's formal risk management framework is institutional risk. This risk stems from the management practices and controls that affect the efficiency with which resources are used and that shape the effectiveness of the Defense establishment. Just as the Department transforms its military capabilities to meet changing threats, it must also change the way it works and on what it works. The Department must do more to ensure that its people can focus their immense talents to defend America, and that they have the resources, information, and freedom to perform.

Mitigating institutional risk necessitates changing the way DoD conducts its daily business. It is a matter of urgency because left alone, the current organizational arrangements, processes, and systems will continue to drain scarce resources from training, infrastructure, operations, and housing. Left unattended, institutional risks over time will increase risks in other areas—force management, operational, and risks related to future challenges.

While the revolution in technology has transformed private sector organizations, DoD has fallen behind the times in recent years. The Department, in short, has been tangled in its anchor chain. DoD's financial systems are decades old and incompatible with one another. They were designed to produce reports for Congress on specific problems rather than constructed as a unified system to help DoD leaders manage the world's largest organization. DoD also has 20 to 25 percent more base infrastructure than it needs to support its forces. This wastes $3–4 billion per year that could be used elsewhere. DoD suffers from excessive layers of bureaucracy. It conducts too many non-core support functions that would be better outsourced. No business in the private sector could remain solvent if it followed such practices.

DoD's outdated processes also have driven up institutional risk to unacceptable levels in recent years. Processes designed before the age of

computers still dominate how the Department develops the Defense Program.

During the past year, the Department has begun the process of systematically analyzing and addressing the sources of institutional risk. The problems are so deep and so widespread that this Herculean task will take many, many years to accomplish. As with all substantial change initiatives, support of many individuals and groups—in the Administration, the Congress, and in the private sector—is necessary. However, the required course of action is becoming clear. Over the past year, the Department has taken a series of initial steps to reduce waste and improve operational efficiency, such as modernizing DoD financial systems, the efficient facilities initiative, private-public partnerships in military housing, the privatization of utility services, the elimination of almost half of the acquisition-related advisory boards, the introduction of realistic budgeting, and the reform of the PPBS. These efforts represent a first step of what must be a sustained effort to reduce institutional risks and increase effectiveness through greater accountability and efficiency.

CHAPTER 9
INCREASING EFFECTIVENESS THROUGH ACCOUNTABILITY AND EFFICIENCY

The FY 2003–2007 defense program stresses the need to increase effectiveness through increased accountability and efficiency. Emphasis in this area will enhance Congress' confidence in the budget, reflect responsible stewardship of taxpayer resources, and ensure that every dollar of defense spending contributes to winning the wars of the future.

In order to measure the Department's advances toward increasing effectiveness through accountability and efficiency, the concept of institutional risk has been incorporated into the new risk framework. Mitigating institutional risk will require revamping the Department's business practices, overhauling its major management processes, and transforming its support structure.

Transforming DoD's outdated support structure is a key step in achieving a more capable fighting force. The current situation serves as an impediment to change, perpetuates inefficiency, and wastes scarce resources. For example:

- DoD maintains more facility infrastructure than needed to support its forces;
- DoD's financial systems are decades old and not properly interconnected so that accounting and auditing processes cannot meet the standards of generally accepted accounting principles; and
- DoD's business processes and regulations are engineered to prevent mistakes. By doing so, these regulations often discourage taking any risk, but significantly improve efficiency.

While America's businesses have streamlined and adopted new business models to react to fast-moving changes in markets and technologies, the

Department has lagged behind without an overarching strategy to improve its business practices.

To redress this situation and lead the revitalization process, the DoD has established the Senior Executive Council (SEC) chaired by the Secretary of Defense and consisting of the Service Secretaries and the Under Secretary of Defense for Acquisition, Technology and Logistics. The SEC will steer the Department through a challenging period of change. The Defense Department has also created a Business Initiative Council to search for cost savings and efficiencies and a Defense Business Practices Implementation Board to tap outside expertise as the Department moves to improve its business practices.

Revitalizing the Defense establishment is aimed at accomplishing the following goals:

- Reducing the cycle time for decisions on weapons development and logistics support;
- Shortening and bringing realism into our program budgeting process;
- Reducing inefficiency and allocating savings to higher priority needs;
- Attracting talented people to defend the nation;
- Ensuring that the nation's defense maintains its technological advantage;
- Ensuring the defense infrastructure is sized and modernized to meet the needs of our forces; and
- Develop metrics to track and measure how well the Department is performing.

To focus our efforts toward these goals, the Department will institute programs to:

- Modernize DoD business processes;
- Improve the management of acquisition, technology, and logistics;

- Properly size and modernize DoD installations and facilities; and
- Spur innovation in the industrial base.

In addition, continuing to attract talent to DoD is critical to reduce institutional risk as well as force management risk.

Modernizing Business Processes

Many of DoD's business processes and much of the infrastructure are outdated and must be modernized. The Department's objectives are to enhance the capabilities and creativity of its employees, and to free resources to support the war on terrorism and the transformation of military capabilities.

To do this, the Department's organizational structure must take advantage of the opportunities that the rapid flow of data and information present. DoD must concentrate on achieving excellence in core functions. Stovepipes must be reduced to accelerate change across the entire organization, promote cooperation, share information and best practices, and to institutionalize change throughout DoD. In both the organizational structure and the military culture, DoD is taking steps to encourage and reward innovation and risk-taking by support personnel as well as fighting forces.

The challenge is to remove layers that are no longer adding value and eliminate functions that are better performed by others. To accomplish this, the Department will initiate efforts in the following areas:

Streamlining the overhead structure and flattening the organization. The Department of Defense is committed to reducing headquarters staffs by 15 percent from FY 1999 levels by the end of FY 2003. The Department is also working to align, consolidate, or differentiate overlapping functions of the Office of the Secretary of Defense, the Services, and the Joint Staff. To do this, the Senior Executive Council will develop recommendations to eliminate redundancy by the end of 2002. Complementing these efforts, the military departments are evaluating and implementing changes in their

headquarters structures to improve their ability to perform executive functions at lower staffing levels.

To make these reductions possible, the Department must improve its business processes to reduce and focus the work that must be done. Two major institutional processes, the planning, programming and budgeting system (PPBS) and the acquisition process, create significant amounts of self-imposed requirements in the Department. Simplifying these processes will support the streamlining of the entire organization. Over the next several years, DoD will explore options to redesign the way it plans and budgets.

The Under Secretary of Defense for Acquisition, Technology and Logistics has begun streamlining the Defense Acquisition Board (DAB) process, including the elimination of 31 of 72 acquisition-related advisory boards. Additionally, the Under Secretary has reduced funding for OSD studies and analyses by 10 percent. The goal throughout this set of initiatives is to reduce the complexity of the Department of Defense.

Focusing DoD Resources on Core Defense Functions. The Department of Defense has historically provided many of the supporting functions for the nation's defense.

Over the last several decades, most private sector corporations have moved aggressively away from providing their own support services. Instead, they have concentrated efforts on core functions and businesses, while building alliances with suppliers for a vast range of products and services not considered central to the product or service they can best provide.

The central challenge is determining which functions are core and would be performed best by the Department of Defense. Traditionally, "core" has been loosely and imprecisely defined, and too often used as a way of protecting existing arrangements. The Department of Defense defines core functions as those that are directly necessary for warfighting.

The Department has taken steps to outsource and shed non-core warfighting responsibilities, including the military housing privatization program and the privatization of utility systems on military installations. Based on the

success of these early efforts, the Department will pursue additional opportunities to outsource and privatize.

Restructuring Defense Agencies. Over time, Defense Agencies have served to consolidate functions common to the Services and to increase jointness. In some cases, this process has resulted in better, more integrated outputs and has helped to modernize the Department's business processes. However, while some agencies have proven to be effective, their overhead costs are still not competitive with similar private sector services.

The SEC will undertake a review of business practices of defense agencies, focusing first on the Defense Finance and Accounting Service, the Defense Logistics Agency, and the Defense Information Systems Agency. The SEC will evaluate the support each agency provides to warfighting and will examine what functions should be outsourced.

Integrating DoD financial and non-financial operations and systems. The Department's current financial and non-financial operations and systems do not work together effectively to produce business management information needed by DoD leaders.

The Comptroller—in consultation with the Under Secretary of Defense for Acquisition, Technology and Logistics, and the Chief Information Officer (CIO)—will provide policy direction and oversee the execution of all financial management modernization efforts. As a first step, they have initiated a $100 million department-wide Financial Management Modernization Program. Working with the Military Departments, they will also create a DoD-wide blueprint for how the Department's financial and non-financial feeder systems will interact. This architecture will guide the development of all financially related processes and systems throughout the Department.

Improving the Management of Acquisition, Technology and Logistics

A cornerstone to DoD's ability to fight and win wars globally is the ability to acquire material and to deploy, employ, and recover forces and material

rapidly. Acquisition, technology, and logistics excellence is paramount to achieving that objective.

Achieving Acquisition and Technology Excellence

DoD is improving the management of acquisition and technology programs with the aim of accelerating the fielding of systems through new approaches to development and the adoption of best business practices in the management of programs.

Reducing Development Cycle Time. The average time from program initiation to initial operational capability for a weapon system is over nine years, with some new platforms taking as many as 20 years to field. DoD has adopted a new model for system development that emphasizes technology maturation prior to system integration and using an evolutionary acquisition development process. The goal is to provide the best technology available to the warfighter sooner while continuing to develop improvements for future system integration and fielding.

Implementing Best Practices. DoD must learn from the best practices in both the public and private sectors. Recent successes include increased use of Strategic Supplier Alliances. For example, a recent Strategic Supplier Alliance between Honeywell and the Defense Logistics Agency resulted in reduced delivery times (from 200 to 15 days), eliminated $14 million in inventory, and lowered costs by $3.3 million per year for the next 12 years.

Defense Business Practices Implementation Board. The Secretary of Defense recently established the Business Practices Implementation Board to advise the Department's Senior Executive Council on strategies to adopt best business practices in management, finance, acquisition, production, logistics, personnel leadership, and the defense industrial base. The Board, composed of senior executives and experts from the business community, will help the Department maximize the benefits of its ongoing management reform efforts.

Realistic Funding of Acquisition Programs. The 2003 budget funds acquisition programs at realistic levels. The underfunding of programs historically resulted in financial instability and increased programmatic

risk. Realistic funding puts acquisition programs on a healthier footing for the future.

Charting a New Acquisition Course

The Department has promulgated a new acquisition process. This new model emphasizes (1) rapid acquisition with demonstrated technology, (2) time-phased requirements and evolutionary development, and (3) integrated test and evaluation.

DoD is also working to create new incentives for performance. For example, the F-22 was approved for low rate initial production, challenging the Air Force and providing incentives to the contractor to produce more aircraft at lower prices. The V-22 was approved for return to flight test on an events-driven schedule to determine its performance relative to requirements.

In maritime systems, the DD-21, a large new destroyer, was canceled in favor of a restructured DDX program, which will focus on advanced technologies to support a family of next generation surface combatants.

Operation Enduring Freedom and associated threats have highlighted the importance of precision guided munitions, other high usage weapons, and counters to chemical and biological threats.

The Administration's commitment to missile defense has not taken a back seat to ongoing operations, either. The Department has achieved development success in "hit-to-kill" technology, the Airborne Laser Program and the PAC-3 interceptor. Efforts are also underway to invite international industrial participation in this program as it matures, using models developed on the Joint Strike Fighter program. This will be an important step toward broadening its technology base and the protective shield that it can provide allied nations.

As of September 30, 2001, all but 11 Major Defense Acquisition Programs (MDAPs) were meeting more than 90 percent of the aggregated number of cost, schedule, and performance goals for that program. The 11 exceptions which are under review to determine the future course for each, were:

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Chemical Demilitarization; V-22; H-1 Upgrades; Space Based Infrared System (SBIRS)—High, Evolved Expendable Launch Vehicle (EELV); Maneuver Control System (MCS); MH-60R Helo; LPD-17; Multiple Launch Rocket System Upgrade (MLRS); 21st Century Destroyer Program (DD-21); Airborne Laser (ABL); and Global Broadcast System (GBS).

The average period for converting emerging technology into operating capability for all current major programs was calculated to be 115 months from program initiation dates to initial operating capability dates. The calculation of the average period of MDAPs described above includes a significant number of older programs that were structured and developed using the traditional acquisition processes instead of the more streamlined acquisition processes that the Department is now implementing. A more accurate assessment of the effects of the DoD's acquisition reform efforts would be to concentrate on those programs initiated under the revised acquisition processes. The MDAPs started since 1992 have an average period of 95 months based on the September 30, 2001, Selected Acquisition Reports.

Achieving Logistics Excellence

The funding that the Congress provided in recent years to buy more spare parts and depot-level repairs has had a positive impact on materiel readiness. Parts backorders are down and the decline in mission capable rates has been arrested. However, the combination of supporting Operation Enduring Freedom and other global U.S. military commitments is stressing the weapons systems being employed, and additional funding requested in the FY 2002 Supplemental and the FY 2003 President's Budget will be needed to replenish munitions and spare parts stocks.

Each of the Military services has some reported shortfall relative to its new weapon systems, the introduction of new operational concepts, and the exigencies of real-world combat operations that translate into changes to logistics sustainment requirements. These factors, coupled with the lead-time to procure and distribute materiel, translate into some shortfalls between current requirements and on-hand assets.

As the war on terrorism has demonstrated, future logistics operations will require: reducing deployment times and minimizing logistical footprints; achieving reliable delivery of equipment and supplies to warfighters; and providing comprehensive logistics tracking and accounting. The Future Logistics Enterprise (FLE) is aimed at improving logistics operations through enterprise integration and end-to-end customer service. The primary objective of the FLE is to ensure a logistics capability that is not tied to a particular threat, but flexible enough to respond to an uncertain world.

Sizing and Modernizing DoD Installations and Facilities

The Department is modernizing its installations and facilities for the requirements of the 21st century, both through increased resources and through better use of existing resources. This effort capitalizes on the strengths of the private sector through:

- Housing privatization;
- Competitive sourcing initiatives; and
- Best business practices to operate more efficiently.

These efforts are designed to both ensure readiness to accomplish missions more effectively and improve the quality of life for service members.

Reshaping Infrastructure—Efficient Facilities Initiative (EFI)

The EFI is essential to rationalize the Department's management of installations infrastructure to meet the military missions and challenges of the future. The United States is estimated to have between 20 and 25 percent more base capacity than needed for its forces, and these excess or under-utilized facilities waste limited resources to maintain this infrastructure. In 2001, the Department developed the EFI as a comprehensive, analytical process to identify and eliminate this excess capability. The three major components of EFI are to authorize: (1) an additional round of base closures and realignments, (2) significant improvements to the existing base closure process, and (3) a set of tools for the efficient operation of enduring military installations. The Department also is assessing overseas basing posture to align those bases with current

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operational requirements. Finally, DoD is employing enhanced-use leasing authorities to enable better use of infrastructure, reduce ownership costs, foster cooperation between DoD and private industry, and stimulate the local job market.

In 2001, Congress authorized another round of base closures for 2005. While the need to close bases is immediate, the Department will pursue the authority for 2005 in a systematic manner so as to rationalize the force structure requirements with the basing needs at home and abroad.

Facilities' Sustainment, Restoration, and Modernization (SRM)

For too long, DoD's facilities have been neglected, and modernization efforts have been postponed, jeopardizing their long-term health. The Department's FY 2001 Installations' Readiness Report showed 69 percent of its facilities were rated C-3 (have serious deficiencies) or C-4 (do not support mission requirements). The Department invested additional money in FY 2002 to renew and revitalize facilities—cutting almost in half the previous recapitalization rate of 192 years. This progress is significant and moves the Department closer to its goal of a 67-year replacement cycle (equivalent to a commercial industrial standard).

Facilities' Strategic Plan

The long-term Facilities Strategic Plan is designed to ensure the Department's facilities are: (1) the right size and in the right place, (2) of the right quality, (3) resourced adequately, and (4) measured with the right tools and metrics.

Improving the Quality of Military Housing

In addition to overall DoD facilities, the quality of military housing declined over the past decade. Recognizing the link between safe, adequate housing and the retention of high caliber personnel, the Department established FY 2007 as its goal to eliminate all inadequate military family housing through military construction, privatization, and increases in the basic allowance for housing.

DoD has a three-pronged approach to improve housing conditions for military families living both on and off base. First, the Department will provide funding to fix inadequate on-base housing and renovate overseas housing and barracks. Second, it will increase housing allowances to put more money in the pockets of military members. This not only allows them to afford better houses but also gives them more options as to size and location, thereby reducing demand for on-base housing. Because housing allowances are the primary economic drivers of the housing privatization program, increased allowances stimulate more and better quality privatization projects. The program for housing allowances increases by over $3 billion from FY 2001 to FY 2005, with the goal to eliminate out of pocket housing expenses for military members. Third, the Department will pursue privatization to leverage its dollars. This would solve the problem a decade faster than by relying alone on military construction funding to renovate housing.

Spurring the Defense Industrial Base

The combination of new and old systems deployed in Operation Enduring Freedom is a proud tribute to our strong defense industrial base. Workhorses like the forty-six-year old B-52s, supported by an aging KC-135 tanker fleet, dropped state-of-the-art Joint Direct Attack Munitions (JDAM) only three years after the JDAM completed operational testing. The five-year-old Hellfire II missile was deployed aboard the Predator unmanned aerial vehicle—for which concepts of operations are still being formulated. These creative combinations point the way to an even bolder transformation of the art of war and the industrial base in the years ahead.

The challenge for this and future administrations and private sector suppliers will be to maximize the exploitation of all manners of old and new systems in order to take the war to the enemy in ways never contemplated before.

DoD's industrial partners are critical to the nation's success. If the Department is to provide U.S. fighting forces with the very best equipment, then the country must have a healthy industrial base to produce and support that equipment. A healthy industrial base requires investment and quality people, which results in a more competitive and innovative industry. Every

effort must also be made to promote the entry of less traditional suppliers into the defense industrial base. The nation's defense must attract new pharmaceutical, telecommunications, and network-based suppliers. Entry barriers must be lowered by greater use of commercial procurement practices, and improved profitability. The intellectual property of firms must be protected in order to continue fostering innovation.

Advanced Concept Technology Demonstration (ACTD) programs are paying dividends as well. Products and technologies from 13 of these fast-track acquisitions have been used in Operation Enduring Freedom to date— systems ranging from "cave-busting" penetration technology to real-time C4ISR combat support using Global Hawk and Predator to aid in the prosecution of time sensitive targets.

REPORT OF THE
SECRETARY OF THE ARMY

Introduction

Two years ago, the Army articulated its Vision—People, Readiness, and Transformation—that defined how the Army will meet the nation's requirements today and into the future. Applying the insights gained from its vast operational experience and its leading edge work in battle labs, warfighting experiments, and exercises, the Army undertook the task of self-transformation to furnish the nation with a land combat force that is strategically responsive and dominant across the full spectrum of military operations.

The 2001 Quadrennial Defense Review articulated a need to transform all U.S. forces, capabilities, and institutions in order to extend America's advantages well into the future—thereby endorsing Army Transformation, which was already under way. The attacks of September 11, 2001 and America's opening moves in what is sure to be a lengthy war on terrorism also confirm the relevance and value of landpower and validate the Army's strategic direction with regards to transformation.

Meeting Current and Future Challenges

The 2001 Quadrennial Defense Review also established a new strategic framework to defend the nation that confirmed the importance of transformation and set a reasonable balance between near-term readiness and transformation for the future security environment. The Army is meeting these needs by transforming on three axes—the Objective Force, the Interim Force, and the Legacy Force. The support in the QDR for acceleration of the Interim and Objective Forces and selective upgrades to the Legacy Force give the Army confidence that its decisions two years ago were on course in order to meet the needs of our nation.

Accordingly, Army Transformation will pursue advanced technologies that will lead to unprecedented intelligence, surveillance, and reconnaissance

capabilities coupled with ground, air, and space sensors networked into a common integrated operational picture. Soldiers and leaders will harness the power of information systems through networked systems to seize and retain the initiative, building momentum quickly for decisive outcomes. The Army has already realized the advantage of digitized capabilities with the fielding and experimentation of the 4th Infantry Division (Mechanized) and will soon benefit from the network centric capabilities embedded in the Interim Force.

The Army must carefully balance its mission requirements of today with the requirement to continue transforming forces, capabilities, and institutions to extend and enhance its capabilities to meet the challenges of an uncertain strategic environment. Defending the United States and executing global missions during the war on terrorism require that the Army accelerate the process of change. The Army, in concert with industry, must adapt and streamline the development and acquisition processes to realize greater capabilities in the near term. This effort will also generate additional momentum toward achieving the Objective Force...by the end of this decade!

Current Operations

Since October 2001, Army conventional and special operations forces have supported Operation Enduring Freedom in the Afghanistan Theater of Operations. Army Special Forces have designated targets for air strikes, performed reconnaissance and security missions that facilitated the safe introduction of follow-on forces, conducted alliance-building activities for direct action, and enabled the introduction of sustained follow-on missions. Outside Afghanistan, soldiers provided rear area security to joint forces, critical facilities, and supply lines for the theater. Currently, approximately 12,000 soldiers are deployed to the United States Central Command's area—from Egypt to Pakistan, from Kenya to Kazakhstan. While hostilities in Afghanistan are receding, requirements for conventional Army forces are growing—from assuming security for the airfield and detainee facility at Kandahar, to securing detainees at Guantanamo Bay, Cuba, to deployments to the Philippines in furtherance of the global war on terrorism.

At home, the Army continues its long tradition of support to the homeland. Even before September 11, the Army had trained Weapons of Mass Destruction Civil Support Teams ready to support civil authorities and 28,000 first responders in 105 cities. Since September 11, the Army has mobilized over 24,000 Army National Guard and Army Reserve soldiers to federal service. Nearly 13,000 soldiers are now on state-controlled duty securing airports, seaports, reservoirs, power plants, the nation's capital region, and serving at "ground zero" in New York City alongside the U.S. Army Corps of Engineers. While the Army remains engaged at home, it is prudently planning for follow-on operations around the world.

Fighting the global war on terrorism in no way diminishes the support the Army provides to the combatant commanders for missions and operations around the world. The Army has over 124,000 soldiers and 38,000 civilians forward stationed in 110 countries. On any given day last year, some 27,000 soldiers were deployed to 60 countries for operations and training missions. Soldiers have been on the ground in the Balkans for six years, in Saudi Arabia for eleven years, in the Sinai for nineteen years, and in Korea and Europe for over fifty years, working to assure peace and stability.

Maintaining Readiness

The Army remains the best in the world because it has previously fully funded its Combat Arms Training Strategy in order to conduct tough, demanding training. The Army cannot continue to do this without further degrading its infrastructure, sustainment, and ability to deploy rapidly. Readiness today depends on adequate live fire and training ranges with sufficient maneuver area in which to train for the wide spectrum of military operations it is likely to perform. To ensure our soldiers remain the best in the world and ready to perform a full array of missions, the Army requires modernized training facilities.

As the Army brings the Interim and Objective Forces to full operational capability with new systems, new organizations, and new doctrine, the associated training enablers and training infrastructure that will allow it to conduct realistic and relevant training will be critical and must be funded now to meet expected fielding timelines.

Measuring readiness now and in the future requires accuracy, objectivity, and uniformity. The Army is redesigning its current readiness reporting system to bring greater clarity to readiness reporting and are developing a Strategic Readiness System to provide senior leaders with an accurate and holistic near real time readiness picture representative of the entire force (operating force, generating force, sustainment capability, and infrastructure). Prototyping of the Strategic Readiness System has been conducted at selected installations and development will continue to ensure compliance with congressionally directed readiness reporting.

Strategy

In response to the changing global environment, the Army began to reorient its posture towards new capabilities. To bridge the gap between the Legacy and Objective Forces, the Army will field an Interim Force equipped and trained with currently available technology. Transformation of the entire force, however, will take time. The continued readiness of the Legacy Force, through selective modernization and recapitalization, is required to meet today's challenges and to provide the time and flexibility to get transformation right. The Objective Force will provide dramatically enhanced situational awareness, survivability, and lethality within a force that is dominant across the full spectrum of operations.

The Legacy Force

The Army of today, the Legacy Force, consists of heavy, light, and special operations forces. Army special operations—officers and NCOs drawn primarily from conventional units—are highly trained professionals who provide unique capabilities to the joint force and the nation. The Army's heavy forces provide unparalleled lethality on the battlefield, able to defeat any enemy, and its light forces have a capability to deploy rapidly and, if required, conduct forced entry operations in any part of the globe to demonstrate U.S. resolve. However, its heavy forces must become more strategically deployable and more agile with a smaller logistics footprint. Its light forces must become more lethal, survivable, and tactically mobile. Even though Objective Force units will eventually replace Legacy Force units, its legacy formations must retain the capabilities to meet America's commitments for the foreseeable future. In this manner, the Army will

mitigate the risk associated with balancing operational and transformational imperatives.

The Interim Force

To capitalize on the best aspects of the heavy and the light forces— overpowering lethality and rapid deployability—the Army has created an Interim Force that will provide warfighting CINCs a more responsive and versatile force until the Objective Force is operational. Interim Force capabilities will provide the Joint and Multinational Force Commander increased operational and tactical flexibility. The Army is transitioning at least six maneuver brigades, including one ARNG brigade, to Interim Brigade Combat Teams (IBCTs) equipped and trained with currently available technology and significantly enhanced light armored vehicles. The Interim Force harnesses network-centric capabilities and will take full advantage of information technologies for significant increases in combat effectiveness. The Army has organized two IBCTs at Fort Lewis, Washington, and is considering additional units to be stationed within the United States and overseas. The QDR called for the Secretary of the Army to accelerate the introduction of forward-stationed Interim Brigade Combat Teams (IBCTs) to strengthen deterrence and improve U.S. strategic responsiveness on a global basis. In consultation with European allies, the United States envisages that an IBCT will be stationed in the European area by 2007.

The Army recognizes it must train and educate adaptive and self-aware military and civilian leaders who are capable of mastering the transitions of future warfare. As part of transformation, the Army has reviewed, assessed, and provided recommendations for the development of its 21st century leaders in the civilian, officer, warrant officer, and non-commissioned officer corps. The Army is incorporating the results of these various leader development studies into training development programs for Objective Force leaders to develop a generation of Army leaders and soldiers that know "how to think, not what to think."

The Objective Force

The main effort of transformation is the Objective Force. The Objective Force is our future full spectrum force: organized, manned, equipped, and trained to be more strategically responsive, deployable, agile, versatile, lethal, survivable, and sustainable across the entire spectrum of military operations from major theater wars through counter terrorism to homeland security. Army Objective Force units will dominate land operations, providing the decisive complement to air, sea, and space operations. They create synergy within the Joint Task Forces by controlling ground, where people and political authorities reside, and by defeating our opponents in their protective sanctuaries or forcing them into the open where they can be destroyed with joint fires.

Our goal is to achieve the fielding of an Objective Force capability by the end of this decade. To do so will require a combined effort by the Army, its sister services, the Congress, the business and academic communities, and science and technology stakeholders across the country. The Army released the Objective Force Concept in November 2001 to describe the advanced capabilities, core technologies, and the training and leader development aspects needed to enable the Objective Force.

The Objective Force is being developed via a system of systems approach that will include a new family of ground systems, the Future Combat Systems (FCS). The FCS will allow ground force commanders to bring a substantial, perhaps even exponential, increase in combat capabilities to the joint force and without a large logistics footprint. In early 2002, the Army will name a Lead Systems Integrator who will be responsible for transitioning the FCS from concept development to options for production. The Army will allow for the acceleration in technology by building the FCS to accept technology insertions as it becomes ready.

The FCS will complement other systems in the Objective Force through networks that empower soldiers and leaders with information and decision superiority and enable combat overmatch through their synergy. The Comanche helicopter, the Objective Force Warrior System, and enhanced command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) are planned to maintain the overall network-

centric superiority for the Objective Force. The Comanche helicopter provides the Objective Force with an armed aerial reconnaissance/attack capability that will enable ground commanders to organize and synthesize combat information and to control operations with low-observable, survivable, man-in-the-loop technology. The Objective Force Warrior System will not simply modernize the current, state-of-the-art Land Warrior Soldier System, but will offer a quantum leap forward, with ballistic, chemical, biological and environmental protection with lower observable technology at greatly reduced weight.

Terrestrial systems alone will not enable full-spectrum dominance. The Army views space as a vertical extension of the battlefield, and space capabilities are key force multipliers for land force operations. Objective Force commanders will be able to access, leverage, and integrate the capabilities of the total force, to include national agencies, strategic and operational units, tactical organizations, and joint/multinational forces to use and leverage the full spectrum of C4ISR and Information Operations capabilities.

People

People—soldiers, civilians, retirees, veterans, and families—are the Army. They make the sacrifices and take the risks on behalf of the nation. Because of this, the Army is committed to the well being of its people. The Army's success in maintaining the well being of its people is reflected in its achievement of 100 percent of its recruiting and retention goals—across the active component, National Guard, and the Army Reserve—for the second year in a row. Aiding in the recruitment effort, the Army unveiled a new campaign at the beginning of the year—An Army of One—that raised the awareness and interest of potential soldiers. The Army is working to generate sustained success in recruiting and manning to give it the edge to meet its requirements as it secures the homeland, fights and wins decisively, and transitions for the future.

The Army believes a commitment to well-being is vital to maintaining the quality of its force. Well-being incorporates both the quantifiable and intangibles such as family satisfaction, professional growth, high quality training and education opportunities, personal recognition, and confidence

that make an Army career attractive. Enhancements in support of the Defense Health Program, military and civilian compensation, and Army initiatives such as eArmyU—the cutting-edge, completely online education program—are assisting in recruiting and retaining the best people possible. Increases in compensation for soldiers to close the gap between military pay and civilian sector pay are essential. Targeting increases for enlisted grades and mid-grade officers will help it address recruiting and retention concerns for those soldiers who will lead and serve in the Objective Force.

Recapitalization

As the Army builds the momentum of transformation, selective recapitalization and modernization provide the warfighting capability that allows it the time to fully transform. Recapitalization rebuilds or selectively upgrades existing weapons systems and/or tactical vehicles, while modernization develops and procures new systems with improved warfighting capabilities. The Army is focusing resources on systems essential to maintaining warfighting readiness. The Army has identified seventeen of its systems and focused it resources in selected units for the Prioritized Recapitalization Program. The seventeen systems include the AH-64 Apache, UH-60 Black Hawk, CH-47 Chinook, M1 Abrams, and M2 Bradley. The Army accepted an inherent risk with its remaining units by focusing its recapitalization effort to help free resources for transformation. The Army has also made many other tough decisions and tradeoffs by restructuring or eliminating programs to fully fund transformation between FY 2003 and FY 2007.

Army Installations

Army installations are critical to readiness. They allow the Army to take care of its families, support training, and provide power projection platforms. Worldwide, the Army maintains over 160,000 buildings with approximately one billion square feet of space, more than 100,000 family housing units, 28,000 miles of paved road, and physical plants worth over $220 billion. Over the past decade, the Army postponed long-term facilities revitalization to fund unit readiness. The end result is that the Army has world-class soldiers working and living on third-class installations. As facilities get older, anticipated sustainment, restoration, and maintenance

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funding levels will not keep pace with rising costs, as there are shortfalls over the next five years of approximately $3 billion. Exacerbating this situation is the fact that the Army has about 20 to 25 percent more facility infrastructure than needed. The cost of operating and sustaining these facilities directly competes for funding with its warfighting forces. Realigning or closing excess facilities will focus funds on installations that are actually needed and reduce the recapitalization rate of those that remain to a level closer to the DoD goal of 67 years by 2010. The Army is divesting of previously mothballed facilities, planning for base closures, and has begun examining the best ways to capitalize on the success of the Residential Communities Initiatives.

Efficiencies and Innovations

The need to transform the Army encompasses more than just achieving the Objective Force. Transformation applies to what the Army does, as well as how it does it. Over the past decade, modern business practices have changed in fundamental ways, leading to significantly increased productivity, lower costs, and higher quality outputs. Now, the Army confronts an urgent need to transform its business processes both to enhance the capabilities and creativity of its people and to free up resources needed to transform the warfighting force. Bureaucratic boundaries must be broken. Many functional activities need to be examined, improved, streamlined, or eliminated. The Army must focus constrained resources on achieving excellence in those areas that contribute directly to warfighting. Thus, transformation of business practices cannot wait—and the Army is starting at the top.

The Headquarters of the Department of the Army (HQDA) is realigning its Secretariat and Army Staff to create a more streamlined headquarters, enhance decision-making, promote unity of effort, and achieve efficiencies in manpower and funding. Where appropriate, business practices and techniques will be applied to selected functions to achieve enterprise solutions and accompanying efficiencies. The Army will seek greater integration of the reserve components into the HQDA staff, allowing it to operate more effectively. The Army plans to return any resultant savings in manpower to other Army units or, in the case of civilians, find them positions in continued Army service.

Proposed realignments will also respond to concerns of the Congress for improved acquisition management needed to field the Objective Force. To improve quality of service and support, the Army will centralize Installation Management with the intent of achieving greater standardization of services for soldiers and their families. Further, realignment initiatives already underway will help the Army meet the Congressionally mandated fifteen percent reduction in headquarters' staffs.

Conclusion

In the years since the fall of the Soviet Union, the Army has been dramatically reduced in endstrength, force structure, and warfighting systems, but the international security environment has underscored ongoing and new requirements for soldiers to represent national interests globally. These increasing demands create turbulence by intensifying the competition for resources and reducing needed investments in people, systems, platforms, and research and development. Proper endstrength and resourcing will minimize turbulence and the inherent accrual of operational risk as it balances the requirements to conduct essential ongoing operations, meet extant threats, and prepare for future warfare through Transformation.

REPORT OF THE
SECRETARY OF THE NAVY

Introduction

At the dawn of the 21st century, the Navy and Marine Corps are uniquely positioned and configured to respond to the challenges the nation faces. Steeped in a tradition of operating deployed, Naval Expeditionary Forces assure access, swiftly responding to threats to U.S. interests often in areas where access may be restricted by friends, withheld by neutrals, or denied by adversaries. Naval Forces fight and win; they are capable of initiating and sustaining nearly unlimited combat operations on the sea, on land, and in the air without the burden or liability of a logistics tail or host nation support. Once again, in Operation Enduring Freedom and the Global War on Terrorism, on station Naval Forces were first to respond, first to fight, and first to secure U.S. interests. Naval Forces are continually transforming. We are building on a winning team, leveraging both current and transformational capabilities. The ability to transform is at the heart of the Navy's and America's warfighting advantage.

As a nation joined to its major trading partners by the sea, open access to the world's oceans is vital to our national prosperity. Protection of this access, along with defense of the U.S. homeland, power projection and forcible entry are traditional missions of the Navy and Marine Corps. By "being there" around the world, around the clock, with potent combat-ready forces, our forward-deployed Naval presence provides military and political options across a wide range of contingencies, enabling the United States to respond rapidly to crises worldwide.

Meeting Current and Future Challenges

Inherent Characteristics, Enduring Attributes

Sea-based, self-contained, and self-sustaining, the Active and Reserve Total Force Navy and Marine Corps Team embodies the fundamental qualities of decisiveness, sustainability, responsiveness, and agility. Our Naval Forces

are continuously ready to execute a broad range of missions largely unconstrained by regional infrastructure or other restrictions. They project U.S. power and influence from the sea to directly shape events ashore and ensure uninterrupted commerce and critical resource flows while remaining immediately available to provide humanitarian assistance, disaster relief, or maritime intercepts. As a critical component of the joint force, on-station Navy and Marine Corps forces also provide a timely and powerful expeditionary response through the full range of combat operations, as well as provide operating platforms for follow-on forces in both small- and large-scale conflict, as they did for Special Operations Forces in Operation Enduring Freedom.

Homeland Defense

The Marine Corps and Navy are a critical force in the defense of the nation and its interests, both overseas and in the United States. We are better preparing to defend our homeland against asymmetric attacks to our critical physical and information infrastructure, the threat of terrorism and attacks on our way of life. Naval Forces can contribute to defeating these threats at the source, long before they reach our shores and provide layered defense back to and including our ports. New missions brought about in response to a changing strategic environment today include responding to potential chemical and biological attacks at home, developing threat intelligence dissemination networks, coordinating with the Federal Emergency Management Agency (FEMA) for consequence management, and joining with the Coast Guard for port and waterway security.

Maritime Power Projection and Joint Force Multiplier

In many cases, because of their range of capabilities, Naval Forces are the decisive force for small-scale contingencies. However, should crisis become war, the ability of forward deployed Naval Forces to control the seas, while simultaneously projecting offensive and defensive combat power over air and land, assures access for joint and coalition warfighters as they flow forward. Precision engagement and volume of fire coupled with the flexibility of Expeditionary Maneuver Warfare provides a critical force multiplier for the regional commander-in-chief throughout the full spectrum of any conflict.

Force Protection

Even before the events of September 11, the earlier terrorist attack on *USS COLE* starkly defined the need for increased situational awareness (both at home and overseas), enhanced and realistic Anti-Terrorism/Force Protection training, and innovative force structures. Initiatives such as the 4th Marine Expeditionary Brigade (Anti-Terrorism/Force Protection), Navy/Marine Corps Force Protection Working Groups, and specific physical security measures have been established to counter the asymmetric threat of terrorist attacks. The end state of these initiatives is to instill throughout the force a determined and realistic mindset about safety, the environment, and physical security to augment new equipment and methods of security.

Training Readiness Issues

While an increasing amount of training and testing can be accomplished using computer simulations and other technologies, activity at sea and on both training and testing ranges, including in some cases live fire, remains central to continued military readiness. Range use is increasingly impacted by a variety of issues including growing urban sprawl, obligations of environmental stewardship, concerns over noise, and competition for airspace and spectrum use. It is also apparent that as the speed, range, and lethality of weapons systems increase, alternative training techniques will need to be developed. Additionally, we face challenges in training at sea, on and off established ranges, where we are constrained to comply with requirements to protect endangered species and marine mammals. Though we have been successful in protecting endangered species on our ranges, we are being confronted with greater restrictions, tough procedural requirements, and increasing friction in the legal arena, in our attempt to balance national defense and environmental protection. The Department is working to find better ways to carry out its critical national defense mission while still protecting the environment, but legislative or regulatory change may be required to reduce the encroachment that threatens our readiness. At the same time, the Department of the Navy is working to identify alternatives that will provide realistic training independent of any particular range or site.

Current Operations

During Operation Enduring Freedom, carrier-based Navy and Marine aircraft provided the preponderance of combat sorties over Afghanistan while Tomahawk cruise missiles fired from surface ships and submarines initiated the engagement by striking communications and air defense sites. Naval Air Forces provided critical and lethal firepower to enable the early employment of small Special Operations Forces units on the ground. Marines from Navy amphibious ships provided the first large U.S. ground presence in Afghanistan. Navy Seabees provided support from a forward deployed Naval Mobile Construction Battalion which rapidly improved expeditionary runway capabilities, enhanced the conditions of forward operating bases far inland, and established detainee camps. Naval operations and power projection extended far deeper into the heartland than the traditional littoral and our enemies were stunned by the lethality and reach of our forces from the sea deep into their sanctuaries.

In addition to combat operations in Afghanistan, 2001 saw our nation's Naval Forces "on station and on call" worldwide, supporting joint operations and theater engagement efforts, continually ready to respond to the needs of the nation. Sailors and marines from U.S. bases manned a rotational deployment force which included Aircraft Carrier Battle Groups (CVBGs), Amphibious Ready Groups (ARGs), Marine Expeditionary Units (Special Operations Capable) (MEU(SOCs)), strategic deterrence patrols, and maritime patrol aircraft detachments. Additional personnel deployed from our overseas bases.

Continuous worldwide Naval Force presence provides regional stability and is a strong symbol of support for our allies. Naval presence also signals the resolve of the U.S. to those who would threaten our regional interests. We maintained a continuous carrier presence in the Arabian Gulf throughout 2001. Every CVBG deployed to the Arabian Gulf conducted combat operations in support of Operation Southern Watch over Iraq, frequently encountering hostile action and striking numerous targets in response while enforcing "No Fly" zones. In addition to new Arabian Sea surveillance and interdiction tasking to stop the movement of terrorists, Fifth Fleet surface combatants continued Maritime Interdiction Operations (MIO) in support

of United Nations economic sanctions against Iraq for the tenth straight year. Marines participated in training and exercises with allies and friends building foundations of support throughout Southwest Asia while also providing force protection to U.S. embassies and international meetings.

While meeting all missions in Afghanistan, our forward-deployed Naval Forces from bases in Japan, Hawaii, and on the West Coast continued to provide visible overseas presence in Asia. The Navy-Marine Corps team performed humanitarian assistance and other missions in support of the International Force in East Timor (INTERFET). Navy ships operated in the Mediterranean Sea, representing U.S. interests and building mutual understanding and interoperability with allies and friends. Marines deployed in MEUs assigned to the Sixth Fleet operated ashore in Kosovo and served as the Joint Task Force Commander's ready reserve. Marine Fleet Anti-Terrorism Security Teams (FAST) deployed to Cuba, Yemen, Bahrain, and the Republic of the Philippines, providing enhanced force protection to forward deployed forces during high threat periods. Marine elements deployed to several South American countries, participating in riverine and small unit training with host nations. Three Navy ships, manned by over 3,200 sailors and marines, participated in the annual UNITAS deployment to South America, promoting multi-lateral security cooperation and interoperability with our regional partners. Additionally, forward deployed submarines enhanced worldwide situational awareness through Intelligence, Surveillance, and Reconnaissance (ISR) operations in support of national, joint, and service collection requirements. All of these operations enhance the ability of our forces and those of our friends to combat worldwide terrorism and address other threats.

Total Force: One Team One Fight

Navy and Marine Corps Reserves provided more than two million man-days in support of the active force in 2001, including aviation and special operations units that participated in counterdrug operations and major exercises throughout the world. In response to the events of September 11, Reserves also provided Navy and Marine Emergency Preparedness Liaison Officers (NEPLO/MEPLO) in support of the efforts of the Federal Emergency Management Agency. Mobilization of Navy and Marine Corps Reserves for the war on terrorism is ongoing with over 10,000 Navy and

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Marine Reservists activated in support of Operations Noble Eagle and Enduring Freedom, providing critical force protection, intelligence support, and unit augmentation.

Strategy

U.S. military access to overseas bases, a given during the Cold War, may decline in coming years. Lack of immediate land access during the early stages of the war on terrorism highlighted the critical necessity and value of forward deployed Naval Forces. Naval Forces can be on station and engaged when other forces are still negotiating base access and determining how to move forces forward. If and when land-based access decreases, the reliance on Naval Forces by regional CINCs increases. Naval Forces will be an increasingly active participant in Joint SOF efforts and Theater Missile Defense. These, as well as new missions, some emerging even before the war on terrorism, have placed additional demands on Naval Forces.

Ensuring future readiness requires appropriate and sustained investment, even as we remain ready today. Twenty-first century technology offers enormous opportunities to ensure and expand future warfighting capabilities. Seizing these opportunities at a reasonable cost requires efficient organizational alignment, resolution of difficult interoperability and integration problems, systematic innovation using improved business practices, and the steady pursuit of promising scientific and technological initiatives.

Robust experimentation involving operational concepts, systems, platforms, organizations, and tactics is essential to transforming and leveraging our current forces while speeding the integration of new capabilities and new technologies. We are not waiting for the future. We are transforming how we fight today. Extensive use of simulations, modeling, joint test facilities, and actual forces is necessary to maintain our edge and continued command of the seas.

Forward deployed Naval Forces take sovereign presence and credible combat power around the globe, making them ideally suited as an instrument of national power. Through bilateral exercises, personnel

exchanges, routine and regular port visits to other countries, sailors and marines engage our partners, friends, and allies at many levels. We readily share and advocate our national values and ideals with those we seek to influence. Our forward presence provides stimulus to economies throughout the world through port visits and overseas bases while portraying America's industrial might and diversity. Through routine patrols and interactions abroad, Naval Forces gather, process, and disseminate information vital to identifying potential adversaries so they may be confronted as far from the U.S. homeland and interests as possible. Adequate numbers of technologically capable Naval Forces are essential to ensure success.

People

Personnel Readiness

Recruiting, training, and retaining quality people are keys to the continued success of the Naval Services now and will be in the future. We must constantly seek and retain the best and brightest people our country has to offer, create an environment for them to succeed, and provide them with the most advanced equipment and training that technology has to offer. We need to provide robust and realistic training so we can train the way we fight. We owe our sailors and marines nothing less.

The tempo and complexity of operations will continue to test the ability of our sailors and marines to innovate, adapt, and apply their knowledge and experience. We support a career-long emphasis on education, training, and professional development. Continuous learning, including an increased reliance on advanced distance learning systems, is needed to keep our sailors and marines on the cutting edge.

Unit Manning

The manning of our operational units has continued to improve with the number of gapped billets decreasing significantly from the 1990s. A combination of increased retention, more effective recruiting, a reduction in support and headquarters staffs, combined with better utilization of the talents of Reservists, has made more personnel available to the operating

forces. This leveling has helped to reduce the workload on individual Sailors and Marines while improving their quality of life and service.

Marine Corps Recruiting and Retention. The Marine Corps has met or exceeded its accession goals since June 1995 and is confident about meeting its recruiting mission for the next year. Retention was very encouraging in FY 2001. Twenty-six percent of eligible first-term marines reenlisted, enabling the Marine Corps to meet its goal for transition of first-termers into the enlisted career force. Highly successful retention programs such as the Selective Reenlistment Bonus (SRB), Subsequent Term Alignment Plan (STAP), and Aviation Continuation Pay (ACP) are addressing shortages in specialty areas.

Navy Recruiting and Retention. The Navy has met its overall recruiting and end-strength goals since 1998. These results came through a combination of the exceptional efforts of the recruiting force and the additional resources invested last year. The Navy is currently reenlisting nearly 57 percent of eligible sailors who reach the end of their first enlistment, compared with 43 percent in FY 1999.

Reserves. Some 88,000 Navy Reservists and 39,558 Marine Corps Reservists serve the nation today. The effective integration of Reserve and Active Components is indispensable as demands on military forces increase while active force size has stabilized. The Navy Reserve came within two percent of its authorized end strength in FY 2001. The assignment of additional enlisted and officer reserve recruiters in FY 2002 will help to ensure that future recruiting and end strength goals are met. The Marine Corps continues to meet its authorized reserve end strength, although the challenge to recruit company grade officers for service with the Selected Marine Corps Reserve (SMCR) is increasing.

Recapitalization

Material Readiness

Naval Forces continue to routinely deploy and operate ready for immediate combat operations, but we face challenges in maintaining material readiness. Aging equipment and infrastructure along with current policies

and procedures contribute to lower readiness of non-deployed forces. The Navy is examining various maintenance approaches to improve readiness.

Naval aviation, in particular, poses daunting challenges. Our aviation force now contains the oldest mix of type/model/series aircraft in Naval history. For the first time, our average aircraft age exceeds the average age of combatant ships. Age with the high OPTEMPO of combat operations makes it difficult to control operations and maintenance costs.

We have taken aggressive corrective action to address current readiness shortfalls facing our ships and aircraft. Reprogramming nearly $6.5 billion from other Navy programs to the current readiness portion of the Navy baseline program for FY 2003–FY 2007, we have provided further funding for the Flying Hour Program; Ship Depot Maintenance; Ship Operations; and Sustainment, Restoration, and Modernization accounts. The FY 2003 defense budget will positively impact these programs with substantial investments to bring material readiness accounts to required levels.

Sustainment, Restoration, and Modernization (SRM), along with military construction accounts suffered in recent years in order to maintain operations and maintenance accounts for forward-deployed forces. This is being addressed in FY 2002. Navy shore infrastructure recapitalization cycle currently exceeds 130 years due to average funding being significantly below that of private industry. However, the Department is programming resources to recapitalize 80 percent of its infrastructure. This will be accomplished through a combination of innovative ways to satisfy infrastructure needs while making a significant increase in SRM. Within the FYDP, the Navy's shore infrastructure recapitalization rate is driven down to 70 years, en route to achieving the DoD goal of 67 years by FY 2010.

The Marine Corps made significant progress in ensuring its 15 major bases and stations maintain solid training facilities while providing an improved quality of service for marines and their families. While Marine Corps military construction funding is below the level necessary to sustain the DoD goal of a 67-year replacement cycle, the Marine Corps has made great strides in funding to a sustainment requirement.

Naval Force Modernization. The current planned shipbuilding rate, 6.5 ships per year over the FYDP, is well below the eight to ten ship annual rate required to sustain current force levels beyond the FYDP. Naval aircraft inventory is also under-invested. Based on earlier studies, maintaining our aircraft inventory could require 180 to 210 new aircraft each year in the FYDP and beyond, which is in sharp contrast to our current build rate of 90 aircraft per year. As we balance our investment priorities, shipbuilding and aircraft replacement rates will receive continued scrutiny by the leadership of the Department to ensure the appropriate trade offs between the four categories of risk outlined in the 2001 Quadrennial Defense Review.

The Marine Corps requires an increased investment sustained for the next eight to ten years in order to achieve its vision and deliver a Marine Corps which, in partnership with the U.S. Navy, will be capable of defending America's global national security interests in the 21st century. Such a sustained increase in investment would allow the Marine Corps to address warfighting readiness requirements, to accelerate the pace of transformation and ground force modernization, and to recapitalize our infrastructure.

Efficiencies and Innovation

Acquisition Improvement and Business Practices

The Department of the Navy is committed to simplifying the acquisition system, streamlining the bureaucratic decision making process, and promoting innovation. However, the Department needs to aggressively implement acquisition reforms to shorten cycle times, leverage commercial products and capabilities, optimize Human Systems Integration, and improve the quality of equipment being provided to our warfighters. We also need to continue to improve the internal business practices of our Department. By improving these practices, we will be able to shift more dollars into combat capability and quality of service.

Innovation and Transformation

Task organized and capabilities based, Naval Forces are transforming today to meet the dynamic operational requirements of the war on terrorism. Not

limited to new hardware and technological innovation alone, naval forces are transforming their capabilities through operational innovation. Vital to this effort is the overarching concept of Network Centric Warfare. The transformation of our platforms to a netted force provides a capabilities multiplier to our operations not previously achieved. Additionally, Network Centric Warfare enables innovation and transformation through open architectures permitting rapid acceptance of both software and modular hardware to accommodate evolving technologies. Focusing on innovative tactics and training methods, as well as integrating new technologies and improved platforms is what transforms the total force on a continuing basis.

The Navy and the Marine Corps strongly support U.S. Joint Forces Command's (USJFCOM's) joint experimentation initiatives and are working to ensure service experimentation efforts are complementary. Further, we have ongoing initiatives to translate the concepts of Network Centric Warfare and Marine Corps' Expeditionary Maneuver Warfare into an overarching Naval Operational Concept (NOC). The NOC and its associated architecture will clearly define how the Naval Forces of the United States will be equipped, trained, educated, organized, and employed both today and in the future. These collaborative efforts within DON will ensure the development of compatible and complementary doctrine and operational concepts that stay ahead of emerging threats.

Conclusion

Today, the forces of the Navy and Marine Corps team remain forward deployed and are protecting America's strategic interests as an essential part of the joint force. We are the finest naval force in the world. While we face the challenges of recruiting and retaining the best people, maintaining adequate force structure, recapitalizing an aging infrastructure, and fighting both symmetrical and asymmetrical threats, we are clear of purpose, focused on the future, and confident in our capabilities. By successfully meeting the challenges outlined above, we will remain ready to assure allies and friends, deter potential adversaries, and defeat enemies while providing the President and the Secretary of Defense the most flexible instrument of military capability.

REPORT OF THE
SECRETARY OF THE AIR FORCE

Introduction

In 2001, the United States Air Force accelerated its transformation into a global reconnaissance and strike force for the 21st century, while meeting the current operational requirements of our nation's joint warfighting commanders. From precise, long-range strikes and humanitarian missions in Afghanistan, to persistent surveillance over the skies of Iraq and the Balkans, to contributing to homeland security, we are answering the nation's call for action. From building tomorrow's integrated situational awareness capabilities and strike systems, to serving as a focal point for national security in space, America's airmen are part of the team that will ensure our citizens can enjoy freedom forever.

Meeting Current and Future Challenges

Our immediate goals include modernizing our air and space forces to enhance joint operations and our ability to monitor global activities. We are placing special emphasis on providing Intelligence, Surveillance, and Reconnaissance (ISR) to joint operations in critical regions of the world. Additionally, we are pursuing the horizontal integration of manned, unmanned, and space platforms to reduce the find, fix, track, target, engage, and assess decision cycle. The Air Force has already begun to achieve synergistic effects by applying current technologies in innovative ways, such as arming the Predator unmanned aerial vehicle (UAV) with Hellfire air-to-ground missiles, placing streaming video from the Predator aboard gunships, and linking soldiers on the ground with strike systems in the air. We are developing capabilities-based Concepts of Operations (CONOPS) with lessons learned and new ways of contributing toward joint warfare.

Although the Air Force is well established on a strategic path toward transformation, significant challenges remain. Operations and maintenance of aging systems and quality of life and work initiatives for our people compete with modernization requirements of a world-class air and space

force. These costs are compounded by unprecedented operational demands for air and space forces. Still, the Air Force remains committed to meeting President Bush's mandate to renew and rebuild our warfighting concepts, organizational constructs, and a force structure based on a strategic posture configured for this era. In this changed security environment, the Air Force is focused on contributing the world's most capable air and space forces to the joint warfighting commanders and posturing these forces to meet future national security challenges.

Current Operations

In 2001, the Air Force supported a multitude of joint operations around the world. We executed military operations across the entire spectrum of our capabilities—from humanitarian relief missions, to major contingency operations, to the war on terrorism. Currently, USAF operations have been dominated by our nation's response to the events of September 11. The Air Force was among the first to respond, launching interceptors and tankers from across the United States within minutes of the attacks. This vigilance has continued ever since in the form of Operation Noble Eagle. Air Force assets established the air bridge into the Afghanistan Theater of operations, providing rapid global reach and power to Central Command's commander. On October 7, the U.S. military carried out the President's orders and initiated Operation Enduring Freedom. This operation includes long-range strike assets from the continental United States and forward deployed forces; robust Command, Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) missions; and targeting and tanker support to Air Force, Naval, Special Operations Forces (SOF) and Coalition Forces. As of December 2001, over 20,000 Air Force personnel deployed to Southwest Asia have flown almost half of the 10,000 combat, tanker, airlift, special operations, command and control, and ISR sorties. Finally, in support of Operation Enduring Freedom, the Air Force applied new technologies to the battlefield by deploying the Global Hawk UAV to the theater to increase battlefield situation awareness.

These new operational requirements did not take place in a vacuum. Throughout 2001, the Air Force met its global deterrence and operational commitments to the nation and its allies. The Air Force contributed to deterrence by maintaining two legs of the nuclear triad with our bombers

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and intercontinental ballistic missiles. The Air Force participated in joint operations in the skies over Iraq in Operations Northern and Southern Watch, flying over 14,000 combat sorties without the loss of any manned aircraft. In the Balkans, the Air Force flew approximately 1,000 sorties enforcing no-fly zones mandated by the United Nations. In Korea, almost 8,000 airmen are standing alert on the most militarized border in the world. Additionally, the Air Force supported numerous humanitarian relief operations throughout the world including earthquake relief to India, fire-fighting air operations in Idaho and California, and the delivery of over two million daily rations to Afghanistan. Finally, the Air Force flew over 750 counterdrug sorties in the Caribbean and South America, contributing to the seizure of over 75,000 kilos of illegal drugs.

With regard to space, the Air Force began realizing one of the operational goals of the Quadrennial Defense Review—enhancing the capability and survivability of space systems. For the first time, the Air Force integrated a potential adversary's space capabilities into wargaming exercises, ensuring our personnel are prepared to react to attacks on our space-related infrastructure. In addition, the Air Force launched several payloads into space to enhance precision location and navigation, reliable and secure communications, and global surveillance and warning capabilities. Space systems are now integrated into virtually every aspect of our military operations and are essential to our success, whether in peace or armed conflict.

Air Force operations tempo in 2001 demonstrated the results of our commitment to readiness, training, and the development of an Expeditionary Air and Space Force after years of declining defense spending. Sustaining these wide-ranging missions around the clock and around the globe, however, does carry a price. These unprecedented, and in some cases unanticipated, demands for air and space assets are increasing the cost of operations, maintenance, and personnel programs, and are accelerating our recapitalization requirements. Compounding these challenges is the "procurement holiday" of the 1990s and the associated deep cuts in personnel. We have a force that has reduced its force structure by nearly 40 percent from Cold War levels, while increasing deployments, supporting excess infrastructure, and conducting combat operations with weapons systems reaching the end of their life cycle. Overall readiness has

declined 29 percent since September 1996, bottoming out at 65 percent in February 2001.

Strategy

The 2001 QDR established the Defense Department's vision of the future including a new defense strategy based on honing strategic capabilities in an uncertain world. The Expeditionary Air and Space Force (EAF) concept provides the structure to further exploit emerging capabilities. The Air Force is molding itself around this new defense strategy as reflected in current and emerging capabilities. During Operation Enduring Freedom, for example, long-range strike platforms, aided by air and space reconnaissance assets in concert with Special Forces and intelligence operations, struck at the heart of the Taliban and al Qaeda network, diminishing its ability to conduct terrorist attacks around the globe. One of our nation's greatest advantages is our ability to strike targets precisely and from great distances. Still, the real advantage of long-range strike derives not simply from destroying targets from the air, but from leveraging the capabilities of friendly forces on the ground. Interoperability between joint forces deployed across the globe is absolutely essential.

Our transformational efforts also include the horizontal integration of C2ISR systems to provide essential leverage from different platforms. For example, in Afghanistan, we have linked various platforms such as Global Hawk, Predator, RC-135, U-2 reconnaissance aircraft, E-8C Joint Stars radar aircraft, and space assets to share information and guide each other to uncovered areas or focus on specific targets. We are also placing special emphasis on providing robust Intelligence, Surveillance, and Reconnaissance (ISR) to joint operations in critical regions of the world. For example, the Air Force deployed the Global Hawk UAV in support of Operation Enduring Freedom, demonstrating our capability to deploy the latest technology to the battlefield.

In the future, our new fighter aircraft will enhance our asymmetric technological advantages. The F-22's attributes of stealth and super-cruise will allow it to penetrate and "kick down the door" of an adversary's anti-access capabilities, enabling follow-on joint forces to operate with relative freedom. The F-22 also expands our overall precision strike capability by

further enhancing legacy stealth systems, such as the B-2 and F-117, enabling them to conduct daylight strike operations. The Joint Strike Fighter (JSF), with its combination of stealth, large internal payload, and multi-spectral avionics will provide, for the first time, persistent battlefield stealth. F-22 and JSF technological advances will enable around-the-clock employment of stealth to meet emerging threats.

The Air Force is also modernizing its space forces to further enhance joint operations and its ability to monitor global activities. As the designated Executive Agent for Space within the Department of Defense, the Air Force, in conjunction with the other Services and appropriate Agencies, is in the process of implementing numerous actions to establish a new and comprehensive approach to national security space management and organization. The Air Force will establish Air Force Space Command as a separate, four-star command. Also, the recent realignment of the Space and Missile Systems Center from Air Force Material Command to Air Force Space Command and its lead in the development of the National Security Space Plan further demonstrates the Air Force's commitment to space. This plan will provide, for the first time, a comprehensive document that links both Department of Defense and Intelligence Community space-related requirements to current and planned budgets allowing for the detailed projection of future space capabilities.

Air Force current and emerging capabilities are essential to meet the new defense strategy established by the QDR and its six critical operational goals designed to focus the Department of Defense's transformational efforts. The Air and Space Expeditionary Force provides the organizational construct to manage resources to meet the myriad global demands. Still, the transformation efforts of the Air Force rely on a marriage of people and technology. Recruiting and retaining the right number and mix of people to develop the ideas that leverage technology into capabilities are essential to the future success of the Air Force.

People

A high-technology Air Force cannot operate without outstanding people and supportive families; the leadership of this service has no higher priority. The events of 2001, especially since September 11, have placed

high demands on our Total Force—Active, Reserve Component (Air Force Reserve and Air National Guard) and civilians. Prior to September 11, an average of 11,400 Air Force personnel was deployed worldwide. Another 73,000 were assigned overseas. Since September 11, the Air Force mobilized over 20,000 Reserve Component personnel and has over 30,000 personnel deployed worldwide. In conjunction with these call-ups, we implemented STOP LOSS to prevent separations and retirements until steady-state requirements can be determined. The new homeland defense mission and the requirements of fighting a new kind of war require us to take these prudent measures to preserve combat capability.

The Air Force missed its programmed end strength for the third consecutive year despite having achieved 102 percent of its enlisted recruiting and 105 percent of its officer accessions goals. Although the Air Force exceeded its enlisted recruiting goal for FY 2001, challenges remain in hard-to-fill critical skill areas. In addition to using enlisted and officer accession bonuses to attract people into critical skills, the Air Force increased the number of recruiters from 985 in FY 1999 to 1,477 at the end of FY 2001, increased its media and advertising budget, and allowed 1,155 prior service members to return. Despite steady progress in officer accessions, the Air Force was unable to recruit enough officer candidates with degrees in science and engineering disciplines. A number of initiatives are addressing this challenge, including new Reserve Officer Training Corps (ROTC) scholarship opportunities.

In order to meet operational demands, the most critical long-term personnel challenge for the Air Force remains retaining highly trained and skilled people. While we have been successful in meeting our enlistment goals, we have been less successful in retaining officers and airmen. The Air Force is pursuing a "re-recruiting" campaign, designed to retain officers in critical specialties. Recruiting and retention challenges are not limited to the uniformed members of the Air Force. Within the next five years, approximately 40 percent of the Air Force's civilian work force will be eligible for optional or early retirement. In order to mitigate this potential problem, the Air Force is pursuing hiring and force management flexibilities.

The USAF is a retention force, known for attracting and retaining the very best individuals to serve, both civilian and military, and then taking care of them and their families. Quality of Life issues remain a focal point for us, so we persistently seek increased funding for dorms, family housing improvement, housing privatization, transient lodging facilities, and fitness centers. Additional Quality of Life initiatives include reducing out-of-pocket living expenses for housing, improving DoD dependent schools, affordable child care, and improving spouse employment and educational opportunities. Our initiatives demonstrate our commitment to attract and retain quality people.

Further, the Air Force is pursuing leadership development and career mentoring strategies. These strategies are designed to develop all military and civilian leaders who understand the full spectrum of air and space operations. The Air Force is examining more deliberate, broadened career development based on institutional versus functional requirements to prepare our Total Force for leadership into the 21st century. It is also examining potential changes to the professional development of officers, including the rationalization of advanced degrees and professional military education. Force readiness, sustainability, and mission performance all depend on selecting, training, and retaining the best individuals with the necessary skills, as well as motivating every member of the service and taking care of Air Force families.

Recapitalization

The Air Force is firmly committed to improving the air and space capabilities we provide to joint warfighters and embracing the transformational goals of the 2001 QDR. We are pursuing the necessary investments needed to sharpen the "teeth" of our long-range strike, ISR, mobility, UAV, and space assets. We are making critical investments to improve the capability of our current weapon systems, and, at the same time, bringing new capabilities to the fight. The Air Force is solidly on the path of modernizing our aging aircraft fleet and addressing our deteriorating infrastructure.

Today, the average age of our aircraft fleet is 22 years old. Without additional investments in modernization beyond what is currently

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programmed, by FY 2020, the average age will still increase to nearly 30 years. This would translate to 60-year-old tankers, 47-year-old ISR platforms, and 44-year-old bombers. Aging aircraft are fraught with increasing operational and maintenance costs and decreased readiness.

The Air Force has a comprehensive plan to modernize current aircraft weapon systems. This plan includes replacing our fighter aircraft with F-22s and Joint Strike Fighters, although our legacy systems such as F-15s, F-16s, and A-10s reach the end of their service life before these replacement systems are fully fielded. Our C-17 procurements are bringing revolutionary strategic airlift capabilities to our warfighter and we are pursuing a two-phased modernization approach for the C-5 aircraft to boost its mission capable rates. Further, the Air Force's Boeing 707-based fleet of tankers and C2ISR platforms require replacement to meet future commitments. Additionally, the Air Force is examining the potential of transforming single-mission platforms into multi-mission platforms. For example, our plan to replace our aging fleet of Boeing 707-based aircraft includes examining the innovative possibility of placing additional sensors or data links on future "smart" tankers. In addition to these potential capabilities, the Air Force will pursue investments in space as well.

Modernization of our missile warning system is under way via Space-Based Infrared System (SBIRS). Preparation for the first launch of our new Evolved Expendable Launch Vehicle (EELV) in CY 2002 is on track, ensuring our nation has assured, reliable, and cost-effective access to space well into the 21st century. Progress is also being made in the area of Space Surveillance and Control with the multi-year Space Surveillance Network recapitalization effort that will incorporate space-based surveillance and situation awareness systems into the network's capabilities.

Finally, in order to support aging weapons systems, we have developed select high-priority avionics, engine, and structural modernization programs to extend weapon systems' service lives. Continued recapitalization of these systems is essential to ensure that the Air Force will be ready to meet all future national security challenges. In FY 2001, Congress funded $570 million towards our spare parts shortage. The Air Force Flying Hour Program was fully funded at $525 million, as well as an additional $45 million in Readiness Spares Package. Even given these improvements, the

Air Force must still defer restoration and modernization of infrastructure with only the most urgent requirements addressed, leaving important projects postponed into the future.

Efficiencies and Innovation

The Air Force is embracing efficiency and innovation across the full spectrum of our operations. Efficiencies and innovation will liberate wasted resources and increase the effectiveness of our air and space capabilities. The future of the Air Force depends on a robust, vibrant defense industrial base. The Air Force has begun a concerted process to find ways to provide incentives and motivate defense contractors, large and small, to become more competitive, efficient, innovative, and take full advantage of the fast-paced technological and business-process changes in today's information-dominated economy.

The Air Force is also committed to acquisition excellence and to improve its ability to deliver capabilities faster and smarter. Savings achieved through acquisition excellence can be reinvested into warfighting capabilities. Cycle-reduction, contractor incentive programs, using commercial practices, and reducing the modification management process are just a few examples of ways in which we can streamline processes. Well-trained, highly skilled individuals equipped with the best capabilities from technology and industry can harness the economic and technological advantages of this era in order to preserve U.S. influence and leadership around the globe.

In addition, innovative changes can be found in our approach to implementing the intent of the Space Commission. The Air Force is developing the National Security Space Plan, as well as leading the effort to conduct the first National Security Space Program Assessment. Further, the Air Force and the National Reconnaissance Office, identified numerous "best practices" associated with the integration of space acquisition and operations processes. These "best practices" will increase the efficiency and effectiveness of space-related activities and facilitate the further integration of black and white space.

In FY 2001, the Air Force made great progress toward drafting an innovative and unprecedented long-range depot strategy ensuring support to the warfighter by providing critical maintenance and depot capabilities for our weapon systems. Furthermore, the Air Force is committed to developing additional, innovative concepts in warfighting operations. We have demonstrated our commitment by accelerating the deployment of Global Hawk, while still in the test phase, to support Operation Enduring Freedom. We continue to search for innovative ways to employ weapons systems such as arming the Predator with an attack capability. The Air Force continues to push the CONOPS envelope by pursuing conventional air power cooperation with SOF forces. We remain committed to becoming a more efficient and innovative military organization.

Conclusion

The Air Force is committed to realizing the full potential of organizational changes, new concepts of operations, and next generation technologies to provide preeminent air and space power to the joint warfighting commanders. We are in the midst of several years of Air Force transformation, but savings realized from efficiency improvements and good business practices alone are insufficient to fund further transformation. Balancing today's unprecedented demand for air and space forces against the need to continually transform will require a significant investment commitment to meet the goals of the 2001 Quadrennial Defense Review.

SECRETARY'S INTRODUCTION TO THE REPORT OF THE RESERVE FORCES POLICY BOARD

The Reserve Component played an important role in the Department's response to the attack on the United States on September 11, 2001. Tens of thousands of Reserve Component service members mobilized in support of operations Noble Eagle and Enduring Freedom.

The principal observations during the global war on terror regarding the Reserve Component and its contributions to the total force include:

- As we mobilize more Reserve Component service members and units to meet new requirements, there is increased impact on the readiness of units to execute their primary war fighting missions.

- DoD and its Reserve component forces must not be a manpower pool for other federal and state agencies that desire our commitment to perform duties that are not inherently military.

- While the armed forces, of course, stand ready to respond to those domestic emergencies where support to civil authorities on a temporary basis is deemed absolutely essential, they must maintain their war fighting focus.

To more fully understand these issues, it is helpful to review some of the important elements in more detail. On January 1, 2002, for example, there were 78,471 RC members participating in Noble Eagle/Enduring Freedom, 9 percent of the Selected Reserve.

- 54,502 were called under Section 12302(a), Title 10, United States Code. The major missions performed by these service members include: force protection, logistical, medical, and intelligence support; combat air patrols, air refueling operations, and staff augmentation.

- 12,765 were on duty under other authorities (annual training, active duty for training, and active duty special work) supporting Noble Eagle and Enduring Freedom. These personnel were generally considered volunteers. They were performing a wide variety of missions both domestically and overseas.

- 9,040 National Guardsmen were on duty manning the airport security mission. These soldiers and airmen were called under Title 32, United States Code, Section 502(f), paid for by the federal government but not on federal duty. These forces were replaced by May 31, 2002, as the Secretary of Transportation, under the aegis of the Transportation Security Administration, reached agreement with local law enforcement jurisdictions to provide alternatives.

The draw on Active and Reserve Component forces was intensified by the additional security deemed necessary to support a number of events since September 11. Examples and approximate numbers include:

- Olympic Support: 4,600 (Originally planned at 1,700 prior to September 11.)
- Border Security: 1,600 Personnel
- Special Events: 1,150 Personnel (Super Bowl; UN General Assembly; World Economic Forum.)

Additionally, the Reserve Component has been increasingly engaged since December 1995 in Operation Joint Forge in Bosnia, Operation Joint Guardian in Kosovo, and Operation Southern Watch in Southwest Asia. On January 1, 2002, there were a total of 4,265 Reserve Component members serving in these three theaters and a total of 38,725 had been called for service in these theaters under this authority. Reserve Component units have commanded our ground force contributions to Operation Joint Forge in Bosnia. The Air Reserve Component is factored into normal Air Force rotation for Operation Northern Watch, an all-volunteer operation, and is contributing fighter deployment, air refueling, and tactical airlift support.

These figures do not include additional requirements within the Department of Defense due to enhanced force protection and increased tempo of operations. To help meet these requirements, the Department also initiated

stop-loss orders that impacted some 22,000 service men and women of both the Reserve and Active components.

REPORT OF THE CHAIRMAN OF THE RESERVE FORCES POLICY BOARD

Introduction

The Reserve Forces Policy Board, as the principal independent policy adviser to the Secretary of Defense for Reserve Component issues, is pleased to summarize our major activities, observations and recommendations for the 2002 Annual Defense Report.

The value and credibility of the Board rests in its civilian and military composition and the diversity of experience among its 24 members. The Board considers issues and initiatives concerning the National Guard and Reserve Components and provides timely and relevant policy advice to the Secretary of Defense and other DoD leaders. Board positions reflect a studied consideration of the needs of the services and the seven Reserve Components, and are intended to support and enhance a fully integrated Total Force and National Military Strategy.

History and Legal Basis of the Reserve Forces Policy Board

President Harry S. Truman planted the seed for what is now the Reserve Forces Policy Board (RFPB) when in 1947 he directed Secretary of Defense James Forrestal to begin a study of ways to strengthen the nation's reserve forces. This study grew into the Civilian Components Policy Board (CCPB) in 1949. The CCPB was renamed the Reserve Forces Policy Board by Secretary of Defense George Marshall, and its existence was codified by Congress in 1952.

Title 10, Section 10301, of the US Code states that the Reserve Forces Policy Board is the principal policy advisor on matters relating to the Reserve Components. Section 113 requires the Secretary of Defense to transmit to the President and the Congress a separate report from the Reserve Forces Policy Board covering Reserve Component programs and on any other matters the Board considers appropriate. Department of Defense Directive 5120.2 names the Board as an independent source of counsel concerning the Reserve Components.

Over the years, board membership has evolved to meet the needs of the Total Force. It is now made up of 24 members, including a civilian chairman appointed by the Secretary of Defense; the Assistant Secretaries of the Army, Navy and Air Force responsible for Reserve Components; a regular officer from each of the three Military Departments; the Director of the Joint Staff; a general officer from the active Marine Corps; two officers from each of the six Department of Defense Reserve Components plus two regular or Reserve officers of the Coast Guard; and a Reserve general or flag officer who serves without vote as the Military Executive to the Chairman and the Board.

The mission of the Reserve Forces Policy Board is to examine multi-service policy issues affecting the Reserve Components and/or their members as referred by the Secretary of Defense, other DoD officials, the Chairman, or any member of the Board. The Board also reviews recommendations referred to it by the various reserve policy committees and boards of the Military Departments and the Coast Guard.

Meeting Current and Future Challenges

Homeland Security

The Board was concerned with Reserve Component participation in the Homeland Security (HLS) mission long before the events of September 11. In early 2001, the Chairman of the Reserve Forces Policy Board formed an ad hoc committee of board members and advisers from outside the Board and charged them to examine all aspects of Reserve Component participation in the HLS mission. The ad hoc committee met three times before September 11, taking briefings from subject matter experts from DoD and other agencies. The Board's position at the time of the attack on the Pentagon and the World Trade Center Towers was that the HLS mission should not be assigned solely to any one Reserve Component, because this would be impractical and would limit the integration and interoperability of the Total Force. However, because of its scope, the Board held that the Guard and Reserve must be fully integrated into this important mission and that HLS should be elevated to the top of DoD's mission list, a position supported by the Under Secretary of Defense for Personnel and Readiness,

who, early on the morning of September 11, briefed the Board and alumni that Homeland Security had become the number one mission of the Department of Defense. Nearly three months later at a follow-up meeting, the Guard and Reserve directors and chiefs reinforced the Board's earlier position on Homeland Security and outlined their components' greatly expanded participation in the mission and contributions to national security since September 11.

Quadrennial Defense Review

In light of the new defense strategy and force planning construct developed during the QDR, Secretary of Defense Rumsfeld directed a comprehensive review of the Active and Reserve Component mix organization priority missions and associated resources. The Principal Deputy Assistant Secretary of Defense for Reserve Affairs invited the Board to provide its collective expertise to the effort and to help develop the study. As the Secretary's independent advisor on issues affecting Guard and Reserve Components, the Reserve Forces Policy Board anticipates participating in the process and reviewing and commenting on the final product.

Current Issues

The Reserve Forces Policy Board maintains a list of standing issues it monitors continually. Of the four most active in 2001, two are recurring and two reemerged in importance.

People and Health Care

For the first time in the history of the Reserve Forces Policy Board, Reserve Component directors and chiefs unanimously told the Board that they consider healthcare issues to be the number one obstacle to seamless integration. Traditionally, Guard and Reserve personnel receive medical care or treatment only while in drill status or on orders, but their families do not unless the sponsor is ordered to duty for more than 30 days. As medical costs rise, health insurance and healthcare benefits take on greater importance. Military healthcare benefits for reservists and their families are now eligible for TRICARE for life health benefits. Additionally, under FY 2002 National Defense Authorization Act, activated reservists who are

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employed by the federal government can opt to continue their Federal Employee Health Benefit for themselves and their families. A number of private sector employees and state governments now provide similar healthcare options.

However, some civilian employers may choose to disenroll reservist-employees from their healthcare plans after about two weeks of active duty, effectively canceling their civilian health insurance when reservists are called up for extended periods. In the past, these reservists and their families often endured a thirty-day waiting period after they returned to work before they could re-enroll in a company healthcare plan. The TRICARE transitional healthcare benefit now fills this gap by providing coverage until the civilian plan takes effect.

Recapitalization and Modernization

Modernization of Reserve Component equipment is another perennial Board issue. The key to a viable and fully integrated Total Force is complete interoperability. This is not possible if Guard and Reserve units do not modernize concurrently with their active duty counterparts. Technology is expensive and many interoperability issues these days are the result of Reserve Component units being equipped with hardware that is older or less capable than that used by the active force. This hand-me-down ideology is a remnant of a Cold War strategy that relied on the Guard and Reserve to be a force in reserve rather than an active participant in the National Military Strategy. Today we find Guard and Reserve units forward deployed overseas for long periods of time, often in combat and either intermixed with active units or replacing them altogether. If the equipment these units bring with them is not interoperable with that used by the active force or by other reserve units, their effectiveness declines rapidly and they become limited in the missions they can be assigned. These are missions Reserve Component units could otherwise readily accomplish were it not for the limitations imposed by their equipment. While the services have made an effort to incorporate Guard and Reserve requirements into their procurement requests, low priorities hamper funding for upgrades and improvements in reserve-owned equipment.

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The National Guard and Reserve Equipment Account (NGREA) helped the Reserve Components meet their modernization needs for nearly a decade. NGREA funding has declined steadily in recent years after DoD reiterated that each of the Services is responsible for funding the equipment needs of its Reserve Component. Declining budgets made the tenets of this directive impractical, and modernization within the Reserve Components has lagged. Although it appears there will be a significant increase in NGREA in FY 2002, the Board continues to monitor closely the status of the NGREA account. The Board voted in May 2001 to work to influence directly Reserve Component modernization efforts, particularly in how they are affected by NGREA funding. On a similar note, while it may be fiscally difficult to fund 100 percent of the modernization requirements for all services, the Board has noted that maintaining so-called legacy equipment, a term used to describe equipment approaching obsolescence, is expensive as well. Since this equipment usually is no longer supported by the active forces, repair parts are expensive and become difficult to procure. The services no longer provide technical schools to train the Guard and Reserve personnel who will use it, forcing the Reserve Components to develop and fund this training themselves. Additionally, Reserve Component personnel who are qualified on legacy equipment cannot be assigned to Active Component units with more modern equipment without undergoing additional expensive and time consuming training.

Efficiencies and Innovation

In the aftermath of the mobilization for Operations Noble Eagle and Enduring Freedom, the Board agreed that the mobilization process needs to be reviewed because many of the lessons learned from Operation Desert Storm have been forgotten or no longer apply.

Full Time Support. Full time support has long been an issue for the RFPB. Some of the Reserve Components provide more attention to this issue than others. Senior Reserve Component leaders agree that the amount of full-time support personnel available to any given Reserve Component unit directly affects that unit's readiness, recruiting, and retention. More full time support equals higher readiness ratings. In most cases, the components have significantly more validated requirements than are authorized or funded by their services. The standing position of the Board on this issue is

that Reserve Component full time support end strength should be authorized and funded to meet the mission requirements of each component.

Common Access Card. In an effort to modernize and streamline the mobilization process, the Secretary of Defense directed the RFPB in 1996 to assist in developing a so-called "smart card" that would reduce both the time and the administrative paperwork necessary to mobilize and deploy Guard and Reserve personnel. These cards, now called the Common Access Card, were issued to all services in large numbers for the first time in 2001. However, the Board holds that the current card does not meet the joint warfighting requirements initially outlined by the gaining Commanders-in-Chief. Very little of the personal, medical, and military information the CINCs asked for is stored in the current card. Most of its capacity is devoted to providing secure universal access to DoD buildings, facilities, and information systems. The Board does not accept as cost or mission effective the current policy to issue a new card to Guard and Reserve personnel each time they change duty status, and it will continue its efforts in the coming year to return the focus of this important tool to mobilization rather than access.

Family Readiness. Active duty military planners often to do not realize that many Guard and Reserve families do not live close to a major active military installation and are not immersed in daily military life. Often, spouses of mobilized and deployed Guard and Reserve personnel are not familiar with the privileges, benefits, and responsibilities associated with active duty. Many live at some distance from major installations and cannot easily attend classes or briefings. At least one Reserve Component chief advocated Board involvement in changing the Joint Travel Regulation to allow Guard and Reserve unit commanders the leeway to use official funds or assets to transport spouses and families of mobilized personnel to the unit for important briefings and to accomplish necessary administrative actions, such as issuing new identification cards.

Timely Orders and Pay. It is usually the rule rather than the exception that Guard and Reserve personnel receive their orders less than thirty days before deployment. This makes planning and timely employer notification difficult at a time when employers deserve as much predictability as

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possible. Timely pay for mobilized and deployed reservists continues to be a concern for the Board.

Board Activities

Studies and Symposia

The Reserve Forces Policy Board routinely sponsors and conducts studies and symposia in order to glean information and explore issues that impact the Reserve Components. Most recently, the Board completed a study to determine how the Total Force Policy fits within the new national security environment and to identify changes necessary to meet emerging future requirements. Although the basic tenets of the Total Force Policy have remained largely unchanged since the end of the Cold War, there has been a fundamental shift in the way in which the Total Force is utilized. Reserve forces have a greater role in contingency operations, a greater overseas presence, and were heavily involved in Homeland Security operations even before September 11. None of this was envisioned for the Total Force in 1973. The report includes academic research, interviews with subject matter experts, and a workshop involving senior leaders. It was completed late in 2001 and recommended a number of steps to increase the effectiveness of the Total Force across a spectrum of activities necessary to meet the demands of the 21st century.

Identified as a barrier to total integration of reserve forces into the Total Force, a lack of knowledge and understanding of the Reserve Components was the catalyst behind a Total Force education summit tasked to the Board by the Secretary of Defense in 1999. The Board conducted a DoD education summit at the Army War College later that year, resulting in a landmark Secretary of Defense memo on the Total Force Education Policy. In it, the Secretary states that more effective education is the key to integration, efficiency, and understanding, and called on the Services to enact measures to create a proper environment for educating all members on the Total Force. As of the end of CY 2001, attempts by the Services to comply with the Secretary's memorandum have fallen dormant.

Board Visits to Field Units

In an effort to stay abreast of the needs of the Commanders-in-Chief of the various unified and combatant commands, Board members visit several CINCs each year on a rotating basis. Several members of the Board visited U.S. Space Command in March 2001 and U.S. Transportation Command in July 2001. The Military Executive to the Chairman represented the Board at Bright Star in Egypt in October 2001 and several staff members traveled separately to various bases, posts, armories, and other locations to collect unit-specific or locally focused information. In all cases, findings were reported to the Board and evaluated for possible Board action.

CINCs and other senior leaders readily admit that they do not have the numbers of Guard and Reserve personnel working for them that they would like or can put to use. They say that they prefer to have direct, unlimited access to Reserve Component personnel and would maximize their use if the funding were available. Senior leaders told the Board that they have become very dependent upon Reserve Component manpower and that they have many times more requirements for Guard and Reserve personnel than they have resources to cover.

Board Meetings

The Reserve Forces Policy Board meets four times a year. In 2001, the Board met in the Washington, DC, area to conduct business in February, May, September, and November. The yearly Alumni and Board meeting scheduled for September 11 was canceled shortly after the attack on the Pentagon.

Conclusion

Just over a decade ago, the Guard and Reserve forces of the United States found them participating in Operation Desert Storm at levels not much greater than those experienced today. In fact, high operational and personnel tempo have been common throughout the Reserve Component for a number of years. It is obvious that the men and women of the Guard and Reserve want to serve—the Board found recently that recruiting and

retention have remained fairly constant across the services. In fact, the Air Force Reserve executed 101 percent of its end strength in 2001, as well as meeting its recruiting goals for the first time in a long time. Members of the Guard and Reserve also strongly support a fully integrated Total Force. People who are working hard at what they were trained to do always have the highest morale. The men and women of the Guard and Reserve volunteered to serve their country and stand ready to do it. Leaders often tell the Board that their Guard and Reserve people can do anything and are among the best they have. The Reserve Forces Policy Board wholeheartedly supports seamless integration in the Total Force, and in the coming years will continue its role as the independent policy advisor on Reserve Component matters.

APPENDIX A
BUDGET TABLES

							Table A-1	
Department of Defense—Budget Authority by Appropriation[1][2][3][4] (Dollars in millions)								
	FY 1985	FY 1990	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Current Dollars								
Military Personnel	67,773	78,876	69,821	70,650	73,838	76,888	81,997	94,296
O&M	77,803	88,309	97,215	104,992	108,776	115,758	127,668	150,444
Procurement	96,842	81,376	44,818	51,112	54,973	62,607	61,120	68,710
RDT&E[5]	31,327	36,459	37,089	38,290	38,706	41,594	48,409	53,857
Military Construction	5,517	5,130	5,466	5,405	5,106	5,423	6,555	4,767
Family Housing	2,890	3,143	3,828	3,592	3,543	3,683	4,050	4,220
Defense-wide Contingency	9							
Revolving & Management Funds	5,088	566	2,591	5,381	7,314	5,333	1,581	3,122
Trust & Receipts	-426	-832	-2,115	-694	-1,606	-1,262	-1,383	-673
Deduct, Intragovernment Receipt	-21	-27	-130	-133	-115	-76	-118	-119
Total, Current Dollars	**286,802**	**292,999**	**258,583**	**278,595**	**290,534**	**309,948**	**329,878**	**378,624**
Constant FY 2003 Dollars								
Military Personnel	123,364	123,624	84,721	83,196	83,218	83,919	84,790	94,296
O&M	126,827	123,188	110,484	116,663	118,479	121,259	130,241	150,444
Procurement	143,958	101,768	48,470	54,523	57,702	64,656	62,129	68,710
RDT&E	47,757	46,693	40,304	41,120	40,802	43,014	49,172	53,857
Military Construction	8,420	6,521	5,970	5,810	5,391	5,623	6,672	4,767
Family Housing	4,311	4,003	4,130	3,831	3,725	3,797	4,110	4,220
Defense-wide Contingency	13							
Revolving & Management Funds	7,692	725	2,895	5,724	7,671	5,495	1,602	3,122
Trust & Receipts	-644	-1,066	-2,267	-738	-1,685	-1,300	-1,401	-673
Deduct, Intragovernment Receipt	-31	-34	-139	-142	-121	-78	-120	-119
Total, Constant Dollars	**461,666**	**405,421**	**294,567**	**309,988**	**315,183**	**326,385**	**337,195**	**378,624**
% Real Growth								
Military Personnel			-4.3	-1.8	0.0	0.8	1.0	11.2
O&M			2.5	5.6	1.6	2.3	7.4	15.5
Procurement			3.3	12.5	5.8	12.1	-3.9	10.6
RDT&E			0.7	2.0	-0.8	5.4	14.3	9.5
Military Construction			-5.5	-2.7	-7.2	4.3	18.6	-28.6
Family Housing			-8.3	-7.2	-2.8	1.9	8.2	2.7
Total			**-2.1**	**5.2**	**1.7**	**3.6**	**3.3**	**12.3**

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[1] Numbers may not add to total due to rounding.

[2] Tables A-1 and A-2 show the total DoD budget, which consists of both discretionary spending and direct spending. These terms were defined by the Balanced Budget and Emergency Deficit Control Act of 1985 (commonly known as the Gramm-Rudman-Hollings Act), which was extended and amended extensively by the Budget Enforcement Act of 1990 and the Omnibus Budget Reconciliation Act of 1993. Discretionary spending is controlled through annual appropriations acts. Direct spending (sometimes called mandatory spending) occurs as a result of permanent laws. For DoD, mandatory spending consists mostly of offsetting receipts.

[3] Extensive budget data is available on the DoD web site—www.dtic.mil/comptroller. Click on Defense Budget, then National Defense Budget Estimates (Green Book).

[4] Large decline in military construction in FY 2000 reflects a one-time action to allow advance funding in this account.

[5] RDT&E=Research, Development, Test and Evaluation

							Table A-2
Department of Defense—Budget Authority by Component[6][7] (Dollars in millions)								
	FY 1985	FY 1990	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003
Current Dollars								
Army	74,270	78,479	64,045	68,367	73,165	77,027	80,817	90,832
Navy	99,015	99,977	80,696	84,028	88,795	95,501	98,617	108,181
Air Force	99,420	92,890	76,284	81,914	83,050	89,549	94,242	106,907
Defense Agencies/OSD/JCS	13,126	18,663	23,389	24,450	24,753	26,755	31,332	34,843
Defense-wide	970	2,989	14,169	19,836	20,771	21,117	24,870	37,862
Total, Current Dollars	**286,802**	**292,999**	**258,583**	**278,595**	**290,534**	**309,948**	**329,878**	**378,624**
Constant FY 2003 Dollars								
Army	123,986	111,858	74,236	76,952	79,761	81,681	82,731	90,832
Navy	158,537	137,808	91,429	93,548	96,252	100,386	100,577	108,181
Air Force	156,329	127,014	86,003	90,402	89,756	93,667	95,913	106,907
Defense Agencies/OSD/JCS	21,365	24,980	25,850	26,548	26,290	27,802	31,862	34,843
Defense-wide	1,449	3,760	17,049	22,537	23,124	22,848	26,112	37,862
Total, Constant Dollars	461,666	405,421	294,567	309,988	315,183	326,385	337,195	378,624
% Real Growth								
Army			-3.2	3.7	3.6	2.4	1.3	9.8
Navy			-1.1	2.3	2.9	4.3	0.2	7.6
Air Force			1.5	5.1	-0.7	4.4	2.4	11.5
Defense Agencies/OSD/JCS			2.7	2.7	-1.0	5.8	14.6	9.4
Defense-wide			-22.0	32.2	2.6	-1.2	14.3	45.0
Total			**-2.1**	**5.2**	**1.7**	**3.6**	**3.3**	**12.3**

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[6] Numbers may not add to total due to rounding. Entries for the three military departments include Retired Pay accrual.

[7] Extensive budget data is available on the DoD web site—www.dtic.mil/comptroller. Click on Defense Budget, then National Defense Budget Estimates (Green Book).

Each year's multi-volume Budget of the United States Government is the most widely available source for data for National Defense (Function 050 – includes Dept of Energy defense activities) and for the Department of Defense (DoD) (Function 051). The President submits his proposed budget to Congress on the first Monday in the February preceding the October 1st start of a new fiscal year. Each year's Budget is available in most public libraries and many Congressional offices. It also is on line at *www.gpo.gov/usbudget/*, where one can select:

- Budget of the US Government, the main document, includes chapter on national security.

- Historical Tables: Include tables showing total budget authority and total outlays (total equals discretionary plus mandatory).

- Budget System and Concepts for explanations of the federal budget process and terms like budget authority, discretionary spending, and mandatory spending.

APPENDIX B

GOLDWATER-NICHOLS ACT

IMPLEMENTATION REPORT

This appendix contains the Department's Joint Officer Management Annual Report for FY 2001. Except for the progress/compliance with Section 619a, Title 10, United States Code, Tables B-2, B-5, reasons in Tables B-9 and B-11, and promotion objectives, the Joint Duty Assignment Management Information System (JDAMIS) was used to produce this report.

PROGRESS/COMPLIANCE WITH SECTION 619a, TITLE 10, U.S. CODE

Section 931 of the FY 1994 National Defense Authorization Act requires each Military Service to develop and implement personnel plans to permit the orderly promotion of officers to brigadier general or rear admiral (lower half). The Department continues to benefit from the Joint Officer Management Program enacted by the Goldwater-Nichols Act of 1986. The number of individual officers who are educated and experienced in joint matters continues to grow, with the leadership of the Services conveying to their officer corps the importance of joint duty and joint education.

The following brigadier general/rear admiral (lower half) promotion boards were approved during FY 2001 not including professionals:

	USA	USAF	USMC	USN	Total
Number of Officers Selected for O-7	40	44	8	33	125
Number of officers joint qualified	33	31	7	21	92
Percent of officers joint qualified	83	70	88	64	74

Given the Department's experience and lessons learned since the implementation of Goldwater-Nichols in 1986, the Department and the Joint Staff completed an extensive review of both the law and policy governing joint officer management. Based on the review's recommendation, this past year the Department advocated limited reforms

to Goldwater-Nichols legislation. The Department sought to uphold the fundamental tenants of Goldwater-Nichols while streamlining the processes that will allow the Department to continue to meet the challenges of the next century.

Highlights of the Department's performance this past year include a continued increase of: the number of Critical Occupational Specialists (COS) who have completed JPME and COS officers designated JSOs or JSO Nominations. In addition, the number of officers who completed Phase I JPME through either the correspondence or the seminar program increased.

The Department will continue to emphasize the importance of ensuring that a significant number of officers be educated, trained and experienced in joint matters to enhance the joint warfighting capability of the United States through a heightened awareness of joint requirements and multi-Service perspectives. The Department's focus remains the guarantee of long-term compliance with the personnel policy objectives of the Goldwater-Nichols DoD Reorganization Act of 1986.

Table B-1 Summary of Joint Specialty Officer (JSO) and JSO Nominee Designations for FY 2001					
	USA	USAF	USMC	USN	Total
Number of officers designated as JSOs	310	315	56	139	820
Number of officers designated as JSO noms	702	621	264	423	2010
Number of JSO noms designated under COS provisions	451	330	142	288	1211

Table B-2			
Critical Occupational Specialties (COS)			
USA	**USAF**	**USMC**	**USN**
Infantry	Pilot	Infantry	Surface
Armor	Navigator	Tanks/AAV	Submariner
Artillery	Command/Control	Artillery	Aviation
Air Defense Artillery	Operations	Air Control/Air Support	SEALS
Aviation	Space/Missile Operations	Anti-Air Warfare	Special Operations
Special Operations		Aviation	
Combat Engineers		Engineers	

Table B-3					
Summary of Officers on Active Duty with a Critical Occupational Specialty (as of September 30, 2001)					
	USA	**USAF**	**USMC**	**USN**	**Total**
COS officers who have completed JPME	1413	2179	492	1461	5545
COS officers designated as JSOs	1011	1102	347	904	3364
COS officers designated as JSO noms	2013	2938	698	2323	7972
COS officers designated as JSO noms who have not completed JPME	1572	1868	529	1841	5810
COS JSO noms currently serving in a JDA	946	1119	318	934	3317
COS JSO noms who completed a JDA and are currently attending JPME	11	10	1	14	36

Table B-4					
Summary of JSOs with Critical Occupational Specialties Who are Serving or Have Served in a Second Joint Assignment (as of September 30, 2001)					
	USA	**USAF**	**USMC**	**USN**	**Total**
Field Grade					
Have Served*	169 (100)	205 (136)	23 (14)	69 (37)	466 (287)
Are Serving*	99 (32)	77 (38)	7 (3)	55 (16)	238 (89)
General/Flag					
Have Served*	11 (6)	35 (20)	7 (6)	6 (1)	59 (23)
Are Serving*	5 (9)	16 (6)	4 (4)	7 (4)	32 (23)
* Number in parenthesis indicates number of second joint assignments, which were to a critical joint position.					

Table B-5					
Analysis of the Assignment Where Officers Were Reassigned (in FY 2001) on Their First Assignment Following Designation as a JSO					
	USA	**USAF**	**USMC**	**USN**	**Total**
Assignment Category					
Command	51	2	5	33	91
Service Headquarters	22	4	1	18	45
Joint Staff Critical	1	N/A	0	0	1
Joint Staff Other	2	3	0	1	6
Other JDA	42	16	1	18	77
Professional Military Education (PME)	11	5	2	5	23
Retirement/separation	0	N/A	1	0	1
Other Operations	0	N/A	10	7	17
Other Staff	78	N/A	0	25	103
Other Shore (Navy)	N/A	N/A	N/A	17	17

Table B-6 Average Length of Tour of Duty in Joint Duty Assignments (FY 2001) (in months)					
	USA	USAF	USMC	USN	Total
General/Flag Officers					
Joint Staff	28.0	26.6	27.0	23.0	26.2
Other Joint	27.1	26.0	25.0	28.0	26.5
Joint Total	27.5	26.3	26.0	25.5	26.3
Field Grade Officers					
Joint Staff	32.7	31.6	35	37.4	33.1
Other Joint	37.1	36.7	36.1	38.6	37.2
Joint Total	36.7	36.2	36	38.5	36.8

Table B-7 Summary of Tour Length Exclusions for FY 2001					
	USA	USAF	USMC	USN	Total
Category					
Retirement	104	81	22	85	292
Separation	0	4	1	6	11
Suspension from duty	6	2	1	2	11
Compassionate/Medical	6	2	0	0	8
Other joint after promotion	2	5	1	1	9
Reorganization	3	4	1	2	10
Joint overseas-short tours	168	136	15	50	369
Second tours	25	38	3	27	93
Joint accumulation	10	40	0	14	64
COS reassignment	109	112	57	172	450
Total	433	424	101	359	1317

Table B-8 Joint Duty Position Distribution by Service (as of September 30, 2001)	USA	USAF	USMC	USN	Total
Joint Staff Positions	248	221	63	205	737
Other Joint Duty Assignment Positions	2782	3068	513	1832	8195
Total Joint Duty Assignment Positions	3030	3289	576	2037	8932
Percent of Total Number of Joint Duty Assignments	34	37	6	23	100
Percent of Total Number of Officers*	31	36	9	24	100

*Total Commissioned Officers: O-3 through O-10 less professional categories.

Table B-9 Critical Position Summary (as of September 30, 2001)	USA	USAF	USMC	USN	Total
Total number of critical positions	331	293	55	146	825
Number of vacant critical positions	65	77	2	39	183
Number of critical positions filled by JSOs	131	135	9	56	331
Of those positions filled, percent filled by JSOs	49	63	17	52	52
Number of critical positions filled by non-JSOs	134	81	44	52	311
Percent of critical positions filled by JSOs/Non-JSOs	80	74	96	74	78

Reasons for Filling Critical Positions with Officers Who are Not JSOs	
Position filled by non-JSO incumbent prior to being a joint position	N/A
Position being converted to a non-critical position or being deleted	N/A
Joint specialty officer not yet available	N/A
Best qualified officer not joint specialist	103
Position filled by non-JSO incumbent prior to being a critical position	20
Other	10

The following organizations have joint duty critical positions, which are filled by officers who do not possess the joint specialty	
USJFCOM	13
USCENTCOM	15
NORAD	3
OSD	8
USEUCOM	21
CJCS Activities	13
USSPACECOM	11
DoD Agencies	43
JOINT STAFF	35
USSTRATCOM	9
General/Flag Officers	22
USPACOM	23
USSOCOM	7
USSOUTHCOM	12
USTRANSCOM	6
NATO Support	1
Cross Department	1
Allied Command Europe	7
Allied Command Atlantic	2
NATO	2
Total	254

		USA	USAF	USMC	USN	Total
Table B-10						
Comparison of Waiver Usage (FY 2001)						
Field Grade						
JSO Designations		309	315	55	139	818
JSO Sequence Waivers		24	0	7	9	40
JSO Two-tour Waivers		19	0	4	6	29
JSOs Graduating from JPME		9	2	2	5	18
JDA Assignment Waivers Granted		2	0	2	0	4
Field Grade Officers who departed JDAs		961	986	193	658	2798
Field Grade JDA tour length waivers		100	105	23	26	254
General/Flag Officer						
JSO Designations		0	0	1	1	2
JSO Desig Waivers		0	3	1	1	5
General/Flag Officers who departed JDAs		28	33	7	16	84
General/Flag Officer JDA tour length waivers		6	12	2	5	25
Attended CAPSTONE		30	33	10	1	74
CAPSTONE Waivers		0	0	0	8	0
Selected for Promotion to O-7*		40	41	8	14	103
Good of the Service Waivers		3	0	1	2	6
Other Waivers*		19	10	1	12	42
*Does not include professional categories.						

	USA	USAF	USMC	USN	Total
Table B-11 **Joint Professional Military Education (PME)** **Phase II Summary (FY 2001)**					
Students graduating from AFSC in FY01	214	321	48	143	726
Students who had not completed Resident PME	81	243	48	28	400
Percent of Total	38	76	100	20	55
Students who had completed non-resident PME	79	243	0	1	323
Percent of Total	37	76	0	1	44
Students without resident or non-resident PME	2	0	0	1	3
Percent of Total	1	0	0	1	1

Reasons for Students Not Completing Resident PME **Prior to Attending Phase II**	
Officer completed Phase I by correspondence/seminar	396
Officer completed Phase I equivalent program	2
Officer scheduled to attend a resident PME immediately following Phase II	326
Officer career path did not allow attendance at a resident PME program	0
Other	0

Table B-12 **Temporary Joint Task Force Credit (FY 2001)**					
Category	USA	USAF	USMC	USN	Total
Full Joint Tour Credit	0	0	0	0	0
Cumulative Credit	0	0	0	0	0

		Are Serving In			Have Served In			Total In Zone			Remarks
Grade	**Category**	IZ%	BZ%	AZ%	IZ%	BZ%	AZ%	Con[1]	Sel[1]	%	
O-8	Joint Staff	100	N/A	0	63	N/A	N/A	10	6	60	See 2 & 3
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	23	12	52	
	Service Hqs	84	N/A	34	50	N/A	N/A	15	9	60	
	Other Joint	1005	N/A	0	40	N/A	0	12	6	50	
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	65	30	46	
O-7	Joint Staff	0	N/A	23	0	N/A	4	69	11	16	
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	574	13	2	
	Service Hqs	0	N/A	5	0	N/A	0	179	5	3	
	Other Joint	0	N/A	5	0	N/A	2	344	13	4	
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	1615	40	3	
O-6	Joint Staff	67	5	33	77	11	67	40	29	73	See 4 & 5
	JSO	61	0	13	78	4	8	146	29	77	
	Service Hqs	70	4	11	56	8	11	158	94	60	
	Other Joint	52	1	10	34	3	5	188	83	44	
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	712	368	52	
O-5	Joint Staff	89	13	0	100	0	0	12	11	92	
	JSO	0	0	0	50	0	0	4	2	50	
	Service Hqs	89	6	11	93	9	33	74	67	91	
	Other Joint	80	9	10	69	1	9	315	240	76	
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	1405	1064	76	
O-4	Joint Staff	0	0	0	0	0	0	0	0	0	
	JSO	0	0	0	0	0	0	0	0	0	
	Service Hqs	100	0	100	0	0	0	7	7	100	
	Other Joint	100	0	0	0	0	0	4	4	100	
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	1373	1653	83	

Table B-13

Army Joint Officer Promotion Comparisons

Note 1: Con = Considered; Sel = Selected
Note 2: No BZ category/candidates for O-7 and O-8.
Note 3: N/A indicates that no officers considered were in this category.
Note 4: O-6 promotion results from FY 2000 promotion board, results not released until FY 2001.
Note 5: O-6 promotion results from FY 2001 promotion board not published in FY 2001.

		Are Serving In			Have Served In			Total In Zone		
Grade	Category	IZ%	BZ%	AZ%	IZ%	BZ%	AZ%	Con[1]	Sel[1]	%
O-8	Joint Staff	50	N/A	N/A	0	N/A	N/A	8	3	38
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	46	14	30
	Service Hqs	33	N/A	N/A	33	N/A	N/A	15	5	33
	Other Joint	25	N/A	N/A	33	N/A	N/A	15	2	29
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	7	26	36
O-7	Joint Staff	5	N/A	N/A	2	N/A	N/A	82	2	2
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	588	23	4
	Service Hqs	4	N/A	N/A	4	N/A	N/A	195	8	4
	Other Joint	2	N/A	N/A	2	N/A	N/A	238	5	2
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	1574	41	3
O-6	Joint Staff	74	6	67	76	10	0	61	45	74
	JSO	76	8	8	80	14	0	116	93	80
	Service Hqs	68	5	0	65	5	N/A	202	132	65
	Other Joint	49	2	3	35	4	9	330	135	41
	Board Avg	45	4	3	45	4	3	1188	530	45
O-5	Joint Staff	100	22	0	43	14	N/A	20	16	80
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	0	N/A	N/A
	Service Hqs	84	7	10	76	11	11	192	155	81
	Other Joint	74	3	3	70	2	3	401	289	72
	Board Avg	65	3	2	65	3	2	1718	1118	65
O-4	Joint Staff	100	N/A	N/A	N/A	N/A	N/A	1	1	100
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	0	0	N/A
	Service Hqs	98	N/A	67	100	N/A	100	80	79	99
	Other Joint	92	N/A	N/A	92	N/A	33	64	59	92
	Board Avg	88	N/A	9	88	N/A	9	4036	3563	88

Note 1: Con = Considered; Sel = Selected

		Are Serving In			Have Served In			Total In Zone		
Grade	**Category**	IZ%	BZ%	AZ%	IZ%	BZ%	AZ%	Con[1]	Sel[1]	%
O-8	Joint Staff	N/A	N/A	N/A	0	N/A	N/A	1	0	0
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	8	7	88
	Service Hqs	100	N/A	N/A	67	N/A	N/A	6	5	83
	Other Joint	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Board Avg	73	N/A	N/A	73	N/A	N/A	11	8	73
O-7	Joint Staff	0	N/A	N/A	29	N/A	N/A	9	2	22
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	118	4	3
	Service Hqs	8	N/A	N/A	3	N/A	N/A	85	4	5
	Other Joint	0	N/A	N/A	15	N/A	N/A	28	2	7
	Board Avg	3	N/A	N/A	3	N/A	N/A	274	8	3
O-6	Joint Staff	100	N/A	0	80	0	N/A	14	13	93
	JSO	0	N/A	0	71	0	0	36	25	69
	Service Hqs	46	0	5	48	0	0	35	16	46
	Other Joint	80	0	0	5	0	0	44	21	48
	Board Avg	49	0	1	49	0	1	238	116	49
O-5	Joint Staff	75	0	0	N/A	0	N/A	4	3	75
	JSO	N/A	N/A	N/A	100	N/A	N/A	1	1	0
	Service Hqs	61	0	6	61	0	5	64	40	63
	Other Joint	78	0	6	63	0	0	56	41	73
	Board Avg	66	0	6	66	0	6	420	276	66
O-4	Joint Staff	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	JSO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0
	Service Hqs	89	0	50	92	0	0	21	19	91
	Other Joint	100	0	N/A	100	N/A	N/A	2	2	100
	Board Avg	88	1	16	88	1	16	689	606	88
Note 1: Con = Considered; Sel = Selected										

Table B-13

Marine Corps Joint Officer Promotion Comparisons

Grade	Category	Are Serving In			Have Served In			Total In Zone		
		IZ%	BZ%	AZ%	IZ%	BZ%	AZ%	Con[1]	Sel[1]	%
O-8	Joint Staff	0	N/A	0	50	N/A	0	3	1	33
	JSO	50	N/A	0	33	N/A	0	22	3	14
	Service Hqs	80	N/A	0	60	N/A	0	16	7	44
	Other Joint	33	N/A	0	50	N/A	0	9	3	33
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	43	21	4
O-7	Joint Staff	0	N/A	16	0	N/A	33	49	4	8
	JSO	0	N/A	0	0	N/A	8	447	15	3
	Service Hqs	4	N/A	9	2	N/A	9	173	11	6
	Other Joint	0	N/A	3	0	N/A	0	146	2	1
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	1267	31	2
O-6	Joint Staff	79	15	0	80	2	0	49	39	80
	JSO	43	0	0	76	2	0	94	67	71
	Service Hqs	58	2	2	69	2	0	102	64	63
	Other Joint	38	1	3	36	2	5	178	69	39
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	705	355	50
O-5	Joint Staff	91	0	33	90	0	0	21	19	91
	JSO	0	0	0	80	0	0	10	8	80
	Service Hqs	89	2	0	88	0	0	64	57	89
	Other Joint	63	0	5	80	0	11	165	114	69
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	1176	804	68
O-4	Joint Staff	0	0	0	0	0	0	0	0	0
	JSO	0	0	0	0	0	0	0	0	0
	Service Hqs	64	0	0	88	0	0	19	14	74
	Other Joint	77	0	50	67	0	0	22	16	73
	Board Avg	N/A	N/A	N/A	N/A	N/A	N/A	1853	1498	81

Note 1: Con = Considered; Sel = Selected

Table B-14
General and Flag Officers Holding Multiple Positions

In accordance with the reporting requirements outlined in § 721(d)(2), the following table reports the number of general and flag officers who have simultaneously held both a position external to that officer's armed force and another position not external to that officer's armed force.

Multiple Positions Counted as External to Their Armed Force	
Joint Position	Service Position
Commander in Chief, United States Space Command	Commander, Air Force Space Command
Commander in Chief, United States Transportation Command	Commander, Air Mobility Command
Director, Command Control Systems, J-6, United States Space Command	Director, Communications and Information, Air Force Space Command
Deputy Commander, Canadian NORAD Region	Commander, 722 Support Squadron, Air Combat Command
Assistant Chief of Staff, C/J-5, United Nations Command/Combined Forces Command/United States Forces Korea	Commander, Marine Forces Korea
Chief of Staff, Naval Striking and Support Forces, Southern Europe	Deputy Commanding General, Fleet Marine Force, Europe
Assistant Chief of Staff, J-3, United Nations Command/Combined Forces Command/United States Forces Korea	Deputy Commanding General, 8th Army
Assistant Chief of Staff, J-4, United Nations Command/Combined Forces Command/United States Forces Korea	Commanding General, (Support), 8th Army
Commander, United States Defense Forces, Iceland, United States Joint Forces Command	Commander, Fleet Air, Keflevik
Director, Joint Information Operations, United States Space Command	Commander, Air Intelligence Agency

Table B-14

General and Flag Officers Holding Multiple Positions

Multiple Positions Counted as Internal to Their Armed Force

Joint Position	Service Position
Member, Joint Chiefs of Staff	Chief of Staff, United States Air Force
Commander, Air North	Commander, United States Air Forces in Europe
Commander, United States Forces Japan	Commander, 5th Air Force
Deputy Commander in Chief, United Nations Command/Combined Forces Command/Deputy Commander, United States Forces Korea	Commander, 7th Air Force
Commander, Allied Air Forces Southern Europe	Commander, 16th Air Force
Commander, Alaskan Command, United States Pacific Command	Commander, 11th Air Force
Member, Joint Chiefs of Staff	Commandant of the Marine Corps
Member, Joint Chiefs of Staff	Chief of Staff, United States Army
Chief of Staff, United Nations Command/Combined Forces Command/United States Forces Korea	Commanding General, 8th Army
Member, Joint Chiefs of Staff	Chief of Naval Operations
Commander, Regional Command, South	Commander, United States Naval Forces, Europe
Commander, Naval Striking and Support Forces, Southern Europe	Commander, SIXTH Fleet
Commander, Striking Fleet, Atlantic	Commander, SECOND Fleet
Commander, Submarine, Allied Command, Atlantic	Commander, Submarine Force, United States Atlantic Fleet
Commander, United States Naval Forces United States Central Command	Commander, FIFTH Fleet
Commander, Maritime Air Forces, Mediterranean	Commander, Fleet Air Mediterranean
United States Pacific Command Representative, Guam	Commander, United States Naval Forces, Marianas
Commander, Allied Submarines, Mediterranean	Commander, Submarine Group 8/Commander Task Force 69

APPENDIX C
JUSTIFICATIONS FOR FY 2002 DoD COMMITTEES SUBJECT TO THE FEDERAL ADVISORY COMMITTEE ACT

(To be provided under separate cover)

APPENDIX D
RESOURCES ALLOCATED TO MISSION
AND SUPPORT ACTIVITIES

Section 915 of the National Defense Authorization Act for Fiscal Year 1999 (Public Law 105-261) requires the Department of Defense (DoD) to identify resources allocated to mission and support activities in each of the five preceding fiscal years. In response to that requirement, Appendix D provides year-by-year comparisons of:

- DoD funding (in constant dollars) allocated to forces and infrastructure (Table D-1).[1]

- DoD manpower allocated to forces and infrastructure (Tables D-2 through D-7).

- DoD manpower in management headquarters and headquarters support activities, compared to active-duty military end-strength (Table D-8).

Data for the reporting period (FY 1998-2002) have been normalized for definitional or accounting changes.

As shown in Table D-1, the Department is allocating about 44% of TOA to infrastructure activities in FY 2002, down from about 46% in the preceding year. Tables D-2 through D-8, which address DoD manpower, show continued reductions in manpower for infrastructure activities. This is an important measure of the Department's progress in improving the efficiency of its support operations. The efficiencies achieved result from initiatives in the Quadrennial Defense Review and Defense Reform Initiatives, including savings from previous base realignment and closure rounds, strategic and competitive sourcing initiatives, and privatization and reengineering efforts.

DEFINITIONS

In tracking annual resource allocations, this appendix uses mission and infrastructure definitions that support macro-level comparisons of DoD resources such as those presented here. The definitions are based on the 2001 Quadrennial Defense Review, the Future Years Defense Program (FYDP), and a soon-to-be-published Institute for Defense Analyses publication, *DoD Force and Infrastructure Categories: A FYDP-Based Conceptual Model of Department of Defense Programs and Resources*, prepared for the Office of the Secretary of Defense. The definitions are consistent with the Goldwater-

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[1] In this appendix, the term "forces" is synonymous with mission and the term "infrastructure" is synonymous with support.

Nichols Department of Defense Reorganization Act of 1986 (P.L. 99-433). This act requires that combat units, and their organic support, be routinely assigned to the combatant commanders and that the military departments retain the activities that create and sustain those forces. This feature of U.S. law provides the demarcation line between forces (military units assigned to combatant commanders) and infrastructure (activities retained by the military departments). In addition to more precisely distinguishing forces from infrastructure, the force subcategories have been updated to reflect current operational concepts. The infrastructure subcategories likewise have been updated and streamlined.

The sections that follow define the force and infrastructure categories addressed in this appendix. Each FYDP program element is assigned to one and only one force or infrastructure category.

FORCE CATEGORIES

- *Expeditionary Forces.* Operating forces designed primarily for nonnuclear operations outside the United States. Includes combat units (and their organic support) such as divisions, tactical aircraft squadrons, and aircraft carriers.

- *Homeland Defense.* Operating forces designed primarily to deter or defeat direct attacks on the United States and its territories. Also includes those agencies engaged in U.S. international policy activities under the direct supervision of the Office of the Secretary of Defense.

- *Other Forces.* Includes most intelligence, space, and combat-related command, control, and communications programs, such as cryptologic activities, satellite communications, and airborne command posts.

INFRASTRUCTURE CATEGORIES

- *Force Installations.* Installations at which combat units are based. Includes the services and organizations at these installations necessary to house and sustain the units and support their daily operations. Also includes programs to sustain, restore, and modernize buildings at the installations and protect the environment.

- *Communications and Information Infrastructure.* Programs that provide secure information distribution, processing, storage, and display. Major elements include long-haul communications systems, base computing systems, Defense Enterprise Computing Centers and detachments, and information assurance programs.

- *Science and Technology Program.* The program of scientific research and experimentation within the Department of Defense that seeks to advance

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fundamental science relevant to military needs and determine if the results can be successfully applied to military use.

- *Acquisition Infrastructure.* Activities that develop, test, evaluate, and manage the acquisition of military equipment and supporting systems. These activities also provide technical oversight throughout a system's useful life.

- *Central Logistics.* Programs that provide supplies, depot-level maintenance of military equipment and supporting systems, transportation of material, and other products and services to customers throughout DoD.

- *Defense Health Program (DHP).* Medical infrastructure and systems, managed by the Assistant Secretary of Defense for Health Affairs, that provide health care to military personnel, dependents, and retirees.

- *Central Personnel Administration.* Programs that acquire and administer the DoD workforce. Includes acquisition of new DoD personnel, station assignments, provision of the appropriate number of skilled people for each career field, and miscellaneous personnel management support functions, such as personnel transient and holding accounts.

- *Central Personnel Benefits Programs.* Programs that provide benefits to service members. Includes family housing programs; commissaries and military exchanges; dependent schools in the United States and abroad; community, youth, and family centers; child development activities; off-duty and voluntary education programs; and a variety of ceremonial and morale-boosting activities.

- *Central Training.* Programs that provide formal training to personnel at central locations away from their duty stations (non-unit training). Includes training of new personnel, officer training and service academies, aviation and flight training, and military professional and skill training. Also includes miscellaneous other training-related support functions.

- *Departmental Management.* Headquarters whose primary mission is to manage the overall programs and operations of the Department of Defense and its components. Includes administrative, force, and international management headquarters, and defense-wide support activities that are centrally managed. Excludes headquarters elements exercising operational command (which are assigned to the Other Forces category) and those management headquarters that are associated with other infrastructure categories.

- *Other Infrastructure.* These programs do not fit well into other categories. They include programs that (1) provide management, basing, and operating support for DoD intelligence activities; (2) conduct navigation, meteorological, and

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oceanographic activities; (3) manage and upgrade DoD-operated air traffic control activities; (4) support warfighting, wargaming, battle centers, and major modeling and simulation programs; (5) conduct medical contingency preparedness activities not part of the DHP; and (6) fund CINC-sponsored or JCS-directed joint exercises. Also included in this category are centralized resource adjustments that are not allocated among the programs affected (e.g., foreign currency fluctuations, commissary resale stocks, and force structure deviations).

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Forces					
Expeditionary Forces	124	127	129	135	137
Homeland Defense Forces	7	8	8	9	13
Other Forces	29	30	29	31	33
Defense Emergency Response Fund	0	0	0	0	16
Forces Total	**160**	**166**	**166**	**175**	**199**
Infrastructure					
Force Installations	20	21	23	23	25
Communications & Information	4	4	4	5	5
Science & Technology Program	9	8	9	9	10
Acquisition	8	8	9	9	8
Central Logistics	17	17	20	18	19
Defense Health Program	19	18	19	22	25
Central Personnel Administration	10	9	10	10	10
Central Personnel Benefits Programs	8	8	8	8	9
Central Training	24	24	25	25	27
Departmental Management	15	16	15	15	14
Other Infrastructure	3	3	4	4	4
Infrastructure Total	**136**	**138**	**145**	**148**	**154**
Grand Total	**295**	**304**	**311**	**323**	**353**
Infrastructure as a Percentage of Total	**46%**	**45%**	**47%**	**46%**	**44%**

Table D-1

**Department of Defense
TOA by Force and Infrastructure Category
(FY 2003 $ in Billions)**

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense Analyses normalization adjustments.

NOTE: TOA = Total Obligational Authority.

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
					Table D-2

Department of Defense
Active-Duty Military and Civilian Manpower by Force and Infrastructure Category (In Thousands)

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Forces					
Expeditionary Forces	800	788	796	804	826
Homeland Defense Forces	31	30	29	28	29
Other Forces	61	60	59	60	66
Forces Total	**893**	**878**	**884**	**892**	**921**
Infrastructure					
Force Installations	188	186	173	171	157
Communications & Information	29	28	24	25	24
Science & Technology Program	17	16	15	15	16
Acquisition	110	105	98	97	98
Central Logistics	204	189	182	176	174
Defense Health Program	142	134	127	129	130
Central Personnel Administration	86	64	91	93	86
Central Personnel Benefits Programs	48	48	48	49	48
Central Training	297	316	298	298	273
Departmental Management	123	124	119	117	116
Other Infrastructure	19	15	22	12	18
Infrastructure Total	**1,262**	**1,227**	**1,198**	**1,182**	**1,140**
Grand Total	**2,155**	**2,105**	**2,082**	**2,074**	**2,061**
Infrastructure as a Percentage of Total	59%	58%	58%	57%	55%

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense Analyses normalization adjustments.

NOTE: Excludes National Guard and Reserve personnel.

					Table D-3

Army
Active-Duty Military and Civilian Manpower by
Force and Infrastructure Category (In Thousands)

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Forces					
Expeditionary Forces	343	336	340	346	350
Homeland Defense Forces	1	2	2	2	2
Other Forces	10	9	10	11	12
Forces Total	**354**	**347**	**352**	**358**	**363**
Infrastructure					
Force Installations	44	40	39	38	33
Communications & Information	8	8	6	6	7
Science & Technology Program	11	10	10	10	10
Acquisition	13	13	11	11	12
Central Logistics	46	43	43	43	43
Defense Health Program	55	52	50	50	49
Central Personnel Administration	33	32	38	36	35
Central Personnel Benefits Programs	6	6	6	6	6
Central Training	113	117	113	110	103
Departmental Management	34	35	32	32	32
Other Infrastructure	3	4	4	0	2
Infrastructure Total	**367**	**359**	**352**	**342**	**333**
	44	40	39	38	33
Grand Total	**722**	**706**	**704**	**700**	**696**
Infrastructure as a Percentage of Total	**51%**	**51%**	**50%**	**49%**	**48%**

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense Analyses normalization adjustments.

NOTE: Excludes National Guard and Reserve personnel.

	Table D-4				
Navy **Active-Duty Military and Civilian Manpower by** **Force and Infrastructure Category (In Thousands)**					
	FY 1998	**FY 1999**	**FY 2000**	**FY 2001**	**FY 2002**
Forces					
Expeditionary Forces	175	170	171	176	183
Homeland Defense Forces	13	13	12	12	12
Other Forces	11	11	12	12	14
Forces Total	**199**	**194**	**196**	**200**	**208**
Infrastructure					
Force Installations	50	50	46	46	45
Communications & Information	6	8	6	6	6
Science & Technology Program	0	0	0	0	0
Acquisition	57	56	51	52	52
Central Logistics	70	62	60	59	60
Defense Health Program	39	41	38	39	41
Central Personnel Administration	30	14	32	31	27
Central Personnel Benefits Programs	5	6	6	5	6
Central Training	82	89	80	79	67
Departmental Management	28	30	28	28	28
Other Infrastructure	5	6	5	6	2
Infrastructure Total	**373**	**362**	**354**	**351**	**333**
Grand Total	**572**	**556**	**549**	**551**	**542**
Infrastructure as a Percentage of Total	**65%**	**65%**	**64%**	**64%**	**62%**

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense Analyses normalization adjustments.

NOTE: Excludes National Guard and Reserve personnel.

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Table D-5					
Air Force **Active-Duty Military and Civilian Manpower by** **Force and Infrastructure Category (In Thousands)**					
Forces					
Expeditionary Forces	175	175	175	173	184
Homeland Defense Forces	16	14	14	13	14
Other Forces	30	29	26	27	29
Forces Total	**221**	**219**	**215**	**212**	**227**
Infrastructure					
Force Installations	72	74	68	67	59
Communications & Information	5	5	5	5	5
Science & Technology Program	6	6	5	5	5
Acquisition	20	19	18	17	17
Central Logistics	55	54	49	47	43
Defense Health Program	46	41	39	40	39
Central Personnel Administration	12	7	9	14	12
Central Personnel Benefits Programs	5	4	4	6	5
Central Training	62	67	66	71	65
Departmental Management	29	29	28	27	26
Other Infrastructure	9	4	12	6	14
Infrastructure Total	**321**	**310**	**304**	**304**	**291**
Grand Total	**542**	**529**	**518**	**516**	**518**
Infrastructure as a Percentage of Total	**59%**	**59%**	**59%**	**59%**	**56%**

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense Analyses normalization adjustments.

NOTE: Excludes National Guard and Reserve personnel.

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Marine Corps
Active-Duty Military and Civilian Manpower by
Force and Infrastructure Category (In Thousands)

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Forces					
Expeditionary Forces	107	106	109	109	109
Homeland Defense Forces	0	0	0	0	0
Other Forces	1	1	1	1	1
Forces Total	**107**	**107**	**111**	**110**	**110**
Infrastructure					
Force Installations	21	21	20	20	20
Communications & Information	0	0	0	0	0
Science & Technology Program	0	0	0	0	0
Acquisition	1	1	1	1	1
Central Logistics	6	5	5	5	5
Defense Health Program	0	0	0	0	0
Central Personnel Administration	11	10	11	11	11
Central Personnel Benefits Programs	2	1	2	2	2
Central Training	41	43	38	38	38
Departmental Management	5	5	5	6	6
Other Infrastructure	0	0	1	1	1
Infrastructure Total	**87**	**87**	**83**	**83**	**82**
Grand Total	**194**	**193**	**194**	**193**	**192**
Infrastructure as a Percentage of Total	**45%**	**45%**	**43%**	**43%**	**43%**

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense
Analyses normalization adjustments.

NOTE: Excludes National Guard and Reserve personnel.

	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Forces					
Expeditionary Forces	0	0	0	0	0
Homeland Defense Forces	1	1	1	1	1
Other Forces	10	10	10	10	11
Forces Total	11	11	11	11	12
Infrastructure					
Force Installations	0	0	0	0	0
Communications & Information	9	8	7	7	7
Science & Technology Program	0	0	0	0	0
Acquisition	18	17	17	16	16
Central Logistics	27	25	24	22	23
Defense Health Program	1	0	0	0	0
Central Personnel Administration	1	1	1	1	1
Central Personnel Benefits Programs	30	31	31	30	29
Central Training	0	0	0	0	0
Departmental Management	27	26	25	25	24
Other Infrastructure	0	0	0	0	0
Infrastructure Total	114	109	105	103	101
Grand Total	126	120	116	113	112
Infrastructure as a Percentage of Total	91%	91%	91%	90%	90%

Table D-7

Defense Agency and Defense-Wide Active-Duty Military and Civilian Manpower by Force and Infrastructure Category (In Thousands)

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense Analyses normalization adjustments.

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	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002
Table D-8 Headquarters and Headquarters Support Manpower Compared to Active-Duty End-Strength (In Thousands)					
Management Headquarters and Support Activities	25	31	30	29	29
Active-Duty End-Strength	1,407	1,386	1,384	1,387	1,390
Headquarters Manning as a Percentage of Active-Duty End-Strength	**1.8%**	**2.2%**	**2.2%**	**2.1%**	**2.0%**

SOURCE: FY 2003 President's Budget and associated FYDP with Institute for Defense Analyses normalization adjustments.

APPENDIX E
UNIT DEPLOYMENTS AND
PERSONNEL TEMPO

(To be provided under separate cover)