The Phase III Report Of The U.S. Commission On National Security/21st Century

FINAL DRAFT REPORT
EMBARGOED UNTIL JAN. 31, 2001
Road Map for National Security:
Imperative for Change

The Phase III Report of the U.S. Commission on
National Security/21st Century
The United States Commission on National Security/21st Century

DRAFT FINAL REPORT
January 31, 2001

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Foreword

American power and influence have been decisive factors for democracy and security throughout the last half-century. However, after more than two years of serious effort, this Commission has concluded that without significant reforms, American power and influence cannot be sustained. To be of long-term benefit to us and to others, that power and influence must be disciplined by strategy, defined as the systematic determination of the proper relationship of ends to means in support of American principles, interests, and national purpose.

This Commission was established to redefine national security in this age and to do so in a more comprehensive fashion than any other similar effort since 1947. We have carried out our duties in an independent and totally bipartisan spirit. This report is a blueprint for reorganizing the U.S. national security structure in order to focus that structure's attention on the most important new and serious problems before the nation, and to produce organizational competence capable of addressing those problems creatively.

The key to our vision is the need for a culture of coordinated strategic planning to permeate all U.S. national security institutions. Our challenges are no longer defined for us by a single prominent threat. Without creative strategic planning in this new environment, we will default in time of crisis to a reactive posture. Such a posture is inadequate to the challenges and opportunities before us.

We have concluded that, despite the end of the Cold War threat, America faces distinctly new dangers, particularly to the homeland and to our scientific and educational base. These dangers must be addressed forthwith.

We call upon the new President, the new administration, the new Congress, and the country at large to consider and debate our recommendations in the pragmatic spirit that has characterized America and its people in each new age.

Gary Hart Warren
Co-Chair

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Preface

The U.S. Commission on National Security/21st Century was born more than two years ago out of a conviction that the entire range of U.S. national security policies and processes required reexamination in light of new circumstances. Those circumstances encompass not only the changed geopolitical reality after the Cold War, but also the significant technological, social, and intellectual changes that are occurring.

Prominent among such changes is the information revolution and the accelerating discontinuities in a range of scientific and technological areas. Another is the increased integration of global finance and commerce, commonly called "globalization." Yet another is the ascendance of democratic governance and free-market economics to unprecedented levels, and another still the increasing importance of both multinational and non-governmental actors in global affairs. The routines of professional life, too, in business, university, and other domains in advanced countries have been affected by the combination of new technologies and new management techniques. The internal cultures of organizations have been changing, usually in ways that make them more efficient and effective.

The creators of this Commission believed that unless the U.S. government adapts itself to these changes-and to dramatic changes still to come-it will fall out of step with the world of the 21st century. Nowhere will the risks of doing so be more manifest than in the realm of national security.

Mindful of the likely scale of change ahead, this Commission's sponsors urged it to be bold and comprehensive in its undertaking. That meant thinking out a quarter century, not just to the next election or to the next federal budget cycle. That meant searching out how government should work, undeterred by the institutional inertia that today determines how it
does work. Not least, it meant conceiving national security not as narrowly defined, but as it ought to be defined-to include economics, technology, and education for a new age in which novel opportunities and challenges coexist uncertainly with familiar ones.

The fourteen Commissioners involved in this undertaking, one that engaged their energies for over two years, have worked hard and they have worked well.*2 Best of all, despite diverse experiences and views, they have transcended partisanship to work together in recognition of the seriousness of the task: nothing less than to assure the well-being of this Republic a quarter century hence.

This Commission has conducted its work in three phases. Phase I was dedicated to understanding how the world will likely evolve over the next 25 years. From that basis in prospective reality, Phase II devised a U.S. national security strategy to deal with that world. Phase III aims to reform government structures and processes to enable the U.S. government to implement that strategy, or, indeed, any strategy that would depart from the embedded routines of the last half-century.

Phase I concluded in September 1999 with the publication of New World Coming: American Security in

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the 21st Century.*3 Phase II produced the April 2000 publication, Seeking a National Strategy: A Concert for Preserving Security and Promoting Freedom. Phase III, presented in these pages, is entitled Road Map for National Security: Imperative for Change. This report summarizes enough of the Commission's Phase I and Phase II work to establish an intellectual basis for understanding this Phase III report, but it does not repeat the texts of prior phases in detail. For those seeking fuller background to this report, the Commission's earlier works should be consulted directly.*4

In Road Map for National Security, the Commission has endeavored to complete the logic of its three phases of work, moving from analysis to strategy to the redesign of the structures and processes of the U.S. national security system. For example, in Phase I the Commission stressed that mass-casualty terrorism directed against the U.S. homeland was of serious and growing concern. It therefore proposed in Phase II a strategy that prioritizes deterring, defending against, and responding effectively to such dangers. Thus, in Phase III, it recommends a new National Homeland Security Agency to consolidate and refine the missions of the nearly two dozen disparate departments and agencies that have a role in U.S. homeland security today.

That said, not every Phase I finding and not every Phase II proposal has generated a major Phase III recommendation. Not every aspect of U.S. national security organization needs an overhaul. Moreover, some challenges are best met, and some opportunities are best achieved, by crafting better policies, not by devising new organizational structures or processes. Where appropriate, this report notes those occasions and is not reluctant to suggest new policy directions.

Many of the recommendations made herein require legislation to come into being. Many others, however, require only Presidential order or departmental directive. These latter recommendations are not necessarily of lesser importance and can be implemented quickly.

The Commission anticipates that some of its recommendations will win wide support. Other recommendations may generate controversy and even opposition, as is to be expected when dealing with such serious and complex issues. We trust that the ensuing debate will ultimately yield the very best use of this Commission's work for the benefit of the American people.

Organizational reform is not a panacea. There is no perfect organizational design, no flawless managerial fix. The reason is that organizations are made up of people, and people invariably devise informal means of dealing with one another in accord with the accidents of personality and temperament. Even excellent organizational structure cannot make impetuous or mistaken leaders patient or wise, but poor organizational design can make good leaders less effective.

Sound organization is important. It can ensure that problems reach their proper level of decision quickly and efficiently and can balance the conflicting imperatives inherent in any national security decision-system-between senior involvement and expert input, between speed and the need to consider a variety of views, between tactical flexibility and strategic consistency. President Eisenhower summarized it best: "Organization cannot make a genius out of a dunce. But it can provide its head with the facts he needs, and help him avoid misinformed mistakes."

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Most important, good organization helps assure accountability. At every level of organization, elected officials-and particularly the President as Commander-in-Chief-must be able to ascertain quickly and surely who is in charge. But in a government that has expanded through serial incremental adjustment rather than according to an overall plan, finding those responsible to make things go right, or those responsible when things go wrong, can be a very formidable task. This, we may be sure, is not what the Founders had in mind.

This Commission has done its best to step up to the mandate of its Charter. It is now up to others to do their best to bring the benefits of this Commission's effort into the institutions of American government.

Charles G. Boyd, General, USAF (Ret.)
Executive Director

Executive Summary

After our examination of the new strategic environment of the next quarter century (Phase I) and of a strategy to address it (Phase II), this Commission concludes that significant changes must be made in the structures and processes of the U.S. national security apparatus. Our institutional base is in decline and must be rebuilt. Otherwise, the United States risks losing its global influence and critical leadership role.

We offer recommendations for organizational change in five key areas:

1 ensuring the security of the American homeland;

2 recapitalizing America's strengths in science and education;

3 redesigning key institutions of the Executive Branch;

4 overhauling the U.S. government personnel system; and

5 reorganizing Congress's role in national security affairs.

We have taken a broad view of national security. In the new era, sharp distinctions between "foreign" and "domestic" no longer apply. We do not equate national security with "defense." We do believe in the centrality of strategy, and of seizing opportunities as well as confronting dangers. If the structures and processes of the U.S. government stand still amid a world of change, the United States will lose its capacity to shape history, and will instead be shaped by it.

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Securing the National Homeland

The combination of unconventional weapons proliferation with the persistence of international terrorism will end the relative invulnerability of the U.S. homeland to catastrophic attack. A direct attack against American citizens on American soil is likely over the next quarter century. The risk is not only death and destruction but also a demoralization that could undermine U.S. global leadership. In the face of this threat, our nation has no coherent or integrated governmental structures.

We therefore recommend the creation of a new independent National Homeland Security Agency (NHSA) with responsibility for planning, coordinating, and integrating various U.S. government activities involved in homeland security. NHSA would be built upon the Federal Emergency Management Agency, with the three organizations currently on the front line of border security-the Coast Guard, the Customs Service, and the Border Patrol- transferred to it. NHSA would not only protect American lives, but also assume responsibility for overseeing the protection of the nation's critical infrastructure, including information technology.

The NHSA Director would have Cabinet status and would be a statutory advisor to the National Security Council. The legal foundation for the National Homeland Security Agency would rest firmly within the array of Constitutional guarantees for civil liberties. The observance of these guarantees in the event of a national security emergency would be safeguarded by NHSA's interagency coordinating activities-which would include the Department of Justice-as well as by its conduct of advance exercises.

The potentially catastrophic nature of homeland attacks necessitates our being prepared to use the tremendous resources of the Department of Defense (DoD). Therefore, the department needs to pay far more attention to this mission in the future. We recommend that a new office of Assistant Secretary for Homeland Security be created to oversee the various DoD activities and ensure that the necessary resources are made available.

New priorities also need to be set for the U.S. armed forces in light of the threat to the homeland. We urge, in particular, that the National Guard be given homeland security as a primary mission, as the U.S. Constitution itself ordains. The National Guard should be reorganized, trained, and equipped to undertake that mission.

Finally, we recommend that Congress reorganize itself to accommodate this Executive Branch realignment, and that it also form a special select committee for homeland security to provide Congressional support and oversight in this critical area.

Recapitalizing America's Strengths in Science and Education

Americans are living off the economic and security benefits of the last three generations' investment in

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science and education, but we are now consuming capital. Our systems of basic scientific research and education are in serious crisis, while other countries are redoubling their efforts. In the next quarter century, we will likely see ourselves surpassed, and in relative decline, unless we make a conscious national commitment to maintain our edge.

We also face unprecedented opportunity. The world is entering an era of dramatic progress in bioscience and materials science as well as information technology and scientific instrumentation. Brought together and accelerated by nanoscience, these rapidly developing research fields will transform our understanding of the world and our capacity to manipulate it. The United States can remain the world's technological leader if it makes the commitment to do so. But the U.S. government has seriously underfunded basic scientific research in recent years. The quality of the U.S. education system, too, has fallen well behind those of scores of other nations. This has occurred at a time when vastly more Americans will have to understand and work competently with science and math on a daily basis.

In this Commission's view, the inadequacies of our systems of research and education pose a greater threat to U.S. national security over the next quarter century than any potential conventional war that we might imagine. American national leadership must understand these deficiencies as threats to national security. If we do not invest heavily and wisely in rebuilding these two core strengths, America will be incapable of maintaining its global position long into the 21st century.

We therefore recommend doubling the federal research and development budget by 2010, and instituting a more competitive environment for the allotment of those funds.

We recommend further that the role of the President's Science Advisor be elevated to oversee these and other critical tasks, such as the resuscitation of the national laboratory system and the institution of better inventory stewardship over the nation's science and technology assets.

We also recommend a new National Security Science and Technology Education Act to fund a comprehensive program to produce the needed numbers of science and engineering professionals as well as qualified teachers in science and math. This Act should provide loan forgiveness incentives to attract those who have graduated and scholarships for those still in school and should provide these incentives in exchange for a period of K-12 teaching in science and math, or of military or government service. Additional measures should provide
resources to modernize laboratories in science education, and expand existing programs aimed at economically-depressed school districts.

Institutional Redesign

The dramatic changes in the world since the end of the Cold War of the last half- century have not been accompanied by any major institutional changes in the Executive Branch of the U.S. government. Serious deficiencies exist that only a significant organizational redesign can remedy. Most troublesome is the lack of an overarching strategic framework guiding U.S. national security policymaking and resource

allocation. Clear goals and priorities are rarely set. Budgets are prepared and appropriated as they were during the Cold War.

The Department of State, in particular, is a crippled institution, starved for resources by Congress because of its inadequacies, and thereby weakened further. Only if the State Department's internal weaknesses are cured will it become an effective leader in the making and implementation of the nation's foreign policy. Only then can it credibly seek significant funding increases from Congress. The department suffers in particular from an ineffective organizational structure in which regional and functional policies do not serve integrated goals, and in which sound management, accountability, and leadership are lacking.

For this and other reasons, the power to determine national security policy has steadily migrated toward the National Security Council (NSC) staff. The staff now assumes policymaking roles that many observers have warned against. Yet the NSC staff's role as policy coordinator is more urgently needed than ever, given the imperative of integrating the many diverse strands of policymaking.

Meanwhile, the U.S. intelligence community is adjusting only slowly to the changed circumstances of the post-Cold War era. While the economic and political components of statecraft have assumed greater prominence, military imperatives still largely drive the analysis and collection of intelligence. Neither has America's overseas presence been properly adapted to the new economic, social, political, and security realities of the 21st century.

Finally, the Department of Defense needs to be overhauled. The growth in staff and staff activities has created mounting confusion and delay. The failure to outsource or privatize many defense support activities wastes huge sums of money. The programming and budgeting process is not guided by effective strategic planning. The weapons acquisition process is so hobbled by excessive laws, regulations, and oversight strictures that it can
neither recognize nor seize opportunities for major innovation, and its procurement bureaucracy weakens a defense industry that is already in a state of financial crisis.

In light of such serious and interwoven deficiencies, the Commission's initial recommendation is that strategy should once again drive the design and implementation of U.S. national security policies. That means that the President should personally guide a top-down strategic planning process and that process should be linked to the allocation of resources throughout the government. When submitting his budgets for the various national security departments, the President should also present an overall national security budget, focused on the nation's most critical strategic goals. Homeland security, counter-terrorism, and science and technology should be included.

We recommend further that the President's National Security Advisor and NSC staff return to their traditional role of coordinating national security activities and resist the temptation to become policymakers or operators. The NSC Advisor should also keep a low public profile. Legislative, press communications, and speech-writing functions should reside in the White House staff, not separately in the NSC staff as they do today. The higher the profile of the National Security Advisor the greater will be the pressures from Congress to compel testimony and force Senate confirmation of the position.

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To reflect how central economics has become in U.S. national security policy, we recommend that the Secretary of Treasury be named a statutory member of the National Security Council. Responsibility for international economic policy should return to the National Security Council. The President should abolish the National Economic Council, distributing its domestic economic policy responsibilities to the Domestic Policy Council.

Critical to the future success of U.S. national security policies is a fundamental restructuring of the State Department. Reform must ensure that responsibility and accountability are clearly established, regional and functional activities are closely integrated, foreign assistance programs are centrally planned and implemented, and strategic planning is emphasized and linked to the allocation of resources.

We recommend that this be accomplished through the creation of five Under Secretaries with responsibility for overseeing the regions of Africa, Asia, Europe, Inter- America, and Near East/South Asia, and a redefinition of the responsibilities of the Under Secretary for Global Affairs. The restructuring we propose would position the State Department to play a leadership role in the making and implementation of U.S. foreign policy, as well as to harness the department's organizational culture to the benefit of the U.S. government as a whole. Perhaps most important, the Secretary of State would be free to focus on the most important
policies and negotiations, having delegated responsibility for integrating regional and functional issues to the Under Secretaries.

Accountability would be matched with responsibility in senior policymakers, who in serving the Secretary would be able to speak for the State Department both within the interagency process and before Congress. No longer would competing regional and functional perspectives immobilize the department. At the same time, functional perspectives, whether they be human rights, arms control, or the environment, will not disappear. The Under Secretaries would be clearly accountable to the Secretary of State, the President, and the Congress for ensuring that the appropriate priority was given to these concerns. Someone would actually be in charge.

We further recommend that the activities of the U.S. Agency for International Development be fully integrated into this new State Department organization. Development aid is not an end in itself, nor can it be successful if pursued independently of other U.S. programs and diplomatic activities. Only a coordinated diplomatic and assistance effort will advance the nation's goals abroad, whether they be economic growth, democracy, or human rights.

The Secretary of State should give greater emphasis to strategic planning in the State Department and link it directly to the allocation of resources through the establishment of a Strategic Planning, Assistance, and Budget Office. Rather than multiple Congressional appropriations, the State Department should also be funded in a single integrated Foreign Operations budget, which would include all foreign assistance programs and activities as well as the expenses for all related personnel and operations. Also, all U.S. Ambassadors, including the Permanent Representative to the United Nations, should report directly to the Secretary of State, and a major effort needs to be undertaken to "right-size" the U.S. overseas presence.

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The Commission believes that the resulting improvements in the effectiveness and competency of the State Department and its overseas activities would provide the basis for the significant increase in resources necessary to carry out the nation's foreign policy in the 21st century.

As for the Department of Defense, resource issues are also very much at stake in reform efforts. The key to success will be direct, sustained involvement and commitment to defense reform on the part of the President, Secretary of Defense, and Congressional leadership. We urge first and foremost that the new Secretary of Defense reduce by ten to fifteen percent the staffs of the Office of the Secretary of Defense, the Joint Staff, the military services, and the regional commands. This would not only save money but also achieve the decision speed and
encourage the decentralization necessary to succeed in the 21st century.

Just as critical, the Secretary of Defense should establish a ten-year goal of reducing infrastructure costs by 20-25 percent through steps to consolidate, restructure, outsource, and privatize as many DoD support agencies and activities as possible. Only through savings in infrastructure costs, which now take up nearly half of DoD's budget, will the department find the funds necessary for modernization and for combat personnel in the long-term.

The processes by which the Defense Department develops its programs and budgets as well as acquires its weapons also need fundamental reform. The most critical first step is for the Secretary of Defense to produce defense policy and planning guidance that defines specific goals and establishes relative priorities.

Together with the Congress, the Secretary of Defense should move the Quadrennial Defense Review (QDR) to the second year of a Presidential term. The current requirement, that it be done in an administration's first year, spites the purpose of the activity. Such a deadline does not allow the time or the means for an incoming administration to influence the QDR outcome, and therefore for it to gain a stake in its conclusions.

We recommend a second change in the QDR, as well; namely that the Secretary of Defense introduce a new process that requires the Services and defense agencies to compete for the allocation of some resources within the overall Defense budget. This, we believe, would give the Secretary a vehicle to identify low priority programs and begin the process of reallocating funds to more promising areas during subsequent budget cycles.

As for acquisition reform, the Commission is deeply concerned with the downward spiral that has emerged in recent decades in relations between the Pentagon as customer and the defense industrial base as supplier of the nation's major weapons systems. Many innovative high-tech firms are simply unable or unwilling to work with the Defense Department under the weight of its auditing, contracting, profitability, investment, and inspection regulations. These regulations also impair the Defense Department's ability to function with the speed it needs to keep abreast of today's rapid pace of technological innovation. Weapons development cycles average nine years in an environment where technology now changes every

twelve to eighteen months in Silicon Valley-and the gap between private sector and defense industry innovation continues to widen.

In place of a specialized "defense industrial base," we believe that the nation needs a national industrial base for defense composed of a broad cross-section of commercial firms as well as the more traditional defense firms. "New economy" sectors must be attracted to work with the government on sound business and professional grounds; the more traditional defense suppliers, which fill important needs unavailable in the commercial sector, must be given incentives to innovate and operate efficiently. We therefore recommend these major steps:

1. Establish and employ a two-track acquisition system, one for major acquisitions and a "fast track" for a modest number of potential breakthrough systems, especially those in the area of command and control.
2. Return to the pattern of increased prototyping and testing of selected weapons and support systems to foster innovation. We should use testing procedures to gain knowledge and not to demonstrate a program's ability to survive budgetary scrutiny.
3. Implement two-year defense budgeting solely for the modernization element (R&D/procurement)of the Defense budget and expand the use of multi-year procurement.
4. Modernize auditing and oversight requirements (by rewriting relevant sections of U.S. Code, Title 10, and the Federal Acquisition Regulations) with a goal of reducing the number of auditors and inspectors in the acquisition system to a level commensurate with the budget they oversee.

Amidst the other process reforms for the Defense Department, the Commission recognizes the need to modernize current force planning methods. We conclude that the concept of two major, coincident wars is a remote possibility supported neither by the main thrust of national intelligence nor by this Commission's view of the likely future. It should be replaced by a planning process that accelerates the transformation of capabilities and forces better suited to, and thus likely to succeed in, the current security environment. The Secretary of Defense should direct the DoD to shift from the threat-based, force sizing process to one which measures requirements against recent operational activity trends, actual intelligence estimates of potential adversaries' capabilities, and national security objectives as defined in the new administration's national security strategy-once formulated.

The Commission furthermore recommends that the Secretary of Defense revise the current categories of Major Force Programs (MFPs) used in the Defense Program Review to correspond to the five military capabilities the Commission prescribed in its Phase II report- strategic nuclear forces, homeland security forces, conventional forces, expeditionary forces, and humanitarian and constabulary forces.

Ultimately, the transformation process will blur the distinction between expeditionary and conventional forces, as both types of capabilities will eventually possess the technological superiority, deployability, survivability, and lethality now called for in the expeditionary forces. For the near term, however, those we call expeditionary capabilities require the most emphasis. Consequently, we recommend that the Defense Department devote its highest priority to improving and further developing its expeditionary capabilities.

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There is no more critical dimension of defense policy than to guarantee U.S. commercial and military access to outer space. The U.S. economy and military are vitally dependent on communications that rely on space. The clear imperative for the new era is a comprehensive national policy toward space and a coherent governmental machinery to carry it out. We therefore recommend the establishment of an Interagency Working Group on Space (IWGS).

The members of this interagency working group would include not only the relevant parts of the intelligence community and the State and Defense Departments, but also the National Aeronautics and Space Administration (NASA), the National Oceanic and Atmospheric Administration (NOAA), the Department of Commerce, and other Executive Branch agencies as necessary.

Meanwhile, the global presence and responsibilities of the United States have brought new requirements for protecting U.S. space and communications infrastructures, but no comprehensive national space architecture has been developed. We recommend that such responsibility be given to the new interagency space working group and that the existing National Security Space Architect be transferred from the Defense Department to the NSC staff to take the lead in this effort.

The Commission has concluded that the basic structure of the intelligence community does not require change. Our focus is on those steps that will enable the full implementation of recommendations found elsewhere within this report.

First in this regard, we recommend that the President order the setting of national intelligence priorities through National Security Council guidance to the Director of Central Intelligence.

Second, the intelligence community should emphasize the recruitment of human intelligence sources on terrorism as one of the intelligence community's highest priorities, and ensure that existing operational guidelines support this policy.

Third, the community should place new emphasis on collection and analysis of economic andscience/technology security concerns, and incorporate more open source intelligence into its analytical products. To facilitate this effort, Congress should increase significantly the National Foreign Intelligence Program (NFIP) budget for collection and analysis.

The Human Requirements for National Security

As it enters the 21st century, the United States finds itself on the brink of an unprecedented crisis of competence in government. The declining orientation toward government service as a prestigious career is deeply troubling. Both civilian and military institutions face growing challenges, albeit of different forms and degrees, in recruiting and retaining America's most promising talent. This problem derives from multiple sources-ample private sector opportunities with good pay and fewer bureaucratic frustrations, rigid governmental personnel procedures, the absence of a single overarching threat like the

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Cold War to entice service, cynicism about the worthiness of government service, and perceptions of government as a plodding bureaucracy falling behind in a technological age of speed and accuracy.

These factors are adversely affecting recruitment and retention in the Civil and Foreign Services and particularly throughout the military, where deficiencies are both widening the gap between those who serve and the rest of American society and putting in jeopardy the leadership and professionalism necessary for an effective military. If we allow the human resources of government to continue to decay, none of the reforms proposed by this or any other national security commission will produce their intended results.

We recommend, first of all, a national campaign to reinvigorate and enhance the prestige of service to the nation. The key step in such a campaign must be to revive a positive attitude toward public service. This will require strong and consistent Presidential commitment, Congressional legislation, and innovative departmental actions throughout the federal government. It is the duty of all political leaders to repair the damage that has been done, in a high-profile and fully bipartisan manner.

From these changes in rhetoric, the campaign must undertake several actions. First, this Commission recommends the most urgent possible streamlining of the process by which we attract senior government officials. The ordeal that Presidential nominees are subjected to is now so great as to make it prohibitive for many individuals of talent and experience to accept public service. The confirmation process is characterized by vast amounts of paperwork and many delays. Conflict of interest and financial disclosure requirements have become a prohibitive obstacle to the recruitment of honest men and women to public service. Post-employment restrictions confront potential new recruits with the prospect of having to forsake not only income but work itself in the very fields in which they have demonstrated talent and found success. Meanwhile, a pervasive atmosphere of distrust and cynicism about government service is reinforced by the encrustation of complex rules based on the assumption that all officials, and especially those with experience in or contact with the private sector, are criminals waiting to be unmasked.

We therefore recommend the following:

1. That the President act to shorten and make more efficient the Presidential appointee process by confirming the national security team first, standardizing paperwork requirements, and reducing the number of nominees subject to full FBI background checks.
2. That the President reduce the number of Senate-confirmed and non-career SES positions by 25 percent to reduce the layering of senior positions in departments that has developed over time.
3. That the President and Congressional leaders instruct their top aides to report within 90 days of January 20, 2001 on specific steps to revise government ethics laws and regulations.

This should entail a comprehensive review of regulations that might exceed statutory requirements and making blind trusts, discretionary waivers, and recusals more easily available as alternatives to complete divestiture of financial and business holdings of concern.

Beyond the appointments process, there are problems with government personnel systems specific to the Foreign Service, the Civil Service, and to the military services. But for all three, there is one step we urge:

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Expand the National Security Education Act of 1991 (NSEA) to include broad support for social sciences, humanities, and foreign languages in exchange for civilian government and military service.

This expanded Act is the complement to the National Security Science and Technology Education Act (NSSTEA) and would provide college scholarship and loan forgiveness benefits for government service. Recipients could fulfill this service in a variety of ways: in the active duty military; in National Guard or Reserve units; in national security departments of the Civil Service; or in the Foreign Service. The expanded NSEA thus would provide an important means of recruiting high-quality people into military and civilian government service.

An effective and motivated Foreign Service is critical to the success of the Commission's restructuring proposal for the State Department, yet 25 percent fewer people are now taking the entrance exam compared to the mid-1980s. Those who do enter complain of poor management and inadequate professional education. We therefore recommend that the Foreign Service system be improved by making leadership a core value of the State Department, revamping the examination process, and dramatically improving the level of on-going professional education.

The Civil Service faces a range of problems from the aging of the federal workforce to institutional challenges in bringing new workers into government service to critical gaps in recruiting and retaining information technology professionals. To address these problems, the

Commission recommends eliminating recruitment hurdles, making the hiring process faster and easier, and designing professional education and retention programs worthy of full funding by Congress. Retaining talented information technology workers, too, will require greater incentives and the outsourcing of some IT support functions.

The national security component of the Civil Service calls for professionals with breadth of experience in the inter-agency process and with depth of knowledge about policy issues. To develop these, we recommend the establishment of a National Security Service Corps (NSSC) to broaden the experience base of senior departmental managers and develop leaders who seek integrative solutions to national security policy problems. Participating departments would include Defense, State, Treasury, Commerce, Justice, Energy, and the new National Homeland Security Agency-the departments essential to interagency policymaking on key national security issues. While participating departments would retain control over their personnel, an interagency advisory group would design and monitor the rotational assignments and professional education that will be key to the Corps' success.

With respect to military personnel, reform is needed in the recruitment, promotion, compensation and retirement systems. Otherwise, the military will continue to lose its most talented personnel, and the armed services will be left with a cadre unable to handle the technological and managerial tasks necessary for a world-class 21st century force.

Beyond the significant expansion of scholarships and debt relief programs recommended in both the modified National Security Education Act and the newly created National Security Science and

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Technology Education Act, we recommend substantial enhancements to the Montgomery GI Bill and strengthening recently passed and pending legislation that supports benefits-including transition, medical, and homeownership-for qualified veterans. The GI Bill should be restored as a pure entitlement, be transferable to dependents if desired by career service members, and should equal, at the very least, the median tuition cost of four-year U.S. colleges. The payments should be accelerated to coincide with school term periods and be indexed to keep pace with college cost increases. In addition, Title 38 authority for veterans benefits should be modified to restore and substantially improve medical, dental, and VA home ownership benefits for all who qualify, but especially for career and retired service members. Taken as a package, such changes will help bring the best people into the armed service and persuade quality personnel to serve longer in order to secure greater rewards for their service.

While these enhancements are critical they will not, by themselves, resolve the quality recruitment and retention problems of the Services. We therefore recommend significant modifications to military personnel legislation governing officer and enlisted career

management, retirement, and compensation-giving Service Secretaries more authority and flexibility to adapt their personnel systems and career management to meet 21st century requirements. This should include flexible compensation and retirement plans, exemption from "up-or-out" mandates, and reform of personnel systems to facilitate fluid movement of personnel. If we do not decentralize and modernize the governing personnel legislation, no military reform or transformation is possible. We call for an Executive-Legislative working group to monitor, evaluate and share information about the testing and implementation of these recommendations. With bipartisan cooperation, our military will remain one of this nation's most treasured institutions and our safeguard in the changing world ahead.

The Role of Congress

While Congress has mandated many changes to a host of Executive departments and agencies over the years, it has not fundamentally reviewed its own role in national security policy. Moreover, it has not reformed its own structure since 1949. At present, for example, every major defense program must be voted upon no fewer than eighteen times each year by an array of committees and subcommittees. This represents a very poor use of time for busy members of the Executive and Legislative Branches.

To address these deficiencies, the Commission first recommends that the Congressional leadership conduct a thorough bicameral, bipartisan review of the Legislative Branch's relationship to national security and foreign policy. The House Speaker, Majority, and Minority leaders and the Senate Majority and Minority leaders must work with the President and his top aides to bring proposed reforms to this Congress by the beginning of its second session.

From that basis, Congressional and Executive Branch leaders must build programs to encourage members to acquire knowledge and experience in national security. These programs should include ongoing education, greater opportunities for serious overseas travel, more legislature-to-legislature exchanges, and greater participation in wargames.

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Greater fluency in national security matters must be matched by structural reforms. A comprehensive review of the Congressional committee structure is needed to ensure that it reflects the complexity of 21st century security challenges and of U.S. national security priorities. Specifically we recommend merging appropriations subcommittees with their respective authorizing committees so that the new merged committees will authorize and appropriate within the same bill. This should decrease the bureaucracy of the budget process and allow more time to be devoted to the oversight of national security policy.

An effective Congressional role in national security also requires ongoing Executive- Legislative consultation and coordination. The Executive Branch must ensure a sustained effort in consultation and devote resources to it. For its part, Congress must make consultation a higher priority, in part by forming a permanent consultative group composed of the Congressional leadership and the Chairpersons and Ranking Members of the main committees involved in national security. This will form the basis for sustained dialogue and greater support in times of crisis.

The Commission notes, in conclusion, that some of its recommendations will save money, while others call for more expenditure. We have not tried to "balance the books" among our recommendations, nor have we held financial implications foremost in mind during our work. We consider any money that may be saved a second-order benefit. We consider the provision of additional resources to national security, where necessary, to be investments, not costs, in first-order national priorities.

Finally, we strongly urge the new President and the Congressional leadership to establish some mechanism to oversee the implementation of the recommendations proffered here. Once some mechanism is chosen, the President must ensure that responsibility for implementing the recommendations of this Commission be given explicitly to senior personnel in both the Executive and Legislative Branches of government. The press of daily obligations is such that unless such delegation is made, and those given responsibility for implementation are held accountable for their tasks, the necessary reforms will not occur. The stakes are high. We of this Commission believe that many thousands of American lives, U.S. leadership among the community of nations, and the fate of U.S. national security itself are at risk unless the President and the Congress join together to implement the recommendations set forth in this report.

Introduction: Imperative for Change

The U.S. Commission on National Security/ 21st Century was chartered to be the most comprehensive examination of the structures and processes of the U.S. national security apparatus since the core legislation governing it was passed in 1947. The Commission's Charter enjoins the Commissioners to "propose measures to adapt existing national security structures" to new circumstances, and if necessary, "to create new structures where none exist." The Commission is also charged with providing "cost and time estimates to complete these improvements," as appropriate, for what is to be, in sum, "an institutional road map for the early part of the 21st century."*5

Our Phase III report provides such a road map. But Phase III rests on the first two phases of the

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Commission's work: Phase I's examination of how the world may evolve over the next quarter century, and Phase II's strategy to deal effectively with that world on behalf of American interests and values.

In its Phase I effort, this Commission stressed that global trends in scientific- technological, economic, socio-political, and military-security domains-as they mutually interact over the next 25 years-will produce fundamental qualitative changes in the U.S. national security environment. We arrived at these fourteen conclusions:

· The United States will become increasingly vulnerable to hostile attack on the America homeland, and U.S. military superiority will not entirely protect us.

· Rapid advances in information and biotechnologies will create new vulnerabilities for U.S. security.

· New technologies will divide the world as well as draw it together.

· The national security of all advanced states will be increasingly affected by the vulnerabilities of the evolving global economic infrastructure.

· Energy supplies will continue to have major strategic significance.

· All borders will be more porous; some will bend and some will break.

· The sovereignty of states will come under pressure, but will endure as the main principle of international political organization.

· The fragmentation and failure of some states will occur, with destabilizing effects on entire regions.

· Foreign crises will be replete with atrocities and the deliberate terrorizing of civilian populations.

· Space will become a critical and competitive military environment.

· The essence of war will not change.

· U.S. intelligence will face more challenging adversaries, and even excellent intelligence will not prevent all surprises.

· The United States will be called upon frequently to intervene militarily in a time of uncertain alliances, and with the prospect of fewer forward-deployed forces.

· The emerging security environment in the next quarter century will require different U.S. military and other national capabilities.

The Commission's stress on communicating the scale and pace of change has been borne out by extraordinary developments in science and technology in just the eighteen-month period since the Phase I

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report appeared. The mapping of the human genome was completed. A functioning quantum computing device was invented. Organic and inorganic material was mated at the molecular level for the first time. Basic mechanisms of the aging process have been understood at the genetic level. Any one of these developments would have qualified as a "breakthrough of the decade" a quarter century ago, but they all happened within the past year and a half.

This suggests the possible advent of a period of change the scale of which will often astound us. The key factor driving change in America's national security environment over the next 25 years will be the acceleration of scientific discovery and its technological applications, and the uneven human social and psychological capacity to harness them. Synergistic developments in information technology, materials science, biotechnology, and nanotechnology will almost certainly transform human tools more dramatically and rapidly than at any time in human history.

While it is easy to underestimate the social implications of change on such a scale, the need for human intellectual and social adaptation imposes limits to the pace of change. These limits are healthy, for they allow and encourage the application of the human moral sense to choices of major import. We will surely have our hands full with such choices over the next quarter century. In that time we may witness the development of a capacity to guide or control evolution by manipulating human DNA. The ability to join organic and inorganic material forms suggests, that humans may co-evolve literally with their own machines. Such prospects are both sobering and contentious. Some look to the future with great hope for the prospect of curing disease, repairing broken bodies, ending poverty, and preserving the biosphere. But others worry that curiosity and vanity will outrun the human moral sense, thus turning hope into disaster. The truth is that we do not know where the rapidly expanding domain of scientific-technological innovation will bring us. Nor do we know the extent to which we can summon the collective moral fortitude to control its outcome.

What we do know is that some societies, and some people within societies, will be at the forefront of future scientific- technological developments and others will be marginal to them. This means more polarization between those with wealth and power and those without-both among and within societies. It suggests, as well, that many engrained social patterns will become unstable, for scientific-technological innovation has profound, if generally unintended, effects on economic organization, social values, and political life.

In the Internet age, for example, information technologies may be used to empower communities and advance freedoms, but they can also empower political movements led by charismatic leaders with irrational premises. Such men and women in the 21st century will be less bound than those of the 20th by the limits of the state, and less obliged to gain large industrial capabilities in order to wreck havoc. For example, a few people with as little as $50,000 investment may manage to produce and spread a genetically-altered pathogen with the potential to kill millions of people in a matter of months. Clearly, the threshold for small groups or even individuals to inflict massive damage on those they take to be their enemies is falling dramatically.

As for political life, it is clear that the rapidity of change is already overwhelming many states in what

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used to be called the Third World. Overlaid on the enduring plagues of corruption and sheer bad government is a new pattern: information technology has widened the awareness of democracy and market-driven prosperity, and has led to increasing symbolic and material demands on government. These demands often exceed existing organizational capacities to meet them. One result is that many national armies do not respond to government control. Another is that mercenaries, criminals, terrorists, and drug cartel operators roam widely and freely. Meanwhile, non-governmental organizations (NGOs) along with global financial institutions sometimes function as proxy service and regulatory bureaucracies to do for states that which they cannot do for themselves-further diminishing governmental control and political accountability.

As a result of the growing porosity of borders, and of the widening scope of functional economic integration, significant political developments can no longer be managed solely through the vehicle of bilateral diplomatic relations. A seemingly internal crisis in Sierra Leone, carefully observed, implicates most of West Africa. A problem involving drug cultivation and political rebellion in Colombia cannot be addressed without involving Panama, Venezuela, Bolivia, Ecuador, Peru, Brazil, and Mexico. Financial problems in Thailand tumble willy-nilly onto Russia, Brazil, Japan, Indonesia, Malaysia, and the United States.

Demography is another major driver of global political change. Population growth tends to moderate with increased literacy, urbanization, and especially changes in traditional values that attend the movement of women into the workplace. Thanks to these trends, the world's rate of population increase is slowing somewhat, but the absolute increases over the next quarter century will be enormous and coping with them will be a major challenge throughout much of the world. In some countries, however, the problem will be too few births. In Japan and Germany, for example, social security and private pension systems may face enormous strain because too few young workers will be available to support retirees living ever-longer lives. The use of foreign workers may be the only recourse for such societies, but that raises other political and social difficulties.

Yet another driver of change may be sustained economic growth in particular parts of the world. Asia may well be the most economically dynamic region on earth by 2025. Much depends on China's ability to reform further the structure of its economy and on India's ability to unleash its vast economic potential. But if these two very large countries achieve sustained economic growth-and if the economies of Japan, Korea, Taiwan, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam also grow-the focus of world power will shift away from the dominant Western centers of the past five centuries. While America is itself increasingly diverse, it still shares more philosophically and historically with Europe than with Asia. The challenge for the United States, then, may rest not only in a geostrategic shift, but in a shift in the cultural fabric of international politics itself.

In Phase II the Commission moved from describing objective conditions to prescribing a strategy for dealing with them. Subtitled A Concert for Preserving Security and Promoting Freedom, the Commission stressed that America cannot secure and advance its own interests in isolation. The nations of the world must work together-and the United States must learn to work with others in new ways-if the more cooperative order emerging from the Cold War epoch is to be sustained and strengthened.

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Nonetheless, this Commission takes as its premise that America must play a special international role well into the future. By dint of its power and its wealth, its interests and its values, the United States has a responsibility to itself and to others to reinforce international order. Only the United States can provide the ballast of global stability, and usually the United States is the only country in a position to organize collective responses to common challenges.

We believe that American strategy must compose a balance between two key aims. The first is to reap the benefits of a more integrated world in order to expand freedom, security, and prosperity for Americans and for others. But second, American strategy must also strive to dampen the forces of global instability so that those benefits can endure and spread.

On the positive side, this means that the United States should pursue, within the limits of what is prudent and realistic, the worldwide expansion of material abundance and the eradication of poverty. It should also promote political pluralism, freedom of thought and speech, and individual liberty. Not only do such aims inhere in American principles, they are practical goals, as well. There are no guarantees against violence and evil in the world. We believe, nonetheless, that the expansion of human rights and basic material well-being constitutes a sturdy bulwark against them. On the negative side, these goals require concerted protection against four related dangers: the proliferation of weapons of mass destruction; international terrorism; major interstate aggression; and the collapse of states into internal violence, with the associated regional destabilization that often accompanies it.

These goals compose the lodestone of a U.S. strategy to expand freedom and maintain underlying stability, but, as we have said, the United States cannot achieve them by itself. American leadership must be prepared to act unilaterally if necessary, not least because the will to act alone is sometimes required to gain the cooperation of others. But U.S. policy should join its efforts with allies and multilateral institutions wherever possible; the United States is wise to strengthen its partners and in turn will derive strength from them.

The United States, therefore, as the prime keeper of the international security commons, must speak and act in ways that lead others, by dint of their own interests, to ally with American goals. If it is too arrogant and self-possessed, American behavior will invariably stimulate the rise of opposing coalitions. The United States will thereby drive away many of its partners and weaken those that remain. Tone matters.

To carry out this strategy and achieve these goals, the Commission defined six key objectives for U.S. foreign and national security policy:
First, the preeminent objective is "to defend the United States and ensure that it is safe from the dangers of a new era." The combination of unconventional weapons proliferation with the persistence of international terrorism will end the relative invulnerability of the U.S. homeland to catastrophic attack. To deter attack against the homeland in the 21st century, the United States requires a new triad of prevention, protection, and response. Failure to prevent mass-casualty attacks against the American homeland would jeopardize not only American lives but U.S. foreign policy writ large. It would undermine support for

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U.S. international leadership and for many of our personal freedoms, as well. Indeed, the abrupt undermining of U.S. power and prestige is the worst thing that could happen to the structure of global peace in the next quarter century, and nothing is more likely to produce it than devastating attacks on American soil.

Achieving this goal, and the nation's other critical national security goals, also requires the U.S. government, as a second key objective, to "maintain America's social cohesion, economic competitiveness, technological ingenuity, and military strength." That means a larger investment in and better management of science and technology in government and in society, and a substantially better educational system, particularly for the teaching of science and mathematics.

The United States must also take better advantage of the opportunities that the present period of relative international stability and American power enable. A third key objective, therefore, is "to assist the integration of key major powers, especially China, Russia, and India, into the mainstream of the emerging international system." Moreover, since globalization's opportunities are rooted in economic and political progress, the Commission's fourth key U.S. objective is "to promote, with others, the dynamism of the new global economy and improve the effectiveness of international institutions and international law."

A fifth key objective also follows, which is "to adapt U.S. alliances and other regional mechanisms to a new era in which America's partners seek greater autonomy and responsibility." A sixth and final key objective inheres in an effort "to help the international community tame the disintegrative forces spawned by an era of change." While the prospect of major war is low, much of the planet will experience conflict and violence. Unless the United States, in concert with others, can find a way to limit that conflict and violence, it will not be able to construct a foreign policy agenda focussed on opportunities.

Achieving all of these objectives will require a basic shift in orientation: to focus on preventing rather than simply responding to dangers and crises. The United States must redirect its energies, adjust its diplomacy, and redesign its military capabilities to ward off cross-border aggression, assist states before they fail, and avert systemic international financial crises. To succeed over the long run with a preventive focus, the United States needs to institutionalize its efforts to grasp the opportunities the international environment now offers.

An opportunity-based strategy also has the merit of being more economical than a reactive one. Preventing a financial crisis, even if it involves well-timed bailouts, is cheaper than recuperating from stock market crashes and regional recessions. Preventing a violent conflict costs less than responsive peacekeeping operations and nation-building activities. And certainly, preventing mass-casualty attacks on the American homeland will be far less expensive than recovering from them.

These six objectives, and the Commission's strategy itself, rest on a premise so basic that it often goes unstated: democracy conduces generally to domestic and international peace, and peace conduces to, or at least allows, democratic politics. While this premise is not a "law," and while scholars continue to study and debate these matters, we believe they are strong tendencies, and that they can be strengthened further by a consistent and determined national policy. We know, that a world characterized by the spread of

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genuine democracy would not be flawless, nor signal "the end of history." But it is the best of all possible worlds that we can conceive, and that we can achieve.

In Phase I, this Commission presented four "Worlds in Prospect," agglomerations of basic trends that, we believed, might describe the world in 2025. The Democratic Peace was one. Nationalism and Protectionism was a second, Division and Mayhem a third, and Globalism Triumphant the fourth. We, and presumably most observers, see the Democratic Peace as a positive future, Nationalism and Protectionism as a step in the wrong direction, Division and Mayhem as full-fledged tragedy. But the Globalism Triumphant scenario divides opinion, partly because it is the hardest to envision, and partly because it functions as a template for the projection of conflicting political views.

Some observers, for example, believe that the end of the nation-state is upon us, and that this is a good thing, for, in this view, nationalism is the root of racism and militarism. The eclipse of the national territorial state is at any rate, some argue, an inevitable development given the very nature of an increasingly integrated world.

We demur. To the extent that a more integrated world economically is the best way to raise people out of poverty and disease, we applaud it. We also recognize the need for unprecedented international cooperation on a range of transnational problems. But the state is the only venue discovered so far in which democratic principles and processes can play out reliably, and not all forms of nationalism have been or need be illiberal. We therefore affirm the value of American sovereignty as well as the political and cultural diversity ensured by the present state system. Within that system the United States must live by and be ready to share its political values-but it must remember that those values include tolerance for those who hold different views.

A broader and deeper Democratic Peace is, and ought to be, America's aspiration, but there are obstacles to achieving it. Indeed, despite the likely progress ahead on many fronts, the United States may face not only episodic problems but also genuine crises. If the United States mismanages its current global position, it could generate resentments and jealousies that leave us more isolated than isolationist. Major wars involving weapons of mass destruction are possible, and the general security environment may deteriorate faster than the United States, even with allied aid, can redress it. Environmental, economic, and political unraveling in much of the world could occur on a scale so large as to make current levels of prosperity unsustainable, let alone expandable. Certain technologies-biotechnology, for example-may also undermine social and political stability among and within advanced countries, including the United States. Indeed, all these crises may occur, and each could reinforce and deepen the others.

The challenge for the United States is to seize the new century's many opportunities and avoid its many dangers. The problem is that the current structures and processes of U.S. national security policymaking are incapable of such management. That is because, just below the enormous power and prestige of the United States today is a neglected and, in some cases, a decaying institutional base.

The U.S. government is not well organized, for example, to ensure homeland security. No adequate coordination mechanism exists among federal, state, and local government efforts, as well as those of

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dozens of agencies at the federal level. If present trends continue in elementary and secondary school science and mathematics education, to take another example, the United States may lose its lead in many, if not most, major areas of critical scientific-technological competence within 25 years. We are also losing, and are finding ourselves unable to replace, the most critical asset we have: talented and dedicated personnel throughout government.

Strategic planning is absent in the U.S. government and its budget processes are so inflexible that few resources are available for preventive policies or for responding to crises, nor can resources be reallocated efficiently to reflect changes in policy priorities. The economic component of U.S. national security policy is poorly integrated with the military and diplomatic components. The State Department is demoralized and dysfunctional. The Defense Department appears incapable of generating a strategic posture very different from that of the Cold War, and its weapons acquisition process is slow, inefficient, and burdened by excess regulation. National policy in the increasingly critical environment of space is adrift, and the intelligence community is only slowly reorienting itself to a world of more diffuse and differently shaped threats. The Executive Branch, with the aid of the Congress, needs to initiate change in many areas by taking bold new steps, and by speeding up positive change where it is languishing.

The very mention of changing the engrained routines and structures of government is usually enough to evoke cynicism even in a born optimist. But the American case is surprisingly positive, especially in relatively recent times. The reorganizations occasioned by World War II were vast and innovative, and the 1947 National Security Act was bold in advancing and institutionalizing them. Major revisions of the 1947 Act were passed subsequently by Congress in 1949, 1953, and 1958. Major internal Defense Department reforms were promulgated as well, one in 1961 and another, the Department of Defense Reorganization Act (Goldwater-Nichols) in 1986. The essence of the American genius is that we know better than most societies how to reinvent ourselves to meet the times. This Commission, we believe, is true to that estimable tradition.

Despite this relatively good record, resistance will arise to changing U.S. national security structures and processes, both within agencies of government and in the Congress. What is needed, therefore, is for the new administration, together with the new Congress, to exert real leadership. Our comprehensive recommendations to guide that leadership follow.

First, we must prepare ourselves better to defend the national homeland. We take this up in Section I, Securing the National Homeland. We put this first because it addresses the most dangerous and the most novel threat to American national security in the years ahead.

Second, we must rebuild our strengths in the generation and management of science and technology and in education. We have made Recapitalizing America's Strengths in Science and Education the second section of this report despite the fact that science management and education issues are rarely ranked as paramount national security priorities. We do so to emphasize their crucial and growing importance.

Third, we must ensure coherence and effectiveness in the institutions of the Executive Branch of government. Section III, Institutional Redesign, proposes change throughout the national security

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apparatus.

Fourth, we must ensure the highest caliber human capital in public service. U.S. national security depends on the quality of the people, both civilian and military, serving within the ranks of government. If we are unsuccessful in meeting the crisis of competence before us, none of the other reforms proposed in this report will succeed. Section IV, The Human Requirements for National Security, examines government personnel issues in detail.

Fifth, the Congress is part of the problem before us, and therefore must become part of the solution. Not only must the Congress support the Executive Branch reforms promulgated here, but it must bring its own organization in line with the 21st century. Section V, The Role of Congress, examines this critical facet of government reform.

Each section of this report carries an introduction explaining why the subject is important, identifies the major problems requiring solution, and then states this Commission's recommendations. All major recommendations are in bold-face type.*6
Related but subordinate recommendations are italicized and in bold-face type in the text.

As appropriate throughout the report, we outline what Congressional, Presidential, and Executive department actions would be required to implement the Commission's recommendations. Also as appropriate, we provide general guidance as to the budgetary implications of our recommendations but, lest details of such consideration confuse and complicate the text, will provide suggested implementation plans for selected areas in a separately issued addendum. A last word urges the President to devise an implementing mechanism for the recommendations put forth here.
Finally, we observe that some of our recommendations will save money, while others call for more expenditure. We have not tried to "balance the books" among our recommendations, nor have we held financial implications foremost in mind during our work. Wherever money may be saved, we consider it a second-order benefit. Provision of additional resources to national security, where necessary, are investments, not costs, and a first-order national priority.

I. Securing the National Homeland

One of this Commission's most important conclusions in its Phase I report was that attacks against American citizens on American soil, possibly causing heavy casualties, are likely over the next quarter century.*7 This is because both the technical means for such attacks, and the array of actors who might use such means, are proliferating despite the best efforts of American diplomacy.

These attacks may involve weapons of mass destruction and weapons of mass disruption. As porous as U.S. physical borders are in an age of burgeoning trade and travel, its "cyber borders" are even more porous-and the critical infrastructure upon which so much of the U.S. economy depends can now be targeted by non-state and state actors alike. America's present global predominance does not render it immune from these dangers. To the contrary, U.S. preeminence makes the American homeland more

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appealing as a target, while America's openness and freedoms make it more vulnerable.

Notwithstanding a growing consensus on the seriousness of the threat to the homeland posed by weapons of mass destruction and disruption, the U.S. government has not adopted homeland security as a primary national security mission. Its structures and strategies are fragmented and inadequate. The President must therefore both develop a comprehensive strategy and propose new organizational structures to prevent and protect against attacks on the homeland, and to respond to such attacks if prevention and protection should fail.

Any reorganization must be mindful of the scale of the scenarios we envision and the enormity of their consequences. We need orders-of-magnitude improvements in planning, coordination, and exercise. The government must also be prepared to use effectively-albeit with all proper safeguards-the extensive resources of the Department of Defense. This will necessitate new priorities for the U.S. armed forces and particularly, in our view, for the National Guard.

The United States, however, is very poorly organized to design and implement any comprehensive strategy to protect the homeland. The assets and organizations that now exist for homeland security are scattered across more than two dozen departments and agencies, and all fifty states. The Executive Branch, with the full participation of Congress, needs to realign, refine, and rationalize these assets into a coherent whole, or even the best strategy will lack an adequate vehicle for implementation.

This Commission believes that the security of the American homeland from the threats of the new century should be the primary national security mission of the U.S. government. While the Executive Branch must take the lead in dealing with the many policy and structural issues involved, Congress is a partner of critical importance in this effort. It must find ways to address homeland security issues that bridge current gaps in organization, oversight, and authority, and that resolve conflicting claims to jurisdiction within both the Senate and the House of Representatives and also between them.

Congress is crucial, as well, for guaranteeing that homeland security is achieved within a framework of law that protects the civil liberties and privacy of American citizens. We are confident that the U.S. government can enhance national security without compromising established Constitutional principles. But in order to guarantee this, we must plan ahead. In a major attack involving contagious biological agents, for example, citizen cooperation with government authorities will depend on public confidence that those authorities can manage the emergency. If that confidence is lacking, panic and disorder could lead to insistent demands for the temporary suspension of some civil liberties. That is why preparing for the worst is essential to protecting individual freedoms during a national crisis. Legislative guidance for planning among federal agencies and state and local authorities must take particular cognizance of the role of the Defense Department. Its subordination to civil authority needs to be clearly defined in advance. In short, advances in technology have created new dimensions to our nation's economic and physical security. While some new threats can be met with traditional responses, others cannot. More needs to be done in three areas to prevent the territory and infrastructure of the United States from becoming easy and tempting targets: in strategy, in organizational realignment, and in Executive-Legislative cooperation. We take these areas in turn.

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A. THE STRATEGIC FRAMEWORK

A homeland security strategy to minimize the threat of intimidation and loss of life is an essential support for an international leadership role for the United States. Homeland security is not peripheral to U.S. national security strategy but central to it. At this point, national leaders have not agreed on a clear strategy for homeland security, a condition this Commission finds dangerous and intolerable. We therefore recommend the following:

· 1: The President should develop a comprehensive strategy to heighten America's ability to prevent and protect against all forms of attacks on the homeland, and to respond to such attacks if prevention and protection fail.

In our view, the President should:

· Give new priority in his overall national security strategy to homeland security, and make it a central concern for incoming officials in all Executive Branch departments, particularly the intelligence and law enforcement communities;

· Calmly prepare the American people for prospective threats, and increase their awareness of what federal and state governments are doing to prevent attacks and to protect them if prevention fails;

· Put in place new government organizations and processes, eliminating where possible staff duplication and mission overlap; and

· Encourage Congress to establish new mechanisms to facilitate closer cooperation between the Executive and Legislative Branches of government on this vital issue.

We believe that homeland security can best be assured through a strategy of layered defense that focuses first on prevention, second on protection, and third on response.

Prevention: Preventing a potential attack comes first. Since the occurrence of even one event that causes catastrophic loss of life would represent an unacceptable failure of policy, U.S. strategy should therefore act as far forward as possible to prevent attacks on the homeland. This strategy has at its disposal three essential instruments.

Most broadly, the first instrument is U.S. diplomacy. U.S. foreign policy should strive to shape an international system in which just grievances can be addressed without violence. Diplomatic efforts to develop friendly and trusting relations with foreign governments and their people can significantly multiply America's chances of gaining early warning of potential attack and of doing something about impending threats. Intelligence-sharing with foreign governments is crucial to help identify individuals and groups who might be considering attacks on the United States or its allies. Cooperative foreign law enforcement agencies can detain, arrest, and prosecute terrorists on their own soil. Diplomatic success in

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resolving overseas conflicts that spawn terrorist activities will help in the long run.

Meanwhile, verifiable arms control and nonproliferation must remain a top priority. These policies can help persuade states and terrorists to abjure weapons of mass destruction and to prevent the export of fissile materials and dangerous dual-use technologies. But such measures cannot by themselves prevent proliferation. So other measures are needed, including the possibility of punitive measures and defenses. The United States should take a lead role in strengthening multilateral organizations such as the International Atomic Energy Agency.

In addition, increased vigilance against international crime syndicates is also important because many terrorist organizations gain resources and other assets through criminal activity that they then use to mount terrorist operations. Dealing with international organized crime requires not only better cooperation with other countries, but also among agencies of the federal government. While progress has been made on this front in recent years, more remains to be done.*8 The second instrument of homeland security consists of the U.S. diplomatic, intelligence, and military presence overseas. Knowing the who, where, and how of a potential physical or cyber attack is the key to stopping a strike before it can be delivered. Diplomatic, intelligence, and military agencies overseas, as well as law enforcement agencies working abroad, are America's primary eyes and ears on the ground. But increased public-private efforts to enhance security processes within the international transportation and logistics networks that bring people and goods to America are also of critical and growing importance.

Vigilant systems of border security and surveillance are a third instrument that can prevent those agents of attack who are not detected and stopped overseas from actually entering the United States. Agencies such as the U.S. Customs Service and U.S. Coast Guard have a critical prevention role to play. Terrorists and criminals are finding that the difficulty of policing the rising daily volume and velocities of people and goods that cross U.S. borders makes it easier for them to smuggle weapons and contraband, and to move their operatives into and out of the United States. Improving the capacity of border control agencies to identify and intercept potential threats without creating barriers to efficient trade and travel requires a sub-strategy also with three elements.

First is the development of new transportation security procedures and practices designed to reduce the risk that importers, exporters, freight forwarders, and transportation carriers will serve as unwitting conduits for criminal or terrorist activities. Second is bolstering the intelligence gathering, data management, and information sharing capabilities of border control agencies to improve their ability to target high-risk goods and people for inspection. Third is strengthening the capabilities of border control agencies to arrest terrorists or interdict dangerous shipments before they arrive on U.S. soil.

These three measures, which place a premium on public-private partnerships, will pay for themselves in short order. They will allow for the more efficient allocation of limited enforcement resources along U.S. borders. There will be fewer disruptive inspections at ports of entry for legitimate businesses and travelers. They will lead to reduced theft and insurance costs, as well. Most important, the underlying philosophy of this approach is one that balances prudence, on the one hand, with American values of openness and free trade on the other. *9 To shield America from the world out of fear of terrorism is, in

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large part, to do the terrorists' work for them. To continue business as usual, however, is irresponsible.

The same may be said for our growing cyber problems. Protecting our nation's critical infrastructure depends on greater public awareness and improvements in our tools to detect and diagnose intrusions. This will require better information sharing among all federal, state, and local governments as well as with private sector owners and operators. The federal government has these specific tasks:

· To serve as a model for the private sector by improving its own security practices;

· To address known government security problems on a system-wide basis

· To identify and map network interdependencies so that harmful cascading effects among systems can be prevented;

· To sponsor vulnerability assessments within both the federal government and the private sector; and

· To design and carry out simulations and exercises that test information system security across the nation's entire infrastructure.

Preventing attacks on the American homeland also requires that the United States maintain long-range strike capabilities. The United States must bolster deterrence by making clear its determination to use military force in a preemptive fashion if necessary. Even the most hostile state sponsors of terrorism, or terrorists themselves, will think twice about harming Americans and American allies and interests if they fear direct and severe U.S. attack after-or before-the fact. Such capabilities should be available for preemption as well as for retaliation, and will therefore strengthen deterrence.

Protection: The Defense Department undertakes many different activities that serve to protect the American homeland, and these should be integrated into an overall surveillance system, buttressed with additional resources. A ballistic missile defense system would be a useful addition and should be developed to the extent technically feasible, fiscally prudent, and politically sustainable. Defenses should also be pursued against cruise missiles and other sophisticated atmospheric weapon technologies as they become more widely deployed. While both active duty and reserve forces are involved in these activities, the Commission believes that more can and should be done by the National Guard, as is discussed in more detail below. Protecting the nation's critical infrastructure and providing cyber-security must also include:

· Advanced indication, warning, and attack assessments;

· A warning system that includes voluntary, immediate private-sector reporting of potential attacks to enable other private-sector targets (and the U.S. government) better to take protective action; and

· Advanced systems for halting attacks, establishing backups, and restoring service.

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Response: Managing the consequences of a catastrophic attack on the U.S. homeland would be a complex and difficult process. The first priority should be to build up and augment state and local response capabilities. Adequate equipment must be available to first responders in local communities. Procedures and guidelines need to be defined and disseminated and then practiced through simulations and exercises. Interoperable, robust, and redundant communications capabilities are a must in recovering from any disaster. Continuity of government and critical services must be ensured as well. Demonstrating effective responses to natural and manmade disasters will also help to build mutual confidence and relationships among those with roles in dealing with a major terrorist attack.

All of this puts a premium on making sure that the disparate organizations involved with homeland security-on various levels of government and in the private sector-can work together effectively. We are frankly skeptical that the U.S. government, as it exists today, can respond effectively to the scale of danger and damage that may come upon us during the next quarter century. This leads us, then, to our second task: that of organizational realignment.

B. ORGANIZATIONAL REALIGNMENT

Responsibility for homeland security resides at all levels of the U.S. government- local, state, and federal. Within the federal government, almost every agency and department is involved in some aspect of homeland security. None have been organized to focus on the scale of the contemporary threat to the homeland, however. This Commission urges an organizational realignment that:

· Designates a single person, accountable to the President, to be responsible for coordinating and overseeing various U.S. government activities related to homeland security;

· Consolidates certain homeland security activities to improve their effectiveness and coherence;

· Establishes planning mechanisms so as clearly to define specific responses to specific types of threats; and

· Ensures that the appropriate resources and capabilities are available. Therefore, this Commission strongly recommends the following:

· 2: The President should propose, and Congress should agree, to create a National Homeland Security Agency (NHSA) with responsibility for planning, coordinating, and integrating various U.S. government activities involved in homeland security. They should use the Federal Emergency Management Agency (FEMA) as a key building block in this effort.

Given the multiplicity of agencies and activities involved in these homeland security tasks, someone needs to be responsible and accountable to the President not only to coordinate the making of policy, but also to oversee its implementation. This argues against assigning the role to a senior person on the National Security Council (NSC) staff and for the creation of a separate agency. This agency would give

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priority to overall planning while relying primarily on others to carry out those plans. To give this agency sufficient stature within the government, its director would be a member of the Cabinet and a statutory advisor to the National Security Council. The position would require Senate confirmation.

Notwithstanding NHSA's responsibilities, the National Security Council would still play a strategic role in planning and coordinating all homeland security activities. This would include those of NHSA as well as those that remain separate, whether they involve other NSC members or other agencies, such as the Centers for Disease Control within the Department of Health and Human Services.

We propose building the National Homeland Security Agency upon the capabilities of the Federal Emergency Management Agency (FEMA), an existing federal agency that has performed well in recent years, especially in responding to natural disasters. NHSA would be legislatively chartered to provide a focal point for all natural and manmade crisis and emergency planning scenarios. It would retain and strengthen FEMA's ten existing regional offices as a core element of its organizational structure.

While FEMA is the necessary core of the National Homeland Security Agency, it is not sufficient to do what NHSA needs to do. In particular, patrolling U.S. borders, and policing the flows of peoples and goods through the hundreds of ports of entry, must receive higher priority. These activities need to be better integrated, but efforts toward that end are hindered by the fact that the three organizations on the front line of border security are spread across three different U.S. Cabinet departments. The Coast Guard works under the Secretary of Transportation, the Customs Service is located in the Department of the Treasury, and the Immigration and Naturalization Service oversees the Border Patrol in the Department of Justice. In each case, the border defense agency is far from the mainstream of its parent department's agenda and consequently receives limited attention from the department's senior officials. We therefore recommend the following:

3: The President should propose to Congress the transfer of the Customs Service, the Border Patrol, and Coast Guard to the National Homeland Security Agency, while preserving them as distinct entities.

Bringing these organizations together under one agency will create important synergies. Their individual capabilities will be molded into a stronger and more effective system, and this realignment will help ensure that sufficient resources are devoted to tasks crucial to both public safety and U.S. trade and economic interests. Consolidating overhead, training programs, and maintenance of the aircraft, boats, and helicopters that these three agencies employ will save money, and further efficiencies could be realized with regard to other resources such as information technology, communications equipment, and dedicated sensors. Bringing these separate, but complementary, activities together will also facilitate more effective Executive and Legislative oversight, and help rationalize the process of budget preparation, analysis, and presentation.

Steps must be also taken to strengthen these three individual organizations themselves. The Customs

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Service, the Border Patrol, and the Coast Guard are all on the verge of being overwhelmed by the mismatch between their growing duties and their mostly static resources.

The Customs Service, for example, is charged with preventing contraband from entering the United States. It is also responsible for preventing terrorists from using the commercial or private transportation venues of international trade for smuggling explosives or weapons of mass destruction into or out of the United States. The Customs Service, however, retains only a modest air, land, and marine interdiction force, and its investigative component, supported by its own intelligence branch, is similarly modest. The high volume of conveyances, cargo, and passengers arriving in the United States each year already overwhelms the Customs Service's capabilities. Over $8.8 billion worth of goods, over 1.3 million people, over 340,000 vehicles, and over 58,000 shipments are processed daily at entry points. Of this volume, Customs can inspect only one to two percent of all inbound shipments. The volume of U.S. international trade, measured in terms of dollars and containers, has doubled since 1995, and it may well double again between now and 2005.

Therefore, this Commission believes that an improved computer information capability and tracking system-as well as upgraded equipment that can detect both conventional and nuclear explosives, and chemical and biological agents-would be a wise short-term investment with important long-term benefits. It would also raise the risk for criminals seeking to target or exploit importers and cargo carriers for illicit gains.*10

The Border Patrol is the uniformed arm of the Immigration and Naturalization Service. Its mission is the detection and prevention of illegal entry into the United States. It works primarily between ports of entry and patrols the borders by various means. There has been a debate for many years about whether the dual functions of the Immigration and Naturalization Service-border control and enforcement on the one side, and immigration facilitation on the other-should be joined under the same roof. The U.S. Commission on Immigration Reform concluded that they should not be joined.*11

We agree: the Border Patrol should become part of the NHSA. The U.S. Coast Guard is a highly disciplined force with multiple missions and a natural role to play in homeland security. It performs maritime search and rescue missions, manages vessel traffic, enforces U.S. environmental and fishery laws, and interdicts and searches vessels suspected of carrying illegal aliens, drugs, and other contraband. In a time of war, it also works with the Navy to protect U.S. ports from attack.

Indeed, in many respects, the Coast Guard is a model homeland security agency given its unique blend of law enforcement, regulatory, and military authorities that allow it to operate within, across, and beyond U.S. borders. It accomplishes its many missions by routinely working with numerous local, regional, national, and international agencies, and by forging and maintaining constructive relationships with a diverse group of private, non-governmental, and public marine-related organizations. As the fifth armed service, in peace and war, it has national defense missions that include port security, overseeing the defense of coastal waters, and supporting and integrating its forces with those of the Navy and the other services.

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The case for preserving and enhancing the Coast Guard's multi-mission capabilities is compelling. But its crucial role in protecting national interests close to home has not been adequately appreciated, and this has resulted in serious and growing readiness concerns. U.S. Coast Guard ships and aircraft are aging and technologically obsolete; indeed, the Coast Guard cutter fleet is older than 39 of the world's 41 major naval fleets. As a result, the Coast Guard fleet generates excessive operating and maintenance costs, and lacks essential capabilities in speed, sensors, and interoperability. To fulfill all of its missions, the Coast Guard requires updated platforms with the staying power, in hazardous weather, to remain offshore and fully operational throughout U.S. maritime economic zones.*12

The Commission recommends strongly that Congress recapitalize the Customs Service, the Border Patrol, and the Coast Guard so that they can confidently perform key homeland security roles.

HSA's planning, coordinating, and overseeing activities would be undertaken Nthrough three staff Directorates. The Directorate of Prevention would oversee and coordinate the various border security activities. A Directorate of Critical Infrastructure Protection (CIP) would be created to handle the growing cyber threat. FEMA's emergency preparedness and response activities would be strengthened in a third directorate to cover both natural and manmade disasters. A Science and Technology office would advise the NHSA Director on research and development efforts and priorities for all three directorates. Relatively small permanent staffs would man the directorates. NHSA will employ FEMA's principle of working effectively with state and local governments, as well as with other federal organizations, stressing interagency coordination. Much of NHSA's daily work will take place directly supporting state officials in its regional offices around the country. Its organizational infrastructure will not be heavily centered in the Washington, DC area. NHSA would also house a National Crisis Action Center (NCAC), which would become the nation's focal point for monitoring emergencies and for coordinating federal support in a crisis to state and local governments, as well as to the private sector. We envision the center to be an interagency operation, directed by a two-star National Guard general, with full-time representation from the other federal agencies involved in homeland security (See Figure 1).

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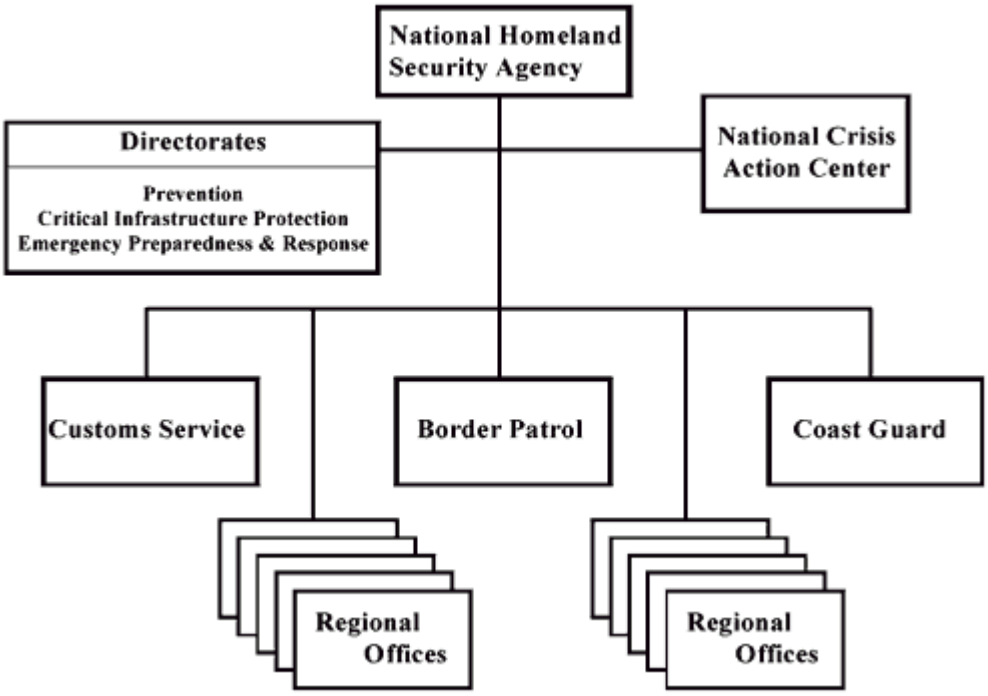

Figure 1: National Homeland Security Agency NHSA will require a particularly close working relationship with the Department of Defense. It will need also to create and maintain strong mechanisms for the sharing of information and intelligence with U.S. domestic and international intelligence entities. We suggest that NHSA have liaison officers in the counter-terrorism centers of both the FBI and the CIA. Additionally, the sharing of information with business and industry on threats to critical infrastructures will require further expansion.

HSA will also assume responsibility for overseeing the protection of the nation's Ncritical infrastructure. Considerable progress has been made in implementing the recommendations of the President's Commission on Critical Infrastructure Protection (PCCIP) and Presidential Decision Directive 63 (PDD-63). But more needs to be done, for the United States has real and growing problems in this area.

U.S. dependence on increasingly sophisticated and more concentrated critical infrastructures has increased dramatically over the past decade. Electrical utilities, water and sewage systems, transportation networks, and communications and energy systems now depend on computers to provide safe, efficient, and reliable service. The banking and finance sector, too, keeps track of millions of transactions through increasingly robust computer capabilities.

The overwhelming majority of these computer systems are privately owned, and many operate at or very near capacity with little or no provision for manual back-ups in an emergency.

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Moreover, the computerized information networks that link systems together are themselves vulnerable to unwanted intrusion and disruption. An attack on any one of several highly interdependent networks can cause collateral damage to other networks and the systems they connect. Some forms of disruption will lead merely to nuisance and economic loss, but other forms will jeopardize lives. One need only note the dependence of hospitals, air-traffic control systems, and the food processing industry on computer controls to appreciate the point.

The bulk of unclassified military communications, too, relies on systems almost entirely owned and operated by the private sector. Yet little has been done to assure the security and reliability of those communications in crisis. Current efforts to prevent attacks, protect against their most damaging effects, and prepare for prompt response are uneven at best, and this is dangerous because a determined adversary is most likely to employ a weapon of mass destruction during a homeland security or foreign policy crisis.

As noted above, a Directorate for Critical Infrastructure Protection would be an integral part of the National Homeland Security Agency. This directorate would have two vital responsibilities. First would be to oversee the physical assets and information networks that make up the U.S. critical infrastructure. It should ensure the maintenance of a nucleus of cyber security expertise within the government, as well. There is now an alarming shortage of government cyber security experts due in large part to the financial attraction of private-sector employment that the government cannot match under present personnel procedures.*13 The director's second responsibility, would be as the Critical Information Technology, Assurance, and Security Office (CITASO). This office would coordinate efforts to address the nation's vulnerability to electronic or physical attacks on critical infrastructure.

Several critical activities that are currently spread among various government agencies should be brought together for this purpose. These include:

· Information Sharing and Analysis Centers (ISACs), which are government-sponsored committees of private-sector participants who work to share information, plans, and procedures for information security in their fields;

· The Critical Infrastructure Assurance Office (CIAO), currently housed in the Commerce Department, which develops outreach and awareness programs with the private sector;

· The National Infrastructure Protection Center (NIPC), currently housed in the FBI, which gathers information and provides warnings of cyber attacks; and

· The Institute for Information Infrastructure Protection (I3P), which is designed to coordinate and support research and development projects on cyber security.

In partnership with the private sector where most cyber assets are developed and owned, the Critical Infrastructure Protection Directorate would be responsible for enhancing information sharing on cyber and physical security, tracking vulnerabilities and proposing improved risk management policies, and

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delineating the roles of various government agencies in preventing, defending, and recovering from attacks. To do this, the government needs to institutionalize better its private-sector liaison across the board-with the owners and operators of critical infrastructures, hardware and software developers, server/service providers, manufacturers/producers, and applied technology developers.

The Critical Infrastructure Protection Directorate's work with the private sector must include a strong advocacy of greater government and corporate investment in information assurance and security. The CITASO would be the focal point for coordinating with the Federal Communications Commission (FCC) in helping to establish cyber policy, standards, and enforcement mechanisms. Working closely with the Office of Management and Budget (OMB) and its Chief Information Officer Council (CIO Council), the CITASO needs to speak for those interests in government councils.*14 The CITASO must also provide incentives for private-sector participation in Information Sharing and Analysis Centers to share information on threats, vulnerabilities, and individual incidents, to identify interdependencies, and to map the potential cascading effects of outages in various sectors.

The directorate also needs to help coordinate cyber security issues internationally. At present, the FCC handles international cyber issues for the U.S. government through the International Telecommunications Union. As this is one of many related international issues, it would be unwise to remove this responsibility from the FCC. Nevertheless, the CIP Directorate should work closely with the FCC on cyber issues in international bodies.
The mission of the NHSA must include some specific planning and operational tasks to be staffed through the Directorate for Emergency Preparedness and Response.

These include:

· Setting training and equipment standards, providing resource grants, and encouraging intelligence and information sharing among state emergency management officials, local first responders, the Defense Department, and the FBI;

· Integrating the various activities of the Defense Department, the National Guard, and other federal agencies into the Federal Response Plan; and

· Pulling together private sector activities, including those of the medical community, on recovery, consequence management, and planning for continuity of services.

Working with state officials, the emergency management community, and the law enforcement community, the job of NHSA's third directorate will be to rationalize and refine the nation's incident response system. The current distinction between crisis management and consequence management is neither sustainable nor wise. The duplicative command arrangements that have been fostered by this division are prone to confusion and delay. NHSA should develop and manage a single response system for national incidents, in close coordination with the Department of Justice (DoJ) and the FBI. This would require that the current policy, which specifies initial DoJ control in terrorist incidents on U.S. territory, be amended once Congress creates NHSA. We believe that this arrangement would in no way contradict

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or diminish the FBI's traditional role with respect to law enforcement.

Finally, but perhaps most critically, the Emergency Preparedness and Response Directorate will need to assume a major resource and budget role. With the help of the Office of Management and Budget, the directorate's first task will be to figure out what is being spent on homeland security in the various departments and agencies. Only with such an overview can the nation identify the shortfalls between capabilities and requirements. Such a mission budget should be included in the President's overall budget submission to Congress. The Emergency Preparedness and Response Directorate will also maintain federal asset databases and encourage and support up-to-date state and local databases.

EMA has adapted well to new circumstances over the past few years and has gained a Fwell-deserved reputation for responsiveness to both natural and manmade disasters. While taking on homeland security responsibilities, the proposed NHSA would strengthen FEMA's ability to respond to such disasters. It would streamline the federal apparatus and provide greater support to the state and local officials who, as the nation's first responders, possess enormous expertise. To the greatest extent possible, federal programs should build upon the expertise and existing programs of state emergency preparedness systems and help promote regional compacts to share resources and capabilities.

To help simplify federal support mechanisms, we recommend transferring the National Domestic Preparedness Office (NDPO), currently housed at the FBI, to the National Homeland Security Agency. The Commission believes that this transfer to FEMA should be done at first opportunity, even before NHSA is up and running. The NDPO would be tasked with organizing the training of local responders and providing local and state authorities with equipment for detection, protection, and decontamination in a WMD emergency. NHSA would develop the policies, requirements, and priorities as part of its planning tasks as well as oversee the various federal, state, and local training and exercise programs. In this way, a single staff would provide federal assistance for any emergency, whether it is caused by flood, earthquake, hurricane, disease, or terrorist bomb.

A WMD incident on American soil is likely to overwhelm local fire and rescue squads, medical facilities, and government services. Attacks may contaminate water, food, and air; large- scale evacuations may be necessary and casualties could be extensive. Since getting prompt help to those who need it would be a complex and massive operation requiring federal support, such operations must be extensively planned in advance. Responsibilities need to be assigned and procedures put in place for these responsibilities to evolve if the situation worsens. As we envision it, state officials will take the initial lead in responding to a crisis. NHSA will normally use its Regional Directors to coordinate federal assistance, while the National Crisis Action Center will monitor ongoing operations and requirements. Should a crisis overwhelm local assets, state officials will turn to NHSA for additional federal assistance. In major crises, upon the recommendation of the civilian Director of NHSA, the President will designate a senior figure-a Federal Coordinating Officer-to assume direction of all federal activities on the scene. If the situation warrants, a state governor can ask that active military forces reinforce National Guard units already on the scene. Once the President federalizes National Guard forces, or if he decides to use Reserve forces, the Joint Forces Command will assume responsibility for all military operations, acting through designated task force commanders. At the same time, the Secretary of Defense would appoint a Defense

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Coordinating Officer to provide civilian oversight and ensure prompt civil support. This person would work for the Federal Coordinating Officer. This response mechanism is displayed in Figure 2.

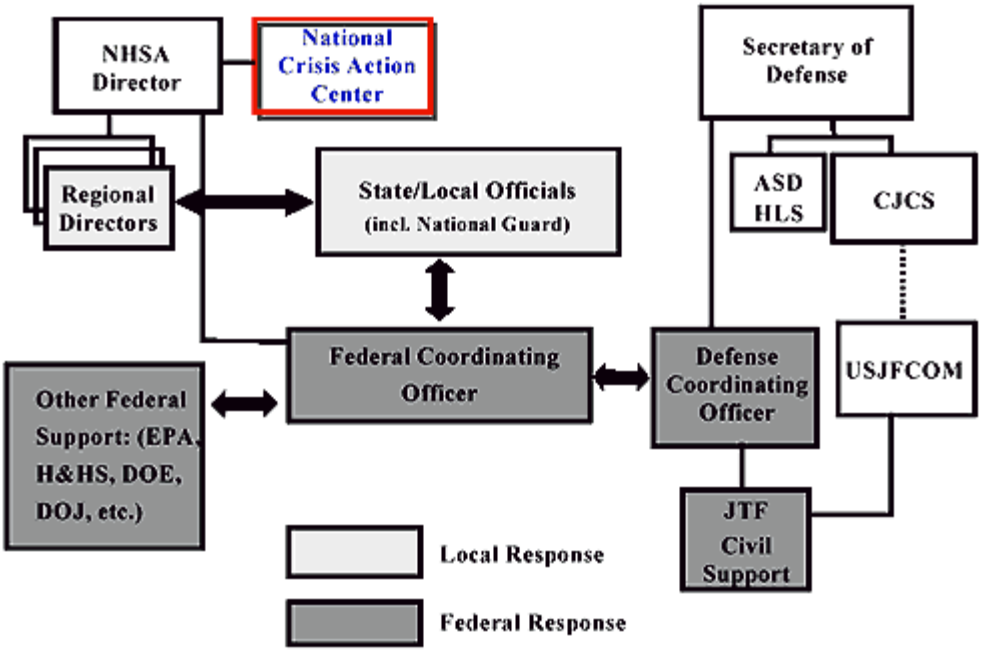

Figure 2: Emergency Response Mechanisms

To be capable of carrying out its responsibilities under extreme circumstances, NHSA will need to undertake robust exercise programs and regular training to gain experience and to establish effective command and control procedures. It will be essential to update regularly the Federal Response Plan. It will be especially critical for NHSA officials to undertake detailed planning and exercises for the full range of potential contingencies, including ones that require the substantial involvement of military assets in support.

HSA will provide the overarching structure for homeland security, but other Ngovernment agencies will retain specific homeland security tasks. We take the necessary obligations of the major ones in turn.

Intelligence Community. Good intelligence is the key to preventing attacks on the homeland and homeland security should become one of the intelligence community's most important missions.*15 Better human intelligence must supplement technical intelligence, especially on terrorist groups covertly supported by states. As noted above, fuller cooperation and more extensive information-sharing with friendly governments will also improve the chances that would-be perpetrators will be detained, arrested, and prosecuted before they ever reach U.S. borders.

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The intelligence community also needs to embrace cyber threats as a legitimate mission and to incorporate intelligence gathering on potential strategic threats from abroad into its activities.

To advance these ends, we offer the following recommendation:

· 4: The President should ensure that the National Intelligence Council include homeland security and asymmetric threats as an area of analysis; assign that portfolio to a National Intelligence Officer; and produce National Intelligence Estimates on these threats.

Department of State. U.S. embassies overseas are the American people's first line of defense. U.S. Ambassadors must make homeland security a top priority for all embassy staff, and Ambassadors need the requisite authority to ensure that information is shared in a way that maximizes advance warning overseas of direct threats to the United States.

Ambassadors should also ensure that the gathering of information, and particularly from open sources, takes full advantage of all U.S. government resources abroad, including State Department diplomats, consular officers, military officers, and representatives of the various other departments and agencies. The State Department should also strengthen its efforts to acquire information from Americans living or travelling abroad in private capacities.

The State Department has made good progress in its overseas efforts to reduce terrorism, but we now need to extend this effort into the Information Age. Working with NHSA's CIP Directorate, the State Department should expand cooperation on critical infrastructure protection with other states and international organizations. Private sector initiatives, particularly in the banking community, provide examples of international cooperation on legal issues, standards, and practices. Working with the CIP Directorate and the FCC, the State Department should also encourage other nations to criminalize hacking and electronic intrusions and to help track hackers, computer virus proliferators, and cyber terrorists.

Department of Defense. The Defense Department, which has placed its highest priority on preparing for major theater war, should pay far more attention to the homeland security mission. Organizationally, DoD responses are widely dispersed. An Assistant to the Secretary of Defense for Civil Support has responsibility for WMD incidents, while the Department of the Army's Director of Military Support is responsible for non-WMD contingencies. Such an arrangement does not provide clear lines of authority and responsibility or ensure political accountability. The Commission therefore recommends the following:

· 5: The President should propose to Congress the establishment of an Assistant Secretary of Defense for Homeland Security within the Office of the Secretary of Defense, reporting directly to the Secretary.

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A new Assistant Secretary of Defense for Homeland Security would provide policy oversight for the various DoD activities in the homeland security mission and insure that mechanisms are in place for coordinating military support in major emergencies. He or she would work to integrate homeland security into Defense Department planning, and ensure that adequate resources are forthcoming. This Assistant Secretary would also represent the Secretary in the NSC interagency process on homeland security issues.

Along similar lines and for similar reasons, we also recommend that the Defense Department broaden and strengthen the existing Joint Forces Command/Joint Task Force- Civil Support (JTF-CS) to coordinate military planning, doctrine, and command and control for military support for all hazards and disasters.

This task force should be directed by a senior National Guard general with additional headquarters personnel. JTF-CS should contain several rapid reaction task forces, composed largely of rapidly mobilizable National Guard units. The task force should have command and control capabilities for multiple incidents. Joint Forces Command should work with the Assistant Secretary of Defense for Homeland Security to ensure the provision of adequate resources and appropriate force allocations, training, and equipment for civil support.

On the prevention side, maintaining strong nuclear and conventional forces is as high a priority for homeland security as it is for other missions. Shaping a peaceful international environment and deterring hostile military actors remain sound military goals. But deterrent forces may have little effect on non-state groups secretly supported by states, or individuals with grievances real or imagined. In cases of clear and imminent danger, the military must be able to take preemptive action overseas in circumstances where local authorities are unable or unwilling to act. For this purpose, the United States needs to be prepared to use its rapid, long-range precision strike capabilities. A decision to act would obviously rest in civilian hands, and would depend on intelligence information and assessments of diplomatic consequences. But even if a decision to strike preemptively is never taken or needed, the capability should be available nonetheless, for knowledge of it can contribute to deterrence.

We also suggest that the Defense Department broaden its mission of protecting air, sea, and land approaches to the United States, consistent with emerging threats such as the potential proliferation of cruise missiles. The department should examine alternative means of monitoring approaches to the territorial United States. Modern information technology and sophisticated sensors can help monitor the high volumes of traffic to and from the United States. Given the volume of legitimate activities near and on the border, even modern information technology and remote sensors cannot filter the good from the bad as a matter of routine. It is neither wise nor possible to create a surveillance umbrella over the United States. But Defense Department assets can be used to support detection, monitoring, and even interception operations when intelligence indicates a specific threat.

Finally, a better division of labor and understanding of responsibilities is essential in dealing with the connectivity and interdependence of U.S. critical infrastructure systems. This includes addressing the nature of a national transportation network or cyber emergency and the Defense Department's role in prevention, detection, or protection of the national critical infrastructure. The department's sealift and airlift plans are premised on largely unquestioned assumptions that domestic transportation systems will

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be fully available to support mobilization requirements. The department also is paying insufficient attention to the vulnerability of its information networks. Currently, the department's computer network defense task force (JTF- Computer Network Defense) is underfunded and understaffed for the task of managing an actual strategic information warfare attack. It should be given the resources and capability to carry out its current mission and is a logical source of advice to the proposed NHSA Critical Information Technology, Assurance, and Security Office.

National Guard. The National Guard, whose origins are to be found in the state militias authorized by the U.S. Constitution, should play a central role in the response component of a layered defense strategy for homeland security. We therefore recommend the following:

· 6: The Secretary of Defense, at the President's direction, should make homeland security a primary mission of the National Guard, and the Guard should be reorganized, properly trained, and adequately equipped to undertake that mission.
At present, the Army National Guard is primarily organized and equipped to conduct sustained combat overseas. In this the Guard fulfills a strategic reserve role, augmenting the active military during overseas contingencies. At the same time, the Guard carries out many state- level missions for disaster and humanitarian relief, as well as consequence management. For these, it relies upon the discipline, equipment, and leadership of its combat forces. The National Guard should redistribute resources currently allocated predominantly to preparing for conventional wars overseas to provide greater support to civil authorities in preparing for and responding to disasters, especially emergencies involving weapons of mass destruction.

Such a redistribution should flow from a detailed assessment of force requirements for both theater war and homeland security contingencies. The Department of Defense should conduct such an assessment, with the participation of the state governors and the NHSA Director. In setting requirements, the department should minimize having forces with dual missions or relying on active forces detailed for major theater war. This is because the United States will need to maintain a heightened deterrent and defensive posture against homeland attacks during regional contingencies abroad. The most likely timing of a major terrorist incident will be while the United States is involved in a conflict overseas.*16

The National Guard is designated as the primary Department of Defense agency for disaster relief. In many cases, the National Guard will respond as a state asset under the control of state governors. While it is appropriate for the National Guard to play the lead military role in managing the consequences of a WMD attack, its capabilities to do so are uneven and in some cases its forces are not adequately structured or equipped. Twenty-two WMD Civil Support Teams, made up of trained and equipped full-time National Guard personnel, will be ready to deploy rapidly, assist local first responders, provide technical advice, and pave the way for additional military help. These teams fill a vital need, but more effort is required.

This Commission recommends that the National Guard be reorganized to fulfill its historic and Constitutional mission of homeland security. It should provide a mobilization base with strong local ties and support. It is already "forward deployed" to achieve this mission and should: · Participate in and

initiate, where necessary, state, local, and regional planning for responding to a WMD incident;

· Train and help organize local first responders;

· Maintain up-to-date inventories of military resources and equipment available in the area on short notice;

· Plan for rapid inter-state support and reinforcement; and

· Develop an overseas capability for international humanitarian assistance and disaster relief.

In this way, the National Guard will become a critical asset for homeland security. Medical Community. The medical community has critical roles to play in homeland security. Catastrophic acts of terrorism or violence could cause casualties far beyond any imagined heretofore. Most of the American medical system is privately owned and now operates at close to capacity. An incident involving WMD will quickly overwhelm the capacities of local hospitals and emergency management professionals.

In response, the National Security Council, FEMA, and the Department of Health and Human Services have already begun a reassessment of their programs. Research to develop better diagnostic equipment and immune-enhancing drugs is underway, and resources to reinvigorate U.S. epidemiological surveillance capacity have been allocated. Programs to amass and regionally distribute inventories of antibiotics and vaccines have started, and arrangements for mass production of selected pharmaceuticals have been made. The Centers for Disease Control has rapid-response investigative units prepared to deploy and respond to incidents. These programs will enhance the capacities of the medical community, but the momentum and resources for this effort must be extended. We recommend that the NHSA Directorate for Emergency Preparedness and Response assess local and federal medical resources to deal with a WMD emergency. It should then specify those medical programs needed to deal with a major national emergency beyond the means of the private sector, and Congress should fund those needs.

C. EXECUTIVE-LEGISLATIVE COOPERATION

Solving the homeland security challenge is not just an Executive Branch problem.

Congress can and should be an active participant in the development of homeland security programs, as well. Its hearings can help develop the best ideas and solutions. Individual members should develop expertise in homeland security policy and its implementation so that they can fill in policy gaps and provide needed oversight and advice in times of crisis. Most important, using its power of the purse, Congress should help to ensure that government agencies have sufficient resources and that their programs are coordinated, efficient, and effective.

Congress has already taken important steps. A bipartisan Congressional initiative produced the U.S. effort to deal with the possibility that weapons of mass destruction could "leak" out of a disintegrating Soviet

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Union.*17 It was also a Congressional initiative that established the Domestic Preparedness Program and launched a 120-city program to enhance the capability of federal, state, and local first responders to react effectively in a WMD emergency.*18 Members of Congress from both parties have pushed the Executive Branch to identify and manage the problem more effectively. Congress has also proposed and funded studies and commissions on various aspects of the homeland security problem.*19 But it must do more.

A sound homeland security strategy requires the overhaul of much of the legislative framework for preparedness, response, and national defense programs. Congress designed many of the authorities that support national security and emergency preparedness programs principally for a Cold War environment. The new threat environment-from biological and terrorist attacks to cyber attacks on critical systems-poses vastly different challenges. We therefore recommend that Congress refurbish the legal foundation for homeland security in response to the new threat environment.
In particular, Congress should amend, as necessary, key legislative authorities such as the Defense Production Act of 1950 and the Communications Act of 1934, which facilitate homeland security functions and activities.*20 Congress should also encourage the sharing of threat, vulnerability, and incident data between the public and private sectors-including federal agencies, state governments, first responders, and industry.*21 In addition, Congress should monitor and support current efforts to update the international legal framework for communications security issues.*22

Beyond that, Congress has some organizational work of its own to do. As things stand today, so many federal agencies are involved with homeland security that it is exceedingly difficult to present federal programs and their resource requirements to the Congress in a coherent way. It is largely because the budget is broken up into so many pieces, for example, that counter- terrorism and information security issues involve nearly two dozen Congressional committees and subcommittees. The creation of the National Security Homeland Agency will redress this problem to some extent, but because of its growing urgency and complexity, homeland security will still require a stronger working relationship between the Executive and Legislative Branches. Congress should therefore find ways to address homeland security issues that bridge current jurisdictional boundaries and that create more innovative oversight mechanisms.

There are several ways of achieving this. The Senate's Arms Control Observer Group and its more recent NATO Enlargement Group were two successful examples of more informal Executive-Legislative cooperation on key multi-dimensional issues. Specifically, in the near term, this Commission recommends the following:

· 7: Congress should establish a special body to deal with homeland security issues, as has been done effectively with intelligence oversight. Members should be chosen for their expertise in foreign policy, defense, intelligence, law enforcement, and appropriations. This body should also include members of all relevant Congressional committees as well as ex-officio members from the leadership of both Houses of Congress.
This body should develop a comprehensive understanding of the problem of homeland security, exchange information and viewpoints with the Executive Branch on effective policies and plans, and work with standing committees to develop integrated legislative responses and guidance. Meetings would often be held in closed session so that Members could have access to interagency deliberations and

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diverging viewpoints, as well as to classified assessments. Such a body would have neither a legislative nor an oversight mandate, and it would not eclipse the authority of any standing committee.

At the same time, Congress needs to systematically review and restructure its committee system, as will be proposed in recommendation 48. A single, select committee in each house of Congress should be given authorization, appropriations, and oversight responsibility for all homeland security activities. When established, these committees would replace the function of the oversight body described in recommendation 7.

In sum, the federal government must address the challenge of homeland security with greater urgency. The United States is not immune to threats posed by weapons of mass destruction or disruption, but neither is it entirely defenseless against them. Much has been done to prevent and defend against such attacks, but these efforts must be incorporated into the nation's overall security strategy, and clear direction must be provided to all departments and agencies. Non-traditional national security agencies that now have greater relevance than they did in the past must be reinvigorated. Accountability, authority, and responsibility must be more closely aligned within government agencies. An Executive-Legislative consensus is required, as well, to convert strategy and resources into programs and capabilities, and to do so in a way that preserves fundamental freedoms and individual rights.

Most of all, however, the government must reorganize itself for the challenges of this new era, and make the necessary investments to allow an improved organizational structure to work. Through the Commission's proposal for a National Homeland Security Agency, the U.S. government will be able to improve the planning and coordination of federal support to state and local agencies, to rationalize the allocation of resources, to enhance readiness in order to prevent attacks, and to facilitate recovery if prevention fails. Most important, this proposal integrates the problem of homeland security within a broader framework of U.S. national security strategy writ large. In this respect, it differs significantly from issue-specific approaches to the problem, which tend to isolate homeland security away from the larger strategic perspective of which it must be a part. We are mindful that erecting the operational side of this strategy will take time to achieve. Meanwhile, the threat grows ever more serious. That is all the more reason to start right away on implementing the recommendations put forth here.

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II. Recapitalizing America's Strengths in Science and Education

The scale and nature of the ongoing revolution in science and technology, and what this implies for the quality of human capital in the 21st century, pose critical national security challenges for the United States. Second only to a weapon of mass destruction detonating in an American city, we can think of nothing more dangerous than a failure to manage properly science, technology, and education for the common good over the next quarter century.

Current institutional arrangements have served the nation well over the past five decades, but the world is changing. Today, private proprietary expenditure on technology development far outdistances public spending. The internationalization of both scientific research and its commercial development is having a significant effect on the capacity of the U.S. government to harness science in the service of national security and to attract qualified scientific and technical personnel. These changes are transforming most facets of the American economy, from health care to banking to retail business, as well as the defense industrial base.

The harsh fact is that the U.S. need for the highest quality human capital in science, mathematics, and engineering is not being met. One reason for this is clear: American students know that professional careers in basic science and mathematics require considerable preparation and effort, while salaries are often more lucrative in areas requiring less demanding training. Non-U.S. nationals, however, do find these professions attractive and, thanks to science, math, and technical preparation superior to that of many Americans, they increasingly fill American university graduate studies seats and job slots in these areas. Another reason for the growing deficit in high-quality human capital is that the American kindergarten through 12th grade (K-12) education system is not performing as well as it should. As a result too few American students are qualified to take these slots, even if they are so inclined.

This is an ironic predicament, since America's strength has always been tied to the spirit and entrepreneurial energies of its people. America remains today the model of creativity and experimentation, and its success has inspired other nations to recognize the true sources of power and wealth in science, technology, and higher education. America's international reputation, and therefore a significant aspect of its global influence, depends on its reputation for excellence in these areas. U.S. performance is not keeping up with its reputation. Other countries are striving hard, and with discipline they will outstrip us.

This is not a matter merely of national pride or international image. It is an issue of the utmost importance to national security. In a knowledge-based future, only an America that remains at the cutting edge of science and technology will sustain its current world leadership. In such a future, only a well-trained and educated population can thrive economically, and from national prosperity provide the foundation for national cohesion. Complacency with our current achievement of national wealth and international power will put all of this at risk.

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A. INVESTING IN INNOVATION

Many nations in the world have the intellectual assets to compete with those of the United States. However, as many leaders abroad recognize, their social, political, and economic systems often prevent them from capitalizing on these intellectual assets. The creative release of individual energies for the public good is not possible without a political, social, and economic system that frees talent and nurtures innovation.*23

We have before us the negative example of the former Soviet Union. Its state scientific establishment was the largest in the world and very talented, yet the attitudes and institutions required to nurture and disseminate innovation in a broad sense were missing, and it never fulfilled its potential. Today, many national leaders around the world are determined not to repeat the Soviet failure. They are studying the American business and innovation environment in hopes of extracting its secrets. Lessons are being learned and adopted throughout the world. As a result, global competition is growing significantly and will continue to do so . Meanwhile, however, many critical changes are occurring within the United States:

· While basic research remains primarily a government-funded activity, private and proprietary technology development in the United States is increasing relatively and absolutely compared to that of the government.

· The internationalization of basic science and technology (S&T) activities, assets, and capabilities is accelerating, and current U.S. advantages in many critical fields are shrinking and may be eclipsed in the years ahead.

· New classes of defense-relevant technologies are developing in which the major U.S. defense companies and national labs have scant experience. There are far fewer institutional linkages between government scientists and those innovative businesses generating and adapting cutting-edge technologies (e.g., genetic engineering, materials science, nanotechnology, and robotics).

During the 1980s, America recognized the need to change business models that had roots in the Industrial Age. It embarked on an era of deregulation and experimentation, one that has led to the networked economy that is still taking shape today. While U.S. reform at the microeconomic level has been primarily an achievement of the private sector, government has played an important role. It is also clear the government and the private sector will have to continue to work in concert to fill many critical needs, e.g., telecommunication and cyber-infrastructure policies; information assurance and protection; and policies to preserve the defense industrial base. This nation must increase its public research and development budget in order to remain a world leader. But opportunity and resources will not come together by themselves. Wise public policies enhance creative investment and promote intense experimentation.

In particular, we need to fund more basic research and technology development. As is clear to all, private sector R&D investments in the United States have increased vastly in recent years. That is good, but private R&D tends to be more development-oriented than research- oriented. It is from investment in basic

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science, however, that the most valuable long-run dividends are realized. The government has a critical role to play in this regard, as the "spinoff" achievements of the space program over the years illustrate. That role remains, not least because our basic and applied research efforts in areas of critical national interest will not be pursued by a civil sector that emphasizes short- to mid-term return on investment.

If the United States does not invest significantly more in public research and development, it will be eclipsed by others. Recent failures in this regard may return to haunt us. The decision not to invest in a large nuclear accelerator, the Superconducting Super Collider, already means that the most significant breakthroughs in theoretical physics at least over the next decade will occur in Europe and not in the United States. The reduction of U.S. research and development in basic electronics engineering has ensured that the next generation of chip processors and manufacturing technology will come from an international consortium (U.S.- German-Dutch) rather than from the United States alone.

We must not let such examples proliferate in the future, nor should we squander the enormous opportunities before us. We stand on the cusp of major discoveries in several interlocking fields, and we stand to benefit, as well, from major strides in scientific instrumentation. As a result, the way is clear to design large-scale scientific and technological experiments in key fields-not unlike the effort of the International Geophysical Year in 1958, the early space program, or the project to decode the human genome. In the judgment of this Commission, the U.S. government has not taken a broad, systematic approach to investing in science and technology R&D, and thus will not be able to sustain projects of such scale and boldness. We therefore recommend the following:

· 8: The President should propose, and the Congress should support, doubling the U.S. government's investment in science and technology research and development by 2010.

Building up an adequate level of effort for major, long-term research for the public good will require an increased investment on the order of 100 percent over the next eight years. In other words, a government-wide R&D budget of about $160 billion by fiscal year 2010 would be prudent and appropriate.

It would not be wise to combine the government's science and technology capabilities into a single agency, as some have suggested doing, or to entirely centralize the government's research and development budget. But we do need to infuse within the U.S. national R&D program a sense of responsible stewardship and vision. The government has to better coordinate its own public research and development efforts among the more than two dozen government departments and agencies that play major roles in the field.*24

The coordinating body for that purpose, the White House Office of Science and Technology Policy (OSTP), houses within it the National Science and Technology Council (NSTC).
The White House OSTP has three main functions: to help design the public R&D budget in conjunction with the Office of Management and Budget (OMB); to facilitate interagency efforts involving science and technology and research and development; and to win support for the administration's science and technology initiatives in Congress.

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The National Science and Technology Council, which includes virtually every cabinet official and Executive Branch agency head, has a committee structure designed to facilitate interagency cooperation. Committees are headed by OSTP personnel, but the participants from other departments and agencies have other, usually more pressing duties. Hence, with the exception of their chairmen, NSTC committees are populated by part-timers.

The President may also use the President's Council of Advisors on Science and Technology (PCAST), composed of non-governmental experts, to help him decide science and technology policy. Its use, as with the use of the NSTC, is largely dependent on the interests and inclinations of the President. The relationships among the OSTP, the NSTC, and the PCAST vary from administration to administration.*25

While these coordinating and advisory bodies do exist, they are inadequately staffed, funded, and utilized to carry out their significant functions. The current OSTP is not small by White House standards, but it will increasingly be unable to keep up with its mandate as science and technology issues become more important to the national welfare. The NSTC permanent administrative staff is too small to support its committee work, and it has no permanent science and technology professional staff at all. The NSTC itself meets relatively rarely and only episodically takes on specific subjects of interest e.g., more fuel-efficient automobiles or nanotechnology research.

One main reason to improve these organizations, in this Commission's view, is to enable the Executive Branch to strengthen its grip on the R&D process. Three changes are required:

· The R&D budget has to be rationalized, and in order to do that a much better effort at physical and human/intellectual inventory stewardship is required.

· Those organizations responsible for rationalizing and managing the R&D process should more systematically review and redesign, as necessary, the science and technology personnel profile of Executive Branch agencies.

· The R&D budget has to be allocated through a more creative and competitive process than is the case today. We take these issues in turn.

The ability of the White House Office for Science and Technology Policy, together with OMB and other relevant agencies, to rationalize R&D investment presupposes the ability to identify the best, generative opportunities for the investment of government R&D monies. Unfortunately, this is not the case.

Rationalizing the way that public R&D money is spent must include better accounting of both human and physical capital. It is not possible to spend $80 billion wisely each year, let alone twice that much, unless we know where research bottlenecks and opportunities exist. There is no one place in the U.S. government where such inventory stewardship is performed. Rather, elements are dispersed in the National Science Foundation, in the Commerce Department (the Patent and Trademark Office, the National Technical Information Service, and the National Institute of Standards and Technology), in the Departments of Defense, Energy, Agriculture, Health and Human Services, and in parts of the intelligence community.

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We believe that collating and analyzing this information in one place, and using the conclusions of that analysis to inform the R&D budget process, is the sine qua non of a more effective public R&D effort.

Moreover, without such a basic inventory of the nation's science and technology "property," the United States could lose critical knowledge-based assets to competitors and adversaries without ever knowing it, and without understanding the implications of their loss. In an age when private, proprietary technology development outpaces publicly-funded R&D, and when most basic science information cannot reliably be kept secret, high-end science and technology espionage is a growth industry in which both foreign corporations and governments participate. The United States therefore needs to take seriously the protection of such assets to the extent possible and practical-but it cannot protect what it cannot even identify.*26

To achieve effective inventory stewardship for science and technology, we recommend that OSTP, in conjunction with the National Science Foundation-and with the counsel of the National Academies of Science*27 -design a system for the ongoing basic inventory stewardship of the nation's capital knowledge assets. The job of inventory stewardship could be vouchsafed to the National Science Board, the governing body of the National Science Foundation, were it to be provided staff for this purpose.

In addition, this Commission urges a more systematic effort at functional budgeting for R&D so that we know how we are spending the public's money in this area. More effective R&D portfolio management for research is needed with emphasis on critical R&D areas and those of high potential long-term benefit. We therefore recommend the following:

· 9: The President should empower his Science Advisor to establish non-military R&D objectives that meet changing national needs, and to be responsible for coordinating budget development within the relevant departments and agencies.

This budget, we believe, should emphasize research over development, and it should aim at large- scale experimental projects that can make best use of new synergies between theoretical advances and progress in scientific instrumentation.

We also believe that the President, in tandem with strengthening the White House Office of Science and Technology Policy, should raise the profile of its head-the Science Advisor to the President. The Science Advisor needs to be empowered as a more significant figure within the government, and we believe the budget function we have recommended for him will be instrumental for this purpose.

There is yet another task that a strengthened OSTP should adopt. As things stand today, more than two dozen U.S. government agencies have science and technology responsibilities, meaning that they have personnel slots for science and engineering professionals and budget categories to support what those professionals do. (Of the several thousand such personnel in government, some 80 of these slots are for senior scientists and engineers who must be appointed by the President and confirmed by the Senate.)

Despite the significant numbers of science and technology (S&T) personnel and their obvious criticality,

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there is no place in the U.S. government where S&T personnel assets as a whole are assessed against changing needs. In the past two decades, the Congressional Research Service, the General Accounting Office, and the now-defunct Office of Technology Assessment have all explored this issue. The Office of Management and Budget, too, has looked regularly at individual departments and agencies, but not at the government's S&T personnel structure as such. It appears, then, that no one above the departmental level examines the appropriateness of the fit between missions and personnel in this area as a whole.

Dealing with government S&T personnel issues in a disaggregated manner is no longer adequate. It is hard for senior department and agency managers-and for the Office of Personnel Management (OPM) or the OMB staff-who are themselves not scientists or engineers, to know if they are operating with the right numbers and kinds of science and technology professionals. Hence, the Commission recommends that the President, with aid from his Science Advisor directing NSF's National Science Board, should reassess and realign, as necessary, government needs for science and technology personnel for the next quarter century.

Indeed, such a review ought to be made routine. The Science Advisor with the National Science Board and OPM, in consultation with the National Academies of Science, should periodically reevaluate Executive Branch needs for science and technology personnel. They should also suggest means to ensure the recruitment and retention of the highest quality scientists, engineers, and technologists for government service-a general subject we have noted above, and to which we return below in Section IV in the context of recommendation 42.

At present, as we have said, the U.S. government spends more than $80 billion each year in publicly funded R&D, of which about half is defense related. Much of the budgeting, however, still reflects legacies of the Cold War and the industrial age. We do not suggest that this money is being wasted in any direct sense, but its benefits are not being maximized. For example, we believe that defense-related R&D should go back to funding more basic research, for in recent years it has tilted too much toward the "D" over the "R" in R&D.*28

More important, we could derive more benefit from our investment in non-defense R&D if the context for it were a more competitive one. The Commission holds competition to be an important ingredient for the creative use of new ideas. Though we believe centralization of budget development is unnecessary, tailoring the various R&D budgets to meet overall national objectives would be beneficial. Different organizations address different needs and bring different perspectives, as do those working in different scientific disciplines. We therefore recommend that the President's Science Advisor, beyond his proposed budget coordination role, should lead an effort to revise government R&D practices and budget allocations to make the process more competitive.

One barrier to a more competitive, opportunity-based environment for R&D is institutional inertia. The current structure of public R&D funding is partly a result of inherited arrangements. We do not suggest disrupting important relationships between particular government agencies and, say, the Lincoln Laboratory at M.I.T., for the turbulence created would not be worth the advantages. But if innovation is to be encouraged, we need greater competition for government R&D funds. Hence, we propose that the government foster a "creative market" for a greater number of research institutions to bid on government

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research funds.

To create a more competitive market means narrowing the gap between the two tiers of research institutions that currently exist: the relatively small number of high-prestige major schools with ample endowments, and the larger number of less capable institutions. There are several ways to do this. One is through direct federal investment in or subsidization of second-tier institutions. Another is to encourage second-tier institutions to concentrate effort on new fields of inquiry in which older, more established institutions do not have comparative advantages. We see no reason, as well, to prevent amateurs from competing, because the history of science and technology is laden with the genius of the professionally uninitiated.

In addition, we recommend that a strengthened and more active National Science and Technology Council preside over an on-going effort to multiply creative, targeted R&D programs within government. The Council's enlarged professional staff should identify areas of priority research that the private sector is unlikely to pursue, and challenge those government agencies with R&D capabilities to form coalitions to bid on R&D monies set aside for such purposes. To meet such challenges, the National Aeronautics and Space Administration and the Defense Advanced Research Projects Agency might combine talents, in league with their associates outside of government, to bid against a Department of Energy-NSF team. The national laboratory system should also be involved in such competitions-a topic to which we now turn.

The U.S. national laboratory system is badly in need of redefinition and new investment. The national laboratories, though vestiges of the Cold War, remain a national R&D treasure. Unfortunately, they are a treasure in danger of being squandered.

Without any compelling force analogous to that of the Cold War to drive government funding and the direction of R&D, the labs have been left to drift. Nuclear research has given way mostly to maintenance of the nation's nuclear arsenal and efforts to dismantle nuclear weapons and manage their radioactive wastes. But however important, these are tasks that a single major laboratory can handle. Many of the other large and small laboratories within the system no longer have the sense of purpose and shared vision that drove the tremendous scientific accomplishments that advanced national security during the Cold War.

Compounding the labs' identity problem is the fact that the highest rewards and most interesting scientific and technical work now take place in the private sector. The Commission found broad consensus that the labs are no longer competitive in attracting and keeping new scientific talent. The physical circumstances in which lab professionals work have also deteriorated, in many instances, to unacceptable levels.*29 The security breaches and the subsequent series of investigations in recent years have produced a serious morale problem-and made recruitment and retention problems even more acute. If this cycle is not broken, our national advantage in S&T will suffer further.

The labs remain critical in fulfilling America's S&T national security needs and in addressing S&T issues pertinent to the public good. Each major laboratory needs a clearly defined mission area-in long-term defense technology, energy, environmental, or some other kind of practical research. The smaller labs,

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among the several hundred that exist, need to be better connected to one another so that their staffs share a sense of common purpose; in some cases, smaller labs may benefit from consolidation. The Commission therefore recommends the following:

· 10: The President should propose, and the Congress should fund, the reorganization of the national laboratories, providing individual laboratories with new mission goals that minimize overlap. The President's Science Advisor, aided and advised by the OSTP, the NSTC, the PCAST, and the National Academy of Science, should lead this effort. For example, one lab could focus on nuclear weapons maintenance, while others could specialize in such fields as energy and environmental research, biotechnology, and nanotechnology. Whatever goals are determined, more resources are clearly needed to ensure that the national laboratories remain world class research institutions, with facilities, resources, and salaries to fulfill their missions.

Finally, the potential for good and ill stemming from many of the recent developments in the scientific and technical domain is at least as great, if not greater, than that of atomic energy in 1945-46. As this Commission stressed in its Phase I report, new scientific discovery and innovation in information technologies, nanotechnology, and biotechnologies will have a major impact on social, economic, and political life in the United States and elsewhere.

It is not in the public or the national interest to allow these impacts to be determined exclusively by the private sector. The United States prides itself on having a system of government that does not smother or try to shape the social or moral life of the nation. But we have always granted government a role in managing science and technology under special or extreme circumstances-as for example in the creation of the U.S. Atomic Energy Commission after World War II. As was the case then, a public-trust institution is needed to gather knowledge and to develop informed judgment as the basis for public policy. We especially need a permanent framework that brings public sector, private sector, and higher education together to examine the implications of today's technological revolution.

Now as then, there is a pointed national security dimension to this requirement. As was the case in the late 1940s, if the United States does not maintain leadership in this area, the country will decline in its ability to protect itself from those countries that do.

At present, there is a National Bioethics Advisory Commission to study the moral implications of bioscience. This Commission is composed of distinguished and committed members. But the composition of that Commission is narrow, consisting only of bioethicists. It meets only episodically, operates on a small budget, has no permanent professional staff aside from its executive director, works on a limited mandate, and is soon scheduled to go out of existence. In practice, this Commission cannot influence or communicate as an equal with the National Institutes of Health, the Food and Drug Administration, the Department of Agriculture, or other government bodies that play major roles in monitoring and regulating the products of bioscience. Nor can it spend time anticipating issues when its meetings and reports are consumed almost entirely with responding to concerns that have already been raised. In short, the vehicle we now have to deal with the social, ethical, and public safety dimensions of biotechnology is inadequate for the task.

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We need an institution that provides a forum for the articulation of all interests in the implications of new biotechnology and other new technologies. Without such a forum, it is doubtful whether public confidence in the progression of bioscience can be sustained amid all the controversies it will surely provoke over the next 25 years. We need a place where government officials, scholars, theologians, and corporate executives can meet regularly to discuss issues of concern. We need an institution that can deal effectively with the other governmental agencies regularly involved in these issues; otherwise its findings will remain peripheral to the actual processes of decision. We therefore recommend that Congress transform the current National Bioethics Advisory Commission into a much strengthened National Advisory Commission on Bioscience (NACB).

The NACB should focus on the intersection between bioscience, information science, and nanotechnology for, as we have said, it is this intersection that will form the pivot of major transformation. Such change will affect a wide range of public policy issues, including health, social security, privacy, and education. Nor should the commission's mandate be limited to ethical questions. It should concern itself, as well, with the social and public safety implications of bioscience.

For now, we envision no regulatory authority for such a strengthened commission such as that possessed by the Atomic Energy Commission. However, should the Executive and Legislative branches together come to believe that an institution along such lines is needed for biotechnology, this strengthened commission could serve as a basis for it.

B. EDUCATION AS A NATIONAL SECURITY IMPERATIVE

The capacity of America's educational system to create a 21st century workforce second to none in the world is a national security issue of the first order. As things stand, this country is forfeiting that capacity. The facts are stark:

· The American educational system needs to produce significantly more scientists and engineers, including four times the current number of computer scientists, to meet anticipated demand.*30

· To do this, more than 240,000 new and qualified science and mathematics teachers are needed in our K-12 classrooms over the next decade (out of a total need for an estimated 2.2 million new teachers).*31

· However, some 34 percent of public school mathematics teachers and nearly forty percent of science teachers lack even an academic minor in their primary teaching fields.*32

· In 1997, Asia alone accounted for more than 43 percent of all science and engineering degrees granted worldwide, Europe 34 percent, and North America 23 percent. In that same year, China produced 148,800 engineers, the United States only 63,000.*33

Education is the foundation of America's future. Quality education in the humanities and social sciences is essential in a world made increasingly "smaller" by advances in communication and in global commerce.

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But education in science, mathematics, and engineering has special relevance for the future of U.S. national security, for America's ability to lead depends particularly on the depth and breadth of its scientific and technical communities.

At the base of American national security, clearly, is the strength of the American economy. High-quality preparation of Americans for the working world is more important than ever. The technology-driven economy will add twenty million jobs in the next decade, many of them requiring significant technical expertise. The United States will need sharply growing numbers of competent knowledge workers, many of them in information sciences, an area in which there are already significant shortages.*34 But it is misleading to equate "information science" with "science" itself. It was basic science and engineering excellence that brought about the information revolution in the first place and, over the next quarter century, the interplay of bioscience, nanotechnology, and information science will combine to reshape most existing technologies. The health of the U.S. economy, therefore, will depend not only on professionals that can produce and direct innovation in a few key areas, but also on a populace that can effectively assimilate a wide range of new tools and technologies. This is critical not just for the U.S. economy in general, but specifically for the defense industry, which must simultaneously develop and defend against these same technologies.

The American educational system does not appear to be ready for such challenges and is confronted by two distinct yet inter-related problems. First, there will not be enough qualified American citizens to perform the new jobs being created today-including technical jobs crucial to the maintenance of national security. Already the United States must search abroad for experts and technicians to fill positions in the U.S. domestic economy, and Congress has often increased category limits for special visas (H-1B) for that purpose. If current trends are not stanched and reversed, large numbers of specialized foreign technicians in critical positions in the U.S. economy could pose security risks. More important, however, while the United States should take pride in educating, hosting, and benefiting from foreign scientific and technical expertise, it should take even more pride in being able to educate American citizens to operate their own economy at its highest level of technical and intellectual capacity.

Our ability to meet these needs is threatened by a second problem-that we do not now have, and will not have with current trends, nearly enough qualified teachers in our K-12 classrooms, particularly in science and mathematics. The United States will need roughly 2.2 million new teachers within the next decade.*35 A continued shortage in the quantity and quality of teachers in science and math means that we will increasingly fail to produce sufficient numbers of high-caliber American students to advance to college and post-graduate levels in these areas. Therefore we will lack not only the homegrown science, technology, and engineering professionals necessary to ensure national prosperity and security, but also the next generation of teachers of science and math at the K-12 level.

A chronic shortage of teachers presages severe consequences in all fields, but is especially hurtful in science. Too few teachers means teaching loads and class sizes that exceed optimum levels. Having too many classes and too many students invariably translates into insufficient time to prepare, which is a critical variable in effective teaching-especially so in hands-on science classrooms. It also means the necessity to press into service teachers who are not adequately prepared for classroom rigors.

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The broad effect of the shortages in science and math teachers, and of other deficits in curricula and method, is already evident. Mathematics and science exam scores for U.S. students have been rising, but not fast enough to keep up with a large number of other countries. The lag is particularly significant for the nation's high school students. Americans have performed relatively well in both mathematics and science at the 4th grade level, and slightly above the international average at the 8th grade level, but show a sharp relative decline in the high school years.*36 The most recent test shows a relative decline at the 8th grade level as well.*37 This, as former Secretary of Education William Bennett has pointed out, creates the impression that the longer students remain in the American education system, the poorer their relative performance becomes.

Another major concern is that not all American citizens have the benefits of an adequate education. Wide economic disparity persists among K-12 public school districts. Fully 34 percent of the total public school student population (seventeen million children) is being educated in economically-depressed school districts that face the greatest shortages of teachers. Many teachers in these districts are not qualified by a degree in the field they teach, and many lack teaching certification as well. The disparity in the availability of qualified science and math teachers between regular and economically-depressed school districts is particularly alarming.

In short, our problems in this area are becoming cumulative. The nation is on the verge of a downward spiral in which current shortages will beget even more acute future shortages of high-quality professionals and competent teachers. The word "crisis" is much overused, but it is entirely appropriate here. If the United States does not stop and reverse negative educational trends-the general teacher shortage, and the downward spiral in science and math education and performance-it will be unable to maintain its position of global leadership over the next quarter century.

Resolving these cumulative problems will require a multi-faceted set of solutions. Educational incentive programs are needed to encourage students to pursue careers in science and technology, and particularly as K-12 teachers in these fields. Yet such incentives alone will not be adequate to avert the looming teacher shortage. Therefore, a set of additional actions must be taken to restore the professional status of educators and to entice those with science and math backgrounds into teaching. Only by addressing the systemic need to increase the number of science and math teachers will we ensure the supply of qualified science and technology professionals throughout our economy and in our national security institutions, both governmental and military.

As a major first step, we therefore recommend the following:

· 11: The President should propose, and Congress should pass, a National Security Science and Technology Education Act (NSSTEA) with four sections: reduced-interest loans and scholarships for students to pursue degrees in science, mathematics, and engineering; loan forgiveness and scholarships for those in these fields entering government or military service; a National Security Teaching Program to foster science and math teaching at the K-12 level; and increased funding for professional development for science and math teachers.

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Section one of the National Security Science and Technology Education Act should provide incentives for students at all levels-high school, undergraduate, graduate, and post- graduate-to pursue degrees in the fields of science, mathematics, and engineering.

Section two should provide substantial incentives to bring talented scientists, mathematicians, and engineers into government service-both civil and military. [The social science complement to this section will be discussed in recommendation 39.]

Section three should address the need to recruit quality science and math teachers at the K-12 level. To accomplish this goal, Congress should create a National Security Teaching Program through which graduates and experienced professionals in the fields of science, math, and engineering will commit to teach in America's public schools for three to five years. In return, NSTP Fellows will receive fellowships to an accredited education certification program, a loan repayment or cancellation option, and a signing bonus to supplement entry-level salaries. A national roster of districts in need of qualified teachers should be compiled and matched with the roster of NSTP Fellows.

The National Security Teaching Program will place teachers in the classroom who have both a teaching certification and a degree in their field. It will also encourage experienced professionals to teach, bringing deep subject matter expertise and a wealth of experience to bring into America's classrooms.*38 These lateral entrants might be Ph.Ds who have not found other suitable professional niches and "young" retired people, such as those who leave the military in their forties and fifties.*39 Enabling this latter group to teach will also require further changes in tax laws so that those receiving retirement and pension benefits are not penalized unduly for taking on a second educational career.

Section four must emphasize professional development focused on the needs of science and mathematics teachers. On-going professional development for science teachers is particularly important, as they must prepare their students to contend with the rapidly evolving pace of scientific innovation and discovery. The Eisenhower Program run by the Department of Education to meet the professional development needs of science and math teachers is a good example of a program that works.*40 It should be expanded and resourced accordingly.

Professional development that involves a substantial number of contact hours over a long period has a stronger impact on teaching practice than professional development of limited duration. Today, however, more than half of all science teachers in the United States report receiving no more than two days of professional development per year.*41 For this reason, we believe the emphasis of the National Commission on Mathematics and Science Teaching for the 21st Century (the Glenn Commission) on continuing professional education is right on the mark. The Glenn Commission emphasized Summer Institutes as well as Inquiry Groups and distance learning through a dedicated Internet portal for on-going professional education.*42

Congress should also establish and fund the National Math & Science Project to provide additional support for continuing professional development. Such a program can be modeled after the National

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Writing Project, an outstanding example of university/district collaboration. Its goal has been to improve student writing and learning in K-12 and university classrooms by providing schools, colleges, and universities with an effective professional development model. The National Writing Project also suggests itself as a model because it has been both cost-effective and has focused significant resources on traditionally-neglected impoverished areas.*43

All fifty states should also fund professional enrichment sabbaticals of various durations for science teachers, and should do so wherever possible in concert with local universities, science museums, and other research institutions. The federal government should strongly encourage and support the states in such endeavors. A more widespread sabbatical system for science educators would also improve liaison between secondary school teachers of science and math and university faculties adept in such subjects. Some metropolitan areas in the United States have developed excellent working relationships between high school teachers and both university and science museum faculties, and we encourage Education Department officials to carefully study and model these success stories.

We recognize that the widespread institution of enrichment sabbaticals for science teachers would be expensive, for it would require a personnel "float" to compensate for teachers who are on sabbatical. But this should be a long-term goal for science educators in at least grades 7-12, which should come to resemble professional standards at universities to the extent possible.
While the National Security Science and Technology Education Act would provide educational benefits and ongoing professional development opportunities for those who choose to teach, a range of additional actions are needed to improve both teacher recruitment and retention and the overall strength of school districts.

The anticipated shortage of quality teachers is a challenge, but it also offers tremendous opportunity. As we renew our pool of teachers, we can produce and train the best teachers with the best curricula, the best texts, and the best teaching methods. But it is clear that if the general national teacher shortage problem is not addressed, efforts to address deficiencies in the science and mathematics arena will not be met either. One cannot significantly improve the quality of science and math education without improving education in general. After all, science and math are taught in the same buildings, working under the same systems and budgets, and in the same general environment as that in which all other subjects are taught. That is why ensuring a superior scientific and technical community, one that satisfies both national economic and security needs, must start with reforming the educational system as a whole.

In this light, the Commission recognizes the need to take immediate steps, beyond the National Security Teaching Program, to attract much greater numbers of qualified graduates into the teaching profession, and to raise the quality of professional achievement across the board. We therefore recommend:

· 12: The President should direct the Department of Education to work with the states to devise a comprehensive plan to avert a looming shortage of quality teachers. This plan should emphasize raising teacher compensation, improving infrastructure support, reforming the certification process, and expanding existing programs targeted at districts with especially acute problems.

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First, we must raise salaries for teachers, science and mathematics teachers in particular, to or near commercial levels.*44 As long as sharp salary inequities exist between what science and math teachers are paid and what equivalently-educated professionals make in the private sector, the nation's schools will lack the best qualified teachers in science and mathematics. Given the exigencies of the market, we see no reason why science and math teachers should not earn more than other teachers even in the same school system.

While increased funding from the federal and state governments is needed to achieve this, public-private and community-wide partnerships that link universities and businesses with local school districts could help fulfill both faculty and student needs through endowments and other programs.*45 Endowments are a proven means for enhancing professional competitiveness. Beyond their contribution to funding higher teacher salaries, they involve corporate and private philanthropy more effectively in improving American education. K-12 education should develop a resource base similar to that of higher education with which to meet educational needs. The federal government-through the Department of Education, the National Science Foundation, and the National Research Council-can also help by standing ready to provide supplementary or matching funds for communities that take bold local initiatives to recruit and retain quality teachers. National, state, and local leaders should encourage corporate and private philanthropists to match disbursed endowment money, and Congress should work to ensure enhanced corporate tax benefits for monies provided for NSSTEA science/math education purposes of all sorts.

Endowment and other partnership programs could be used in several important ways, in addition to raising teacher salaries. They can provide the up-to-date laboratory facilities that are essential to effective discovery-based learning, and that are usually more expensive than most local school districts choose to bear. Without investment by the federal government and through these partnership programs in the modernization of high school laboratory facilities, even the highest quality science teachers will be unable to maximize their talents. Funds could also be used to develop innovative uses for technology such as modular texts in science that can be conveyed nationwide through the Internet.

Finally, these programs can provide student incentives to choose science and math careers. This may be through summer co-op programs-somewhat analogous to co-op programs on the university level-where students take summer jobs or internships related to their interests at companies and foundations that help endow the schools. Alternatively endowments might be used to pay students at the high school level for taking courses in science and math beyond minimal requirements. Some believe that students should be paid directly and that it is foolish to let students work at fast food chains, for example, when they could be induced for similar rewards to study physics and calculus. In lieu of, or in addition to, direct payment, students may be offered scholarship money to be set aside for university tuition.

Second, we must improve infrastructure support. Other knowledge-workers in the general economy are the beneficiaries, on average, of ten times the basic infrastructure investment than that afforded to teachers. This is a national disgrace. Beyond the laboratory facilities already mentioned, administrative support and resources are needed to ensure a disciplined and safe environment, and to provide such seemingly basic services as desk space, telephones, and copying facilities. This will not only help provide a better educational environment but, along with salary increases, will also help restore full professional

status to the teaching profession. This will go a long way toward attracting and retaining high-quality teachers.

Third, we must create more flexible certification procedures to attract lateral entrants into education. We have already discussed the benefits of encouraging experienced professionals to become K-12 educators and certification procedures should reflect these benefits. In general they should be changed to emphasize teacher mastery of substance over matters of pedagogy at least at the grade 7-12 level.

Fourth, we should supplement these measures by expanding existing specially-targeted federal programs for geographical and socio-economic zones with especially acute problems. Through the National Security Teaching Program, we should strengthen federal loan repayment and cancellation options for recent college graduates engaged in these programs and increase their salary and housing benefits. Supplementary teacher training and certification programs should be provided, as well, in exchange for an additional commitment to teaching in selected public school systems. At the same time, we recommend the following:

· 13: The President and Congress should devise a targeted program to strengthen the historically black colleges and universities in our country, and should particularly support those that emphasize science, mathematics, and engineering.

Clearly, serious educational improvement will cost money. It will also require changes in attitudes toward education professionals. But if the American people want quality education and a truly professional environment in schools that is conducive to educational success, they will have to demand it, pay for it, and show greater respect to those professionals who deliver it.

We believe, however, that while more money for is a necessary condition for major improvement in the education system, it is not a sufficient condition. Despite significant investments in special programs, much professional attention, and significant expenditure of resources, many results of the educational system are still disappointing. New and creative approaches are needed, including approaches that harness the power of competition. As important, local communities must be empowered and involved more fully in education, for nothing tracks more directly with high student performance as parental involvement in their children's education.

In addition to the previous recommendations, this Commission believes that core secondary school curricula should be heavier in science and mathematics, and should require higher levels of proficiency for all high school students. Many specialists believe that tracking math and science students sometimes leads to a sharp deterioration of expectations, and hence discipline, in the lower tracks. According to nearly all professional evaluations, such a deterioration of expectations is lethal to the attitudes necessary to make the classroom experience work.^46 Given the exigencies of advanced 21st century economies, it is not good enough that we produce a sufficient elite corps of science, math, and engineering professionals. We must raise levels of math, science, and technology literacy throughout our society. Among other things, that means changing enduring perceptions that taking four years of science and math in high school is only for the "brainy" elite. This is a perception that, ultimately, could cause an economic disaster in this

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country.

Finally in this regard, as with nearly every other commission and professional study that has looked at this problem, we favor more rigorous achievement goals for both American teachers and students in science and math, and we favor making both accountable for improvements. We also believe that science curricula, in particular, must be better designed to teach science for what it is: a way of thinking and not just a body of facts. In our judgment, too much high school science curricula is still distorted by inappropriate evaluation methods. If testing and evaluation methods for science education better reflect the reality of science as a discovery-based rather than as a fact-based activity, it would be easier to reform curricula in an appropriate fashion as well.
One related matter must be addressed. As noted earlier, increasing numbers of the qualified engineers and scientists educated in the United States are coming from outside U.S. borders. Far from being negative, the cycle of their coming and going to and from the United States helps sustains U.S. needs. However, should they stop coming, or further accelerate their return home, the American population alone may not be able to sustain the needs of the U.S. economy over the next decade.

Fully 37 percent of doctorates in natural science, 50 percent of doctorates in mathematics and computer science, and 53 percent of doctorates in engineering at U.S. universities-the best in the world-are awarded to non-U.S. citizens.*47 However, the percentage of science and engineering doctoral recipients with firm plans to stay in the United States is declining.*48 The growing emphasis on science and technology in many foreign countries is enticing many U.S- trained foreign students to return to their countries of origin, or to go to other parts of the world. They are doing so in increasing numbers.

Given the uncertainty as to whether U.S. nationals alone can fill U.S. economic needs, Congress should adjust the appropriate immigration legislation to make it easier for those non- U.S. citizens with critical educational and professional competencies to remain in the United States, and to become American citizens should they so desire. The White House Office of Science and Technology Policy, along with the Immigration and Naturalization Service and the appropriate Congressional committees, is the proper place to design such adjustments.

We believe strongly that America's future depends upon the ability of its educational system to produce students who constantly challenge current levels of innovation and push the limits of technology and discovery. They are the seed corn of our future. Presidential leadership will be critical in addressing the initiatives in education addressed by this Commission. That is why the Commission is heartened to learn that the new administration has declared education to be its first priority. It is the right choice.

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III. Institutional Redesign

Beyond the pressing matter of organizing homeland security, and of recapitalizing core U.S. domestic strengths in science and education, this Commissions recommends significant organizational redesign for the Executive Branch. This redesign has been conceived with one overriding purpose in mind: to permit the U.S. government to integrate more effectively the many diverse strands of policy that underpin U.S. national security in a new era-not only the traditional agenda of defense, diplomacy, and intelligence, but also economics, counter-terrorism, combating organized crime, protecting the environment, fighting pandemic diseases, and promoting international human rights.

The key component of any Executive Branch organizational design is the President. As one of only two elected members of the Executive Branch, the President is responsible for ensuring that U.S. strategies are designed to seize opportunities and not just to respond to crises. He must find ways to obtain significantly more resources for foreign affairs, and in particular those resources needed for anticipating threats and preventing the emergence of dangers. Without a major increase in resources, the United States will not be able to conduct its national security policies effectively in the 21st century.

To that end, the nation must redesign not just individual departments and agencies but its national security apparatus as a whole. Serious deficiencies exist that cannot be solved by a piecemeal approach.

· Most critically, no overarching strategic framework guides U.S. national security policymaking or resource allocation. Budgets are still prepared and appropriated as they were during the Cold War.

· The power to determine national security policy has migrated toward the National Security Council (NSC) staff. The staff now assumes policymaking and operational roles, with the result that its ability to act as an honest broker and policy coordinator has suffered.

· Difficulties persist in ensuring that international political and security perspectives are considered in the making of global economic policy, and that economic goals are given proper attention in national security policymaking.

· The Department of State is a crippled institution that is starved for resources by Congress because of its inadequacies and is thereby weakened further. The department suffers in particular from an ineffective organizational structure in which regional and functional goals compete, and in which sound management, accountability, and leadership are lacking.

· America's overseas presence has not been adjusted to the new economic, social, political, and security realities of the 21st century. The broad statutory authority of U.S. Ambassadors is undermined in practice by their lack of control over resources and personnel.

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· The Department of Defense has serious organizational deficiencies. The growth in staff and staff activities creates confusion and delay. The failure to outsource or privatize many defense support activities wastes huge sums of money. The programming and budgeting process is not guided by effective strategic planning. The weapons acquisition process is so hobbled by excessive laws, regulations, and oversight strictures that it can neither recognize nor seize opportunities for major innovation, and it stifles a defense industry already in financial crisis. Finally, the force structure development process is not currently aligned with the needs of today's global security environment.
· National security policymaking does not manage space policy in a serious and integrated way.

· The U.S. intelligence community is adjusting only slowly to the changed circumstances of the post-Cold War era. While the economic and political components of statecraft have assumed greater prominence, military imperatives still largely drive the collection and analysis of intelligence.

We offer recommendations in several areas: strategic planning and budgeting; the National Security Council; the Department of State; the Department of Defense; space policy; and the intelligence community. We take these areas in turn.

A. STRATEGIC PLANNING AND BUDGETING

Strategic planning is largely absent within the U.S. government. The planning that does occur is ad hoc and specific to Executive departments and agencies. No overarching strategic framework guides U.S. national security policy or the allocation of resources.

Each national security department and agency currently prepares its own budget. No effort is made to define an overall national security budget or to show how the allocation of resources in the individual budgets serves the nation's overall national security goals. The Office of Management and Budget (OMB) does on occasion consider tradeoffs in the allocation of resources among the various national security departments and agencies, but this is not done systematically. Nor are department budgets presented in a way that Congress can make these tradeoffs as it fulfills its responsibilities in the budgeting process.

There is an increasing awareness of this deficiency throughout the national security community but, so far, only very preliminary steps have been taken to produce crosscutting budgets. These preliminary steps have been limited to special transnational issues such as counter-terrorism. At present, therefore, neither the Congress nor the American people can assess the relative value of various national security programs over the full range of Executive Branch activities in this area.

To remedy these problems, the Commission's initial recommendation is that strategy should once again drive the design and implementation of U.S. national security policies:

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· 14: The President should personally guide a top-down strategic planning process and delegate authority to the National Security Advisor to coordinate that process.

Such a top-down process is critical to designing a coherent and effective U.S. national security policy. In carrying out his strategic planning responsibilities on the President's behalf, the National Security Advisor must enlist the active participation of the members and advisors of the National Security Council. This group should translate the President's overall vision into a set of strategic goals and priorities, and then provide specific guidance on the most important national security policies. Their product would become the basis for the writing of the annual, legislatively-mandated U.S. National Security Strategy.

Carrying out this guidance would rest with the senior-level deputies in the departments and agencies, facilitated by the NSC staff. They would be specifically responsible for designing preventive strategies, overseeing how the departments carry forward the President's strategic goals, and reviewing contingency planning for critical military and humanitarian operations.

The Commission believes that overall strategic goals and priorities should also guide the allocation of national security resources, and therefore recommends the following:

· 15: The President should prepare and present to the Congress an overall national security budget to serve the critical goals that emerge from the NSC strategic planning process. Separately, the President should continue to submit budgets for the individual national security departments and agencies for Congressional review and appropriation.

The OMB, with the support of the NSC staff, should undertake the task of formulating this national security budget. Initially, it should focus on a few of the nation's most critical strategic goals, involving only some programs in the departmental budgets. Over time, however, it could evolve into a more comprehensive document. Homeland security, counter-terrorism, nonproliferation, nuclear threat reduction, and science and technology should be included in the initial national security budget. This process should also serve as a basis for defining the funds to be allocated for preventive strategies.

Such goal-oriented budgets would help both the administration and Congress identify the total level of government effort as well as its composition. Gaps and duplication could be more readily identified. Such budgets would also enable the Congress to prioritize the most critical national security goals when they appropriate funds to departments and agencies.

The President would be able to implement these recommendations on his own authority as they involve White House staff activities. As far as the budgetary implications go, this reform would not cost money but, by rationalizing the strategy and budgeting process, go far toward assuring that money is spent more efficiently and wisely.

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B. THE NATIONAL SECURITY COUNCIL

In exercising his Constitutional power, the President's personal style and managerial preferences will be critical in how he relates to his Cabinet secretaries and in how he structures his White House staff. But the organization and the characteristics of the national security apparatus will importantly affect the policies that emerge.

The National Security Council was created as part of the 1947 National Security Act to advise the President on the integration of domestic, foreign, and military policies, and to help coordinate the activities of the national security departments and agencies. Its statutory members currently include the Vice President, the Secretary of State, and the Secretary of Defense. The Director of Central Intelligence and the Chairman of the Joint Chiefs of Staff are statutory advisers. The NSC staff authorized by the 1947 Act has evolved over time into a major instrument of Presidential governance, wielded by the Assistant to the President for National Security Affairs (the National Security Advisor or NSC Advisor), not specified in any statute, who has become increasingly powerful.

Obviously, this evolution has been affected by the degree of Presidential involvement in foreign and national security policy as well as by their various personalities and leadership styles. Over the past decade, Presidents have increasingly centralized power with the NSC staff for the making and execution of national security policy. In many ways, the NSC staff has become more like a government agency than a Presidential staff. It has its own views and perspectives on the myriad of national security issues confronting the government. It has its own press, legislative, communication, and speechmaking "shops" to enable it to conduct ongoing relations with the media, Congress, the American public, and foreign governments. Aside from staffing the President, the NSC staff's primary focus has become the day-to-day management of the nation's foreign and national security policy.

Why has this centralization of power occurred? First, with the end of the Cold War, national security issues now involve even more policy dimensions-financial and trade issues, environmental issues, international legal issues, for example-and each dimension has proponents within the Executive Branch. It has become harder, therefore, to assign any one department as the leading actor for a given policy area. The traditional dividing lines between foreign and domestic policy have also blurred further. Of all the players, only the NSC staff, in the name of the President, is in a position to coordinate these disparate interests effectively.

Second, foreign policy is also now very politicized. Few, if any, issues are easily separated from domestic political debate: not military intervention, not diplomatic relations, and certainly not trade and economic interactions with the outside world. Political oversight of these policies naturally falls to the White House, with the NSC staff acting as its foreign policy arm.

Finally and most importantly, the State Department over the past few decades has been seriously weakened and its resources significantly reduced. Foreign aid programs, as well as representational

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responsibilities, are now dispersed throughout the government. It therefore has fallen to the NSC staff to manage the conduct of America's foreign policy that was once the prerogative of the Department of State.

This description of the origin of the problem clearly illustrates a key principle in any attempt to set it aright; namely, that the NSC Advisor and staff cannot be redirected unless the Department of State is also set aright.

The Commission views with alarm the expansion of the role of the NSC staff and recommends the following:

· 16: The National Security Council (NSC) should be responsible for advising the President and for coordinating the multiplicity of national security activities, broadly defined to include economic and domestic law enforcement activities as well as the traditional national security agenda. The NSC Advisor and staff should resist the temptation to assume a central policymaking and operational role.

The National Security Advisor and NSC staff should give priority to their traditional and unique roles, namely coordinating the policymaking process, so that all those with stakes are involved, and all realistic policy options are considered and analyzed.49 The NSC Advisor and staff should provide advice privately to the President and oversee the implementation of Presidential decisions. They should also assume those roles that are unique to the President's staff, such as preparations for overseas trips and communications with foreign leaders.

At the same time, the NSC advisor and staff should resist pressures toward the centralization of power, avoid duplicating the responsibilities of the departments, and forego operational control of any aspect of U.S. policy. Assuming a central policymaking role seriously detracts from the NSC staff's primary roles of honest broker and policy coordinator.

The National Security Advisor should also keep a low public profile. Legislative, press, communications, and speech writing functions should reside in the White House staff. These functions should not be duplicated separately in the NSC staff as they are today.
The President, not his personal staff or advisors, is publicly accountable to the American people. To the degree that the role of the National Security Advisor continues to be one of public spokesman, policymaker, and operator, the Commission wishes the President to understand that pressure is growing in the Congress for making the National Security Advisor accountable to the American people through Senate confirmation and through formal and public appearances before Congressional committees. Returning to a lower-profile National Security Advisor will be difficult, but such an approach will produce the best policy results and deflate this pressure.

Every President in the last 30 years has devised some organizational approach to integrating international economic policies with both domestic economic policies and national security considerations. Many methods have been tried. Most recently, in 1993 the Clinton Administration

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created the National Economic Council (NEC) as a parallel coordinating institution to the NSC.

The NEC experiment has been a disappointment. The Treasury Department dominates global financial policy, and its decisions have often neglected broader national security considerations-most critically, for example, in the early stages of the recent Asian economic crisis. Meanwhile, the United States Trade Representative (USTR)-and not the NEC-retains responsibility for coordinating trade policies and negotiations. The small NEC staff, as well, finds itself bureaucratically weaker than the NSC staff and (even when the staffers are dual-hatted) the NSC perspective has predominated.

The policy process should ensure that the coordination of national security activities reflects the new centrality of economics. This Commission therefore offers the following two recommendations:

· 17: The President should propose to the Congress that the Secretary of Treasury be made a statutory member of the National Security Council.

Consistent with our strong preference for Cabinet government, this Commission believes the Secretary of the Treasury should be the President's right arm for international economic policy. But the Treasury's actions should be coordinated within the National Security Council process. In the NSC system of supporting subcommittees, Treasury should chair an interagency working group that manages international economic and financial policies (including managing financial crises), but it is a Presidential interest that decisions be fully coordinated with other relevant national security agencies. We understand that Secretaries of the Treasury have been routinely invited to National Security Council meetings. But designation as a statutory member of the NSC would signify the importance of truly integrating economic policy into national security policy.

· 18: The President should abolish the National Economic Council, distributing its domestic economic policy responsibilities to the Domestic Policy Council and its international economic responsibilities to the National Security Council.

The NSC staff should assume the same coordinating role for international economic policy as for other national security policies. To emphasize its importance, the Commission recommends the appointment of a Deputy National Security Advisor with responsibility for international economics. We also believe that to integrate properly the economic component of statecraft in the NSC staff system, more experts in international economics need to be recruited and placed in offices throughout the NSC staff. To ensure the integration of domestic and international economic policies, the staffs of the Domestic Policy Council, the Council of Economic Advisers, and the NSC will need to work together very closely.

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C. DEPARTMENT OF STATE

Over the past few decades, the Department of State has been seriously weakened as many of its core functions were parceled out to other agencies. The Agency for International Development, Treasury, and Defense assumed responsibility for foreign assistance programs, the USTR took over trade negotiations, and the Commerce Department began to conduct foreign commercial activities. For many years, too, arms control and public diplomacy were managed by separate agencies. Other departments, as well as the NSC staff, have also acquired foreign policy expertise and regularly pursue representational activities all around the world.

The State Department's own effort to cover all the various aspects of national security policy-economic, transnational, regional, security-has produced an exceedingly complex organizational structure. Developing a distinct "State" point of view is now extremely difficult and this, in turn, has reduced the department's ability to exercise any leadership.

Over the past decade, the impulse to create individual functional bureaus was useful substantively and politically; e.g., in the cases of human rights, democracy, law enforcement, refugees, political-military affairs, and nonproliferation. The problem is that overall organizational efficiency and effectiveness have been lost in the process.

More fundamentally, the State Department's present organizational structure works at cross-purposes with its Foreign Service culture. The Foreign Service thinks in terms of countries, and therein lies its invaluable expertise. But the most senior officials have functional responsibilities. The department's matrix organization makes it unclear who is responsible for policies with both regional and functional elements. The department rarely speaks with one voice, thus reducing its influence and credibility in its interactions with the Congress and in its representation abroad.

As a result of these many deficiencies, confidence in the department is at an all-time low. A spiral of decay has unfolded over many years in which the Congress, reacting to inefficiencies within the department, has consistently underfunded the nation's needs in the areas of representation overseas and foreign assistance. That underfunding, in turn, has deepened the State Department's inadequacies. This spiral must be reversed.

Foreign assistance is a valuable instrument of U.S. foreign policy, but its present organizational structure, too, is a bureaucratic morass. Congress has larded the Foreign Assistance Act with so many earmarks and tasks for the U.S. Agency for International Development (AID) that it lacks a coherent purpose. Responsibility today for crisis prevention and responses is dispersed in multiple AID and State bureaus, and among State's Under Secretaries and the AID Administrator. In practice, therefore, no one is in charge.

Over $4 billion is spent on the State Department's bilateral assistance programs (Economic Support Funds) and AID's sustainable development programs. Neither the Secretary of State nor the AID Administrator is able to coordinate these foreign assistance activities or avoid duplication among them. More important, no one is responsible for integrating these programs into broader preventive

strategies or for redeploying them quickly in response to crises. The Congress, too, has no single person to hold accountable for how the monies it appropriates are spent. Moreover, the majority of AID funding is expended through contracts with non- governmental organizations (NGOs) who often lobby Congress over various AID programs, further undermining the coherence of the nation's assistance programs.

Take the case of a potential response to a humanitarian disaster in Africa, similar in nature and scale to the 1999 floods in Mozambique. Today, should some such disaster recur, three AID bureaus would be involved: those dealing with Africa, Global Programs, and Humanitarian Response. Responsibility would be dispersed among at least three Under Secretaries of State (Global Affairs, Political Affairs, and International Security Affairs), and four State bureaus (Africa; Democracy, Human Rights, and Labor; Population, Refugees, and Migration; and Political-Military). Neither the Secretary of State nor the AID Administrator would be in a position to commit the resources found to be necessary, or to direct related humanitarian and refugee assistance operations. As Figure 3 on page 57 suggests, other government agencies, and especially the Defense Department, would be at a loss to know where and how to coordinate their activities with those of the State Department.

This Commission believes that the Secretary of State should be primarily responsible for the making and implementation of foreign policy, under the direction of the President. The State Department needs to be fundamentally restructured so that responsibility and accountability are clearly established, regional and functional activities are closely integrated, foreign assistance programs are centrally planned and implemented, and strategic planning is emphasized and linked to the allocation of resources. While we believe that our NSC and State Department recommendations make maximal sense when taken together, the reform of the State Department must be pursued whether or not the President adopts the Commission's recommendations with respect to the NSC Advisor and staff.

Significant improvements in its effectiveness and competency would provide the rationale for the significant increase in State Department resources necessary to carry out the nation's foreign policy in the coming quarter century. In our view, additional resources are clearly needed to foster the nation's critical goals: promoting economic growth and democracy, undertaking preventive diplomacy, providing for the security of American officials abroad, funding the shortfalls in personnel and operating expenses, and installing the information technologies necessary for the U.S. national security apparatus to operate effectively in the 21st century. The United States will be unable to conduct its foreign policy in all its dimensions without the commitment of such new resources. A failure to provide these funds will be far more costly to the United States in the long term.

More specifically, then, this Commission strongly recommends the following State Department redesign:

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· 19: The President should propose to the Congress a plan to reorganize the State Department, creating five Under Secretaries, with responsibility for overseeing the regions of Africa, Asia, Europe, Inter-America, and Near East/South Asia, and redefining the responsibilities of the Under Secretary for Global Affairs. These new Under Secretaries would operate in conjunction with the existing Under Secretary for Management.

The new Under Secretaries, through the Secretary of State, would be accountable to the President and the Congress for all foreign policy activities in their areas of responsibility. Someone would actually be in charge.

On behalf of the Secretary, the new Under Secretaries would formulate a "State" view and represent the department in NSC meetings. They would appear before Congressional committees. They would be positioned to orchestrate preventive diplomatic strategies as well as crisis responses. They would oversee the implementation of all the various assistance programs (development aid, democracy building, and security assistance) and explain them coherently before Congress. They would assemble the various political and security considerations that need to be factored into U.S. government decisions on global financial crises and other international economic policies. They would be able to tailor public diplomacy to policy goals and integrate these activities with other aspects of America's diplomacy. They would be able to liaise effectively with the growing number of NGOs engaged in national security activities. (To show how this would work, we have provided below illustrative responsibilities for a regional Under Secretary and for the Under Secretary for Global Affairs.)

Under Secretary
Regional□Asia

Illustrative Responsibilities

ECONOMIC &TRANSNATIONAL AFFAIRS	POLITICAL AFFAIRS	SECURITY AFFAIRS
China-human rights	Japan	Taiwan arms sales
Investment treaties	China	China nonproliferation
Economic sanctions	North Korea	Japan base negotiations
Asian currency crisis	ASEAN	Security assistance
China Ex-Im bank loans	Indonesia	Burma counter-narcotics
Indonesia economic assistance	Taiwan	N. Korea Framework
Links with NGOs	APEC	

Figure 3

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Under Secretary
Global Affairs

Illustrative Responsibilities

ECONOMIC & TRANSNATIONAL AFFAIRS	POLITICAL AFFAIRS	SECURITY AFFAIRS
Oceans, environment	UN General Assembly	Conference on Disarmament
Refugees, humanitarian assistance	UN Security Council	Nonproliferation regimes
Paris Club debt negotiations	Intl. Labor Organization	Law enforcement
International relief organizations		Defense trade controls
Assistance to multilateral banks		Counter-terrorism
Global climate change Kyoto		Crisis management
AID s global assistance programs		UN peacekeeping
Fulbright s exchange programs		International narcotics
UNHCR		

Figure 4

As Figure 4 on page 58 shows, each Under Secretary would have a Deputy, so as to provide depth in crisis situations, or to take on critical diplomatic assignments. Three bureaus would support the Under Secretaries, each organized to achieve functional goals (political affairs, security affairs, and economic and transnational affairs). The new Under Secretary for Global Affairs would be designated as the third-ranking official in the department to emphasize the importance of global issues and activities. Consistent with past practice, this designation would not represent another organizational layer; the Under Secretary for Global Affairs would simply be the one designated as Acting Secretary when the Secretary and Deputy Secretary were away. The functions of the Under Secretary for Management would need to be redefined in light of the responsibility being given for programs and budgets to the other Under Secretaries.

This reorganization should be accompanied by, and will be strengthened by, the full integration of the nation's foreign assistance activities into the overall framework of U.S. national security. We therefore recommend strongly that:

· 20: The President should propose to the Congress that the U.S. Agency for International Development be consolidated into the State Department. Development aid is not an end in itself, nor can it be successful if pursued independently of other U.S. programs and activities. It is part of the nation's overall effort to eradicate poverty, encourage the adoption of democratic norms, and dampen ethnic and religious rivalries. To be effective, U.S. development assistance must be coordinated with various other diplomatic activities, such as challenging corrupt government practices or persuading governments to adopt more sensible land-use policies. Only a coordinated diplomatic and assistance effort will advance the nation's goals abroad, whether they be economic growth and stability, democracy, human rights, or environmental protection.

Such a fundamental organizational redesign must have a strategic planning and budgetary process

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aligned with it. We therefore recommend the following:

· 21: The Secretary of State should give greater emphasis to strategic planning in the State Department and link it directly to the allocation of resources through the establishment of a Strategic Planning, Assistance, and Budget Office. This office would work directly for the Secretary of State and represent the department in NSC-led government-wide strategic planning efforts. Within that framework, the office would define the department's overall foreign policy goals and priorities. It would plan and prioritize all the department's assistance programs. It would be responsible for coordinating the budget planning process and adjudicating any differences among the Under Secretaries.

Take the case of a Congressional appropriation involving worldwide population programs. This new office would ask the Under Secretary for Global Affairs to make the initial recommendation as to how the funds would be distributed. The regional Under Secretaries would then have an opportunity to appeal. Once the Secretary decided, the Under Secretary for Global Affairs would have line responsibility for implementing those programs destined for international organizations, and the other Under Secretaries for programs within their regions.

By integrating strategic and resource planning, the Secretary of State would have a more effective means for managing the activities of the department as well as U.S. embassies abroad.

This office would essentially combine the offices of Resources, Plans & Policy, and Policy Planning in the current organizational set-up, eliminating the major design flaw of segregating planning from resource allocation. But it would retain the responsibility for housing and encouraging a small group of officers to do longer-range and strategic thinking, as has been the principal task of the Policy Planning Staff for half a century.

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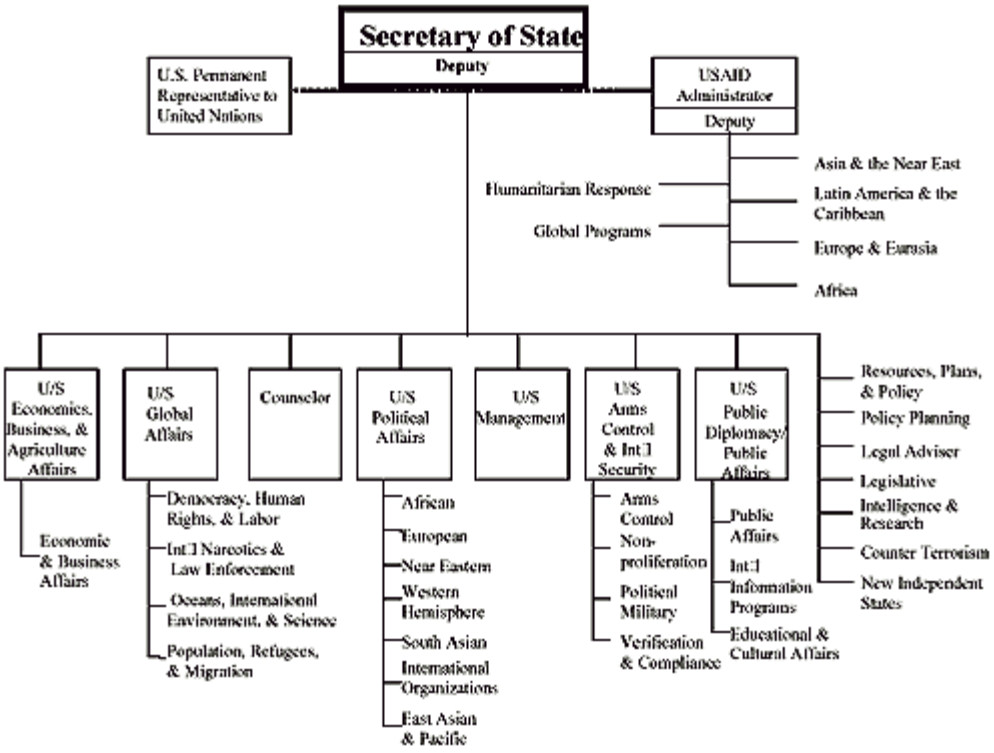

Figure 3. Current Organization of Department of State*50

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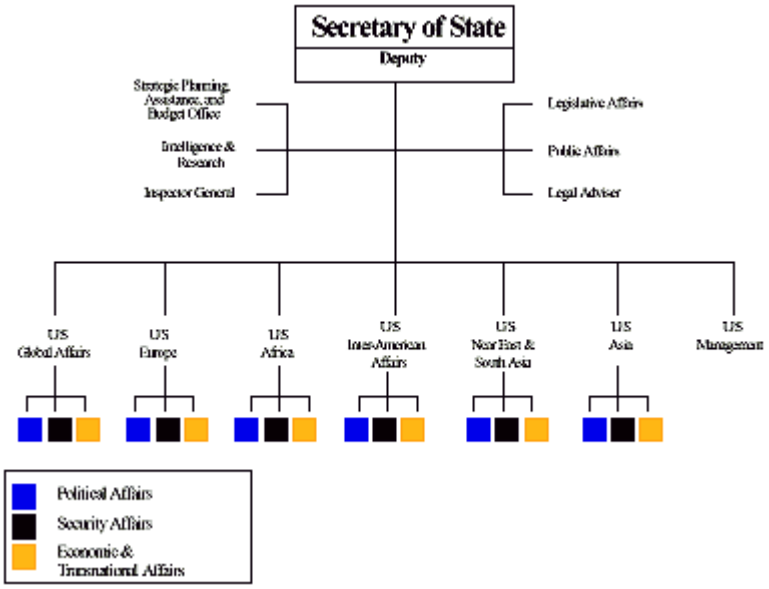

Figure 4: Proposed Organization of Department of State

It follows from a reform that integrates many of the nation's foreign policy activities under the Secretary of State that a similar logic should be applied to the State Department budget as a whole. We therefore recommend the following:

· 22: The President should ask Congress to appropriate funds to the State Department in a single integrated Foreign Operations budget, which would include all foreign assistance programs and activities as well as all expenses for personnel and operations.

The State Department's International Affairs (Function 150) Budget Request would no longer be divided into separate appropriations by the Foreign Operations subcommittee on the one hand, and by a subcommittee on the Commerce, State, and Justice Departments on the other. The Congressional leadership would need to alter the current jurisdictional lines of the Appropriations subcommittees so that the Foreign Operations subcommittee would handle the entire State Department budget. Such a reform would give the administration the opportunity to:

-Allocate all the State Department's resources in a way to carry out the President's overall strategic goals;

-Ensure that the various assistance programs are integrated, rather than simply a collection of administrations' political commitments and Congressional earmarks; and

-Replace the existing budget categories with purposeful goals.*51

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We cannot emphasize strongly enough how critical it is to change the Department of State from the demoralized and relatively ineffective body it has become into the President's critical foreign policymaking instrument. The restructuring we propose would position the State Department to play a leadership role in the making and implementation of U.S. foreign policy, as well as to harness the department's organizational culture to the benefit of the U.S. government as a whole. Perhaps most important, the Secretary of State would be free to focus on the most important policies and negotiations, having delegated responsibility for integrating regional and functional issues to the Under Secretaries.

Accountability would be matched with responsibility in senior policymakers, who in serving the Secretary would be able to speak for the State Department both within the interagency process and before Congress. No longer would competing regional and functional perspectives immobilize the department. At the same time, those functional perspectives, whether human rights, arms control, or the environment, would not disappear. The Under Secretaries would be clearly accountable to the Secretary of State, the President, and the Congress for ensuring that the appropriate priority was given to these functional tasks.

By making work on functional matters a career path through the regional hierarchy, the new organization would give Foreign Service officers an incentive to develop functional expertise in such areas as the environment, arms control, and drug trafficking. Civil servants in the State Department would have new opportunities to apply their technical expertise in regional settings. The ability to formulate and integrate U.S. foreign policies in a regional context, too, will give them greater coherence and improve their effectiveness.

The Under Secretary for Global Affairs, as redefined, would give priority and high-level attention to working with international organizations. In particular, it would consolidate humanitarian and refugee assistance programs, thereby remedying the lack of leadership and coordination in past operations. This new organization would bring together all the department's crisis management operations: counter-terrorism Foreign Emergency Support Teams (FEST) teams, humanitarian assistance Disaster Assistance Response Teams (DART) teams, and military over-flight clearances.

The overall restructuring of the State Department would vastly improve its management. It would rationalize the Secretary's span of control through a significant reduction in the number of individuals reporting directly to the Secretary, and it would abolish Special Coordinators and Envoys. The duplication that exists today in the regional and functional bureaus would be eliminated. The number of bureaus would be reduced significantly. One new Under Secretary would be created, but the AID Administrator position would be eliminated.

We are aware that our proposed restructuring of the State Department will give rise to the concern that such functional goals as nonproliferation and human rights will be diminished in importance. Indeed, the primary motivation for establishing the functional Under Secretaries and their bureaus was to counter the prevailing culture of the department, which tends to give priority to maintaining

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good bilateral relations rather than pressing foreign governments on these contentious matters.

But in the restructuring reform offered here, proponents for these functional goals will still exist. Indeed, they will be in a better position to affect policies by being involved in their formulation early on in the process, and not at the last moment by intercession with the Secretary. The Under Secretaries will be responsible for ensuring that the priorities of the President, Secretary, and Congress are being achieved. If these involve counter-terrorism, refugees, the environment, or some other functional goal, it is hard to imagine that they would be neglected.

Another possible concern is that organizing in terms of regional Under Secretaries is inconsistent with globalizing trends. The Commission's Phase I Report forecasts that global forces, especially economic ones, will continue to challenge the role and efficacy of states. More important, however, it affirms that "the principle of national sovereignty will endure."*52 States will remain the main venue for diplomatic activity for a long time. This restructuring proposal is based on the reality that the United States will need to continue to deal with states around the world while being able, as well, to integrate policies in both regional and global contexts. The new Strategic Planning, Assistance, and Budget Office, along with the Global Affairs Under Secretary and Assistant Secretaries, will also be available to ensure that global perspectives are given sufficient attention.

Defining the geographical coverage of the regions will necessarily be somewhat arbitrary, but the same problem exists under any arrangement. Russia will be integrated again into Europe and South Asia joined again with the Middle East. The most difficult decisions will involve where to place Turkey; whether to keep India and Pakistan in the same region or separate them; how to divide up the newly independent states of the former Soviet Union; and whether northern Africa is part of the Middle East or Africa. Setting up the new organization will provide an opportunity to make these decisions anew in light of prospective developments in the coming decades, and, if at all possible, to build in some degree of flexibility for the years ahead.

Issues will certainly arise that span regions or require the integration of regional and global perspectives. Planning for G-8 meetings, for example, will have to involve all the Under Secretaries. The Under Secretaries of Global Affairs, Europe, the Americas, and Asia would have a role in policies bearing on national missile defense. Global financial crises would almost certainly engage more than one Under Secretary. Jurisdictional disputes may well arise that the Secretary (or the Deputy Secretary) will have to address. What the restructuring will have done, however, is to make the number of those cases requiring intervention far fewer than today. That is how senior management is most effectively employed in any successful private corporate organization; so why not in the U.S. Department of State?

Another concern that some may have is that development programs will be neglected if AID is integrated into the State Department. Some may worry, as well, that the State Department will direct foreign assistance to programs promising immediate political returns. This is not so. In the new organization, the Secretary of State could directly instruct the Strategic Planning, Assistance, and Budget Office to ensure that priority is given to development aid-if that is the wish of the

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President and the Congress. The demise of AID would also mean that no single person, apart from the Secretary of State, would be accountable for the implementation of development programs. It is true that each Under Secretary would oversee development aid for only their area of responsibility. But they would be able to integrate these activities with all the other regional or global assistance programs far more effectively than is the case today. Indeed, AID's current decentralized structure would fit well with the overall State restructuring. AID's regional and global offices would become part of the new Economic and Transnational Bureaus. AID regional and global planning and budgeting offices would be retained as part of the Under Secretaries' staffs. AID's budget officials would join the Strategic Planning, Assistance, and Budget Office, and their procurement and contracting officials would be integrated into State Department offices with similar responsibilities. The actual planning and administration of AID programs would be very similar to current practices.
The United States is represented overseas in 160 countries, with over 250 embassies, consulates, and missions. Over 14,000 Americans and about 30,000 foreign nationals are employed in these posts. More than 30 U.S. government agencies operate overseas. This Commission believes that the U.S. overseas presence has been badly short-changed by shortsighted budget cuts to the point where the security and prosperity of the American people are ill-served. But it also believes that the U.S. presence must be adjusted to new and prospective economic, social, political, and security realities. Only with such changes will Congressional confidence be restored, and the necessary funding provided, to support these critical activities.

We also believe that in order for the State Department to run efficiently in an increasingly "wired world," its worldwide information technology assets must be updated. There has been progress in this area, but more could be done. This Commission urges Congress to provide sufficient funding to ensure the full completion of this effort.*53

U.S. Ambassadors and embassies play critical roles in promoting U.S. national security goals overseas. We therefore recommend that all other Ambassadors, including the U.S. Permanent Representative to the United Nations, be brought under the authority of the Secretary of State for policymaking and implementation, without altering their representational role on behalf of the President.

The President should also take steps to reinforce the authorities of all U.S. Ambassadors. Ambassadors should be responsible for planning and coordinating the activities of all the agencies at each mission, including U.S. assistance and law enforcement activities. The Ambassadors should formulate a comprehensive, integrated mission plan and recommend to the Cabinet secretaries an integrated country budget. The new State Department Under Secretaries should be advocates for their Ambassadors' budget priorities in Washington's interagency budget deliberations. We further recommend the following:

· 23:The President should ensure that Ambassadors have the requisite area knowledge as well as leadership and management skills to function effectively. He should therefore appoint an independent, bipartisan advisory panel to the Secretary of State to vet ambassadorial

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appointees, career and non-career alike.

This Commission also believes that the Secretary of State, on behalf of the President, should pursue urgently the process of "right-sizing" all American posts overseas. The process must ensure that embassy activities are responsive to emerging challenges and encourage greater flexibility in the size and concept of embassies and consulates to serve specialized needs.*54 Embassies should also be reorganized into sections reflecting the new State Department organization: political, security, and economic/transnational affairs.

Regions will become more important in the emerging world of the 21st century. State borders no longer contain the flow of refugees, the outbreak of ethnic violence, the spread of deadly diseases, or environmental disasters. Humanitarian and military operations will often depend on access rights in many different countries. As regional political and economic organizations gradually evolve outside Europe, they may begin to take on roles in fighting such transnational dangers as crime, drugs, and money laundering. The United States needs flexible ways to deal with these regional problems.

Today, U.S. Ambassadors are accredited to individual states. No mechanism exists for them to coordinate their activities regionally. The unified military commands are regionally based, but their planning and operations are focused primarily on military contingencies. Every regional Commander-in-Chief (CINC) does have a Political Adviser from the State Department, but there is no systematic civilian foreign policy input into military planning. When a crisis occurs, coordinating the various civilian activities (humanitarian assistance and police forces) with military activities (transport or peacekeeping operations) remains very uneven. More fundamentally, a gap exists between the CINC, who operates on a regional basis, and the Ambassador, who is responsible for activities within one country.

In light of these circumstances, and fully mindful of the need to reinforce the goals of the new State Department organization proposed above, the Commission encourages the departments and agencies involved in foreign operations-State, Defense, Treasury, Commerce, and Justice- to cooperate more fully in regional planning. Specifically the President should:

· Establish NSC interagency working groups for each major region, chaired by the respective regional Under Secretary of State, to develop regional strategies and coordinated government-wide plans for their implementation;

· Direct the Secretary of Defense to have regional CINCs institute a process through their Political Advisers to involve the Ambassadors in their region in their military planning; and

· Direct the Secretary of State to instruct the regional Under Secretaries to meet at least semi-annually with the ambassadors located in their region (with one such meeting each year being held in the same general location as the regional CINCs).

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The implementation of these recommendations concerning the Department of State in all its various aspects, and their budgetary implications, is a complex undertaking. As noted, the Commission's recommendations involving the NSC processes and staff could be implemented immediately. The problem will be that, to have any chance of returning to the NSC's more traditional roles, the State Department needs to be strengthened well beyond the designation of a strong Secretary of State. Congressional action will be required to implement the proposed reorganization. With respect to the U.S. overseas presence, the President has the authority to carry out the Commission's recommendations. We urge him to use that authority forthwith.

D. DEPARTMENT OF DEFENSE

The Department of Defense (DoD) protects the American people and advances the nation's interests and values worldwide. It also plays a critical role in maintaining global peace. And it stands in dire need of serious reform.

DoD's current organization, infrastructure, business practices, and legal and regulatory structure evolved during the Cold War in ad hoc and incremental ways. Many commissions have addressed DoD structure over the years and offered recommendations for reform. Some have been implemented, but this Commission believes that much still needs to be done. In particular:

· DoD's policy organization is outdated and overly complex;

· Major staff roles and responsibilities are ill-defined, with duplication and redundancy the rule not the exception;

· Supporting infrastructure is highly inefficient and consumes a major portion of the DoD budget;

· The present process for programming and budgeting military forces generates strategic postures not very different from those of the Cold War despite vastly changed strategic realities;

· The weapons acquisition process, which is slow, inefficient, and burdened by excessive regulation and politicization, has become a burden on a defense industry is already in the midst of a financial crisis; and

· The process by which force structure planning occurs is not appropriately aligned with the current global security realities.

The key to success will be direct, sustained involvement and commitment to defense reform on the part of the President, Secretary of Defense, and Congressional leadership. The new Secretary of Defense will need to be personally engaged. The challenges are too great to delegate responsibility to others. His central task will be to persuade Congress to accord him the flexibility he needs to carry out the Commission's recommendations, and to contain Congress' desire to micro-manage DoD processes through crippling laws and regulations.

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Resource issues are also at stake in Defense Department reform. America's global commitments are so extensive, and the costs of future preparedness are so high, that significantly more resources will be required to match means to ends. The potential mismatch ahead between strategy and resources can be mitigated in the longer run by generating savings from within the Defense Department through extensive management reform. Not only will the Defense Department save money that it needs for its core responsibilities, it may also increase Congress' willingness to shrink the mismatch between means and ends in the nearer term.

Policy Reform

The Under Secretary of Defense for Policy supports the Secretary of Defense in his role as a member of the National Security Council, and helps him to ensure that the multiplicity of DoD's defense and military activities are guided by the President's overall national security policies. The structure of the Policy staff has evolved over many years as a result of the wishes of individual Secretaries and various Congressional mandates. Today, the office retains its traditional focus on security assistance and alliance relations. It has also expanded its mandate to foster defense relationships throughout the world as well as to participate in such functional activities as nuclear threat reduction, humanitarian assistance, and counter-drug efforts. At the same time, such policy activities as export controls and arms control verification have been given to the recently consolidated Defense Threat Reduction Agency.

The most recent reorganization gives little emphasis to strategic planning, though the Strategy and Threat Reduction office is involved to some extent in defense strategy and contingency planning. Regional and functional responsibilities are dispersed among Policy's three offices. The office of International Security Affairs covers Europe, Asia, Middle East, and Africa. A Congressionally-mandated assistant secretary deals with Special Operations and Low- Intensity Conflict (SOLIC) as well as Inter-American affairs, terrorism, drugs, peacekeeping, and humanitarian operations. The Strategy and Threat Reduction office focuses on the functional areas of nuclear weapons and missile defense, counter-proliferation and threat reduction, and the regional areas of Russia, Ukraine, and Eurasia. The result is a very complex structure that makes coordination difficult within the Defense Department and with other government agencies.

This Commission therefore recommends some modest but important reforms, as follows:

· 24: The Secretary of Defense should propose to Congress a restructuring plan for the Office of the Under Secretary of Defense for Policy, which would abolish the office of the Assistant Secretary for Special Operations and Low-Intensity Conflict (SOLIC), and create a new office of an Assistant Secretary dedicated to Strategy and Planning (S/P).

We believe that a separate Assistant Secretary of Defense for Special Operations and Low Intensity Conflict is no longer needed, for these activities are now widely integrated into our strategy, plans, and forces. Special operations can and should be addressed like all other mature missions within

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the department's Major Force Program process. The other regional activities of SOLIC would be transferred to other parts of the policy office. But a new office of Strategy and Planning (S/P) should be created, with responsibility for leading and coordinating DoD planning processes. This office would also support the Secretary of Defense in the NSC-led strategic planning process as well as the Joint Staff's military contingency planning process.

Structural Reform

Past efforts to reform the Defense Department have emphasized the following three general principles.*55 DoD civilian and military staffs need to focus on their core roles and responsibilities. The department should eliminate unnecessary layers, avoid duplication of activities, and encourage the delegation of authority. Many defense support activities should be outsourced to the private sector and others fully privatized. The Commission supports these overall goals and, more specifically, recommends the following:

· 25: Based on a review of the core roles and responsibilities of the staffs of the Office of the Secretary of Defense (OSD), the Joint Staff, the military services, and the CINCs, the Secretary of Defense should reorganize and reduce those staffs by ten to fifteen percent.*56

A comprehensive review of staff sizes and structures must follow from clear definitions of each staff's mission, and core competencies should be established around those missions. All activities peripheral to a staff's main missions should be curtailed or eliminated.*57 In the Commission's view, mandatory reductions will force the staffs to eliminate redundancies among them and unnecessary layers within them. Staff activities that can be downsized include:

-OSD program management involving special operations, humanitarian assistance, and counter-drug programs;

-Joint Staff regional and manpower offices, as well as their use of the Joint Requirements Oversight Council (JROC) and the Joint Warfighting Capability Assessment (JWCA) processes, to evaluate infrastructure and service support programs;

-Service regional planning offices, some acquisition oversight, as well as the duplicate manpower activities of the military and OSD staffs;

-CINC program analysis activities and some sub-unified and component command headquarters.

In the case of Joint Forces Command (JFCOM), the Commission strongly urges that its responsibilities be carefully defined and limited. Many Joint Staff activities have been divested to JFCOM and new missions have been added, including homeland security, joint training, and joint experimentation. Some have suggested further that JFCOM represent the CINCs in the requirements definition process. Since the JFCOM commander is already dual-hatted as NATO's

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Supreme Allied Commander-Atlantic (SACLANT), a span of control problem looms with the steady expansion of his duties.
But realigning these staffs is not enough. DoD's supporting infrastructure needs to be reduced as well, both because it holds the promise of giving better support to the nation's military forces and because it will free up significant resources for modernization.*58

Roughly half of DoD's infrastructure falls into two categories: central logistics and installation support. More than 75 percent of DoD's infrastructure resides within the military services and, in this fiscal year, will consume $134 billion. This system consists of approximately two-dozen defense agencies and field activities whose accounts are scattered across various program and budgeting elements.

Since these infrastructure activities do not operate according to market forces, it should come as no surprise that business costs and practices are not competitive with the civilian sector. Most defense agencies place little emphasis on achieving performance goals based on measurable outputs. Many also suffer from conflicting supervision from OSD and the military services, while at the same time receiving strong advocacy from the Congress bent on protecting local constituent jobs and installations. Several defense agencies and field activities have a combat support role, which adds the difficulty of having to harmonize business efficiency with military effectiveness.

Efforts over the years to reduce DoD's infrastructure have focused in part on outsourcing various activities to the private sector. Outsourcing guidelines are found in OMB Circular A-76, but the process is cumbersome and bureaucratic, often taking two to four years to complete for each major initiative. Moreover, the Circular A-76 process involves competition between the private sector and an ongoing government activity. The "competition" is inherently biased against private business because the government's "bid" deflates true operating costs and hides overhead expenses. This sharply limits the applicability of the Circular A-76 process.

Given the significant obstacles to reducing, consolidating, and restructuring the Defense Department's supporting infrastructure, the Commission recommends the following:

· 26: The Secretary of Defense should establish a ten-year goal of reducing infrastructure costs by 20 to 25 percent through outsourcing and privatizing as many DoD support agencies and activities as possible.

Given the political sensitivities surrounding such steps, an independent and bipartisan commission should be established to produce a plan to achieve this goal. We propose that implementation of the plan rely on a joint Executive-Legislative Branch mechanism similar to the Base Realignment and Closures (BRAC) process.

In putting together such a plan, this new commission will need to explain to Congress what the process will entail. This plan should develop common definitions of what constitutes a "support activity." It should include all the various categories of supporting infrastructure, including both

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Service and civilian DoD agencies. It should then define in general terms what should remain as government owned and operated, what should be outsourced, and what should be privatized.*59 In principle, it would seem that intelligence, acquisition, and criminal investigation should be consolidated, but remain government owned and operated. Some aspects of health, personnel, and many support functions on local installations should be outsourced. Logistics, accounting, auditing, aspects of defense communications, military exchanges and commissaries should be privatized.*60 Finally, the plan should lay out a five-year road map for accomplishing the outsourcing, and a ten-year road map for privatization-recognizing that outsourcing can be a useful step toward privatization.

In the meantime, DoD and the Office of Management and Budget need to revamp the Circular A-76 guidelines in ways to make the selection process quicker and the competition more equitable. This will require working with Congress, because steps to privatize substantial portions of the DoD infrastructure will invite intense Congressional scrutiny.

The failure to significantly reduce DoD's infrastructure could prove very injurious in the long run. Attempts to save money merely by squeezing savings from the current system-but without fundamentally restructuring that system-will eventually jeopardize the provision of adequate funding for core needs such as modernization and personnel. If the Congress will not provide the funding needed to compensate for departmental inefficiencies, then it will need to explain why it also hamstrings the department's own efforts to become more efficient.

Process Reform

Three major areas of DoD responsibility cry out for particular scrutiny: the programming and budgeting process, the acquisition process, and the force planning process. We take these in turn.

For the past thirty years, the Defense Department has produced its budget through its Planning, Programming, and Budgeting System (PPBS) process. Theoretically, the PPBS process is top-down in design, beginning with the National Security Strategy (NSS) as guidance for both the National Military Strategy (NMS) and the Defense Planning Guidance (DPG).*61 In reality, however, the PPBS process is predominantly a "bottom-up" system driven by existing programs and budgets.

The problems of the PPBS process are well known. The PPBS phases operate semi- autonomously rather than supportively, creating unnecessary turbulence and encouraging the repeated revisiting of prior decisions. Guidance to the Services and other DoD components for program and budget development tends to be both vague and late. Major program decisions are often delayed until the end of the budget development phase, in turn causing hurried and often inaccurate adjustments to budgets and to the Future Years Defense Program (FYDP). Frequently, long-term modernization plans are disrupted during annual budget cycles. Minor details receive inordinate attention. As a result, the PPBS process fails to provide the Secretary with the means to guide the budget process strategically. It has contributed much to the department's tendency to replicate existing force structure and its inability to advance the transformation of U.S. forces to deal with a post-Cold War

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environment.

The PPBS must be restructured to link it directly to strategic goals and to reduce its obsession with mundane program and budgeting details. The department's planning should be informed by the strategic guidance emanating from the President and NSC principals, as specified above in Section III.A, and then the Secretary of Defense should translate that guidance into the various internal DoD processes that produce Defense programs and budgets.

The most critical step is for the Secretary of Defense to produce defense policy and planning guidance that defines specific goals and establishes relative priorities. He would need to do this through a departmental process that involves serious analysis and debate of the most critical issues. Real strategic choices must be defined and decisions made. The program review phase of the PPBS could then measure progress in achieving his policy and planning objectives. This Secretarial guidance would also provide the basis for defining the National Military Strategy and for conducting the Quadrennial Defense Review (QDR).

The Commission believes that the QDR should then become the foundation of the PPBS. To be truly effective, we recommend:

· 27: The Congress and the Secretary of Defense should move the Quadrennial Defense Review to the second year of a Presidential term.

By statute, the QDR is to be completed in the first year of a new administration. Such a deadline, however, does not allow the time or the means for an incoming administration to influence the QDR's outcome. The Presidential appointment process now extends six to nine months.*62 The new President's overall vision and strategic goals also take time to develop and so cannot inform the review. Meanwhile, the new team inherits the supporting analysis from the previous administration and Joint Staff. Past practice suggests that the DoD bureaucracy has figured out how to use the QDR process to preserve the status quo, while outgoing senior officials have rarely taken any stake in the process. Postponing the QDR until the second year would remedy these problems, and would still be available in time to influence the second of four budgets that an administration develops entirely on its own.

For the department to be able to develop true strategic alternatives, it will need to focus on resources. We therefore recommend a second change in the QDR.

Despite the end of the Cold War and the emergence of a newer, less certain strategic environment, the percentage of budget resources that is allotted to the Services and defense agencies-called Total Obligation Authority (TOA) in the Defense budget-has not changed appreciably over the last ten years. Only minor force structure alternatives have been generated; defense programs remain essentially unchanged, and modernization funding keeps getting pushed into the future. Therefore, we recommend the following:

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· 28: The Secretary of Defense should introduce a new process that would require the Services and defense agencies to compete for the allocation of some resources within the overall Defense budget.

A structured process of competition for resources, moored within the QDR process and focused on the allocation of TOA, can change this. One way this competition could be accomplished is for OSD to retain five to ten percent of the TOA and then reallocate it during the QDR to promising systems and initiatives-be they those of the Services, DARPA, or Joint programs. The Secretary and his OSD staff must accompany the TOA holdback with the identification of high priority programs that fill key strategic requirements. This is necessary to insure funding for strategic lift and space programs as well as joint interoperability programs, such as C4ISR. In this process, the Services and defense agencies would be required to identify their highest and lowest priority programs.*63 This would give the Secretary a vehicle to stretch or kill low-priority programs and begin the process of reallocating funds to more promising areas during subsequent PPBS cycles.

For any TOA reallocation process to be viable, two things must happen. First, the Secretary will need to rely on his OSD staff, and not rely only on the Service and Joint Staffs. The OSD staff will also need to coordinate the analysis that will inform the discussion of the alternatives. OSD internal reforms will be key to their ability to carry out these tasks.

The Commission proposes a final change to improve the QDR process. The QDR should be restructured so that it defines defense modernization requirements for two distinct planning horizons: near-term (one to three years) and long-term (four to fifteen years). The CINCs should have primary influence on readiness in the near-term execution horizon. The Services should focus on modernization, personnel, and infrastructure throughout the long-term planning horizon. The Joint Staff should focus on joint issues and force interoperability planning. The OSD staff would exercise broad oversight and ensure that QDR planning followed the President's and the Secretary's strategic guidance and was based on realistic political and resource assumptions.

Flowing from the QDR process, the PPBS process must be reoriented in ways to conform to political reality and achieve better coordination among the civilian and military staffs. To do this, the calendar should be revamped. Policy and planning guidance should be issued biennially and prior to when the Services start building their initial programs and budgets. The Joint Staff and OSD would then develop the most critical issues for review by the Secretary in the April to August time frame. Final decisions would then be postponed until after Congress had done its markup of the previous year's budget, so as to integrate their decisions into the upcoming budget. Final Presidential approval would occur by the end of the year. High-speed computers now allow the programming and budgeting phases to be compressed and to take account of Congressional action. The PPBS need not be wholly linear in execution.

The United States equips its military forces through a complex process that depends to a large degree on the private sector, but also involves an enormous number of laws and regulations that compose a thick web of government oversight. The acquisition process is a hybrid process, with

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characteristics of both a free enterprise system and a government arsenal system. Operating within this environment is a small group of primarily defense-oriented companies, a larger number of basically commercial companies with some involvement in defense procurement, and a growing number of companies, particularly high-tech companies, to which dealing with the Department of Defense is an anathema. Importantly, all of these companies must compete in the open marketplace for both financial capital and skilled workers and managers.

A worrisome number of studies in recent years have pointed to the precarious health of many of the nation's most critical defense suppliers.64 Many businesses are unable to work profitably with DoD under the weight of its auditing, contracting, profitability, investment, and inspection regulations. These regulations also impair DoD's ability to keep abreast of the current pace of technological innovation. Weapons development cycles today average nine years in an environment where technology changes markedly every twelve to eighteen months in Silicon Valley-and the trend lines continue to diverge.

Competition is essential within the defense sector to achieve both affordability and innovation. Yet the current low level of modernization activity often makes competition impractical. In addition, competition is affected adversely by the exacting social and ethical standards to which DoD is held. Such standards impose restrictions that make it virtually impossible for DoD to be efficient and aggressive in achieving cost savings.

Despite some recent improvements, the trends of the last decade are very troubling and, if they continue, could severely endanger America's long-term military capability. A strategy of standing back and totally relying on the forces of the marketplace will likely fail. The United States must look to the health of the U.S. defense industrial base just as it takes responsibility for the viability of its Army, Navy, Air Force, Marine Corps, and Coast Guard. This does not mean government management of the defense industrial base. It does mean creating an environment where good performers can succeed and prosper.

In place of a specialized "defense industrial base," the nation needs a national industrial base for defense composed of a broad cross-section of commercial firms as well as the more traditional defense firms. The "new technology" sectors must be attracted to work with the government on sound business and professional grounds; the more traditional defense suppliers, who fill important needs unavailable in the commercial sector, must be given incentives to innovate and operate more efficiently.

If this is to be accomplished, the defense acquisition process will need fundamental reform. To guide this reform, the Commission offers these overarching principles.

· The nation needs to restore the balance of funding among modernization, readiness, and force structure. The procurement "holiday" affecting modernization has produced a highly unbalanced force for the future.

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· The government should encourage small, agile, high-tech companies to enter defense competitions, as they represent both a source of innovation and an inspiration to new efficiencies.

· The department's overall modernization strategy should give priority to fundamental research; substantially increase prototyping; stress the evolutionary upgrading of platforms throughout their life; and keep commitments to long-term, stable production.

· To the extent practicable, the acquisition system needs to be open to continuous competition, and open to new ideas from companies of all sizes. It should focus on "outputs"-i.e., measurable products, time, and cost-as opposed to "process."

· The weapons development process should rely on competition to solve performance problems and keep down costs, with commensurate rewards for those who succeed.

· The acquisition system should use the market to decrease system costs and improve schedule and system performance. The current system of centralized planning, the inappropriate use of government agencies to perform commercial tasks, and the lack of managerial accountability stifles efficiency.

· The government, not the private sector, should pay the costs that result from explicit government demands and requirements in the acquisition process. At the same time, companies deserve no proprietary entitlement to publicly-financed designs and technology.

Turning to more specific recommendations, this Commission is concerned that the current acquisition system does not support the timely introduction of new technologies. Developing and producing weapon systems takes too long.65 Some major systems are not even completed before the parts they depend on from the commercial sector are outmoded and no longer available. Worse, while the commercial world is shortening cycle times, DoD is not-so the gap between commercial and government practice continues to widen. This is the case in large part because of the inflexibility built into federal regulations. We therefore recommend the following:

· 29: The Secretary of Defense should establish and employ a two-track acquisition system, one for major acquisitions and a second, "fast track" for a limited number of potential breakthrough systems, especially in the area of command and control.

The two-track system would accept an accelerated, higher-risk approach to the development of breakthrough capabilities, especially in areas undergoing rapid change in the state of the art. Simultaneously, a more conservative approach is appropriate for more conventional programs. One size does not fit all.

The Commission also believes that the development of new technologies must be emphasized and properly financed. Development programs should generally be administered through contracts that pay for the costs plus a fee, with the fee being tied not only to system performance but also to

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meeting the schedule within costs. We must eliminate the pressures whereby firms need to recover R&D costs and losses during the production phase. Full funding of R&D programs is an essential part of the acquisition process. Correspondingly, fixed-price contracts are appropriate for programs whose scope and risk are well understood and manageable. As we have already suggested in Section II above, the nation must also invest heavily in basic research in university, corporate, and government laboratories.
Prototyping of a weapon system, which allows the possibility that some attempts will fail, and then developing and producing the most promising concepts, will get the "kinks" out of systems early and shorten the development cycle time. The initial costs would be higher to the Services, which is why prototyping is often resisted, but the total program costs promise to be lower. In addition, it will help create and maintain viable defense suppliers and their critical design teams, even in a low-production environment. We therefore recommend the following:

· 30: The Secretary of Defense should foster innovation by directing a return to the pattern of increased prototyping and testing of selected weapons and support systems.

Prototyping should be paired with incremental delivery and evolutionary upgrades of existing operational systems. This will allow the product to remain current with continuing technological developments. It has the further advantages of reducing the time to deliver a new capability to the war fighter and of decreasing production risks significantly.

The Defense Department cannot depend entirely on speeding up its integration with the commercial sector. The nation also needs to invest in selected research programs where military systems have no commercial counterparts. Unfortunately, large and complex DoD research and development projects generally suffer from a distortion of cost competition since companies often underbid the R&D phase in hopes of securing funding in more profitable production phases. The Commission thus recommends that the laws prohibiting the use of Independent R&D (IR&D) funding for program support be more broadly interpreted and more strictly enforced.

Program turbulence, often stemming from lack of funds or from budgetary instability, is the primary cause of inefficiencies and cost overruns in DoD programs. This budgetary instability has several sources. One is the current reality of the resource allocation process itself within DoD, which unfortunately often takes all resources into account during budget reductions-including acquisition programs. This normally results in a known and deliberate underfunding of previously approved programs. Another problem is the acquisition system itself, which suffers from cost overruns and program extensions. Lastly, the Congress often uses small "takes" from large programs to reallocate funds to other priorities without realizing or understanding the problems this creates in having to reprogram funds, write new contracts, and establish new schedules.

We realize that many commissions, and ever more studies, over the past several years have recommended two-year budgeting and multiyear procurement as a way of limiting program turbulence. If these forms of budgeting were introduced, the disincentive to disrupt acquisition programs would appropriately be very high. We also know that Congress has doggedly refused to

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take such proposals seriously. Congress lacks confidence in DoD's ability to execute such a budget given past weapons cost overruns. Furthermore, appropriating funds on a yearly basis gives Congress a greater ability to influence the Defense Department's policies and programs. Therefore, rather than propose two-year budgeting across the entire Department of Defense, we focus on the single area where two-year budgeting makes the most sense and stands to do the most good. We recommend the following:

· 31: Congress should implement two-year defense budgeting solely for the modernization element of the DoD budget (R&D/procurement) because of its long-term character, and it should expand the use of multiyear procurement.

Such steps would markedly increase the stability of weapons development programs and result in budgetary savings in the billions of dollars. For this to happen, however, the Secretary of Defense must impose discipline in the decision-making process. It is already difficult to start new engineering development programs. It should be made even more demanding, ensuring that the military requirements are understood and enduring, and that the technology, concepts, and funding are all well in hand. Once a program is approved, it should be equally difficult to change it. The Commission also notes that it is sometimes better to eliminate some programs early than to absorb the costs of constantly extending programs and procuring limited numbers of weapons at high unit costs. To accomplish this, Congress will need to let decisions to kill programs stand as well as support DoD budgeting and procurement reforms.

If the government will not take the measures to improve program stability by introducing two-year budgeting in modernization and R&D accounts, and more broadly adopt multiyear funding, it cannot expect private industry to obligate itself to suppliers, or to assume risks on its own investments with little prospect of long-term returns.

Estimating costs is very difficult, especially in the early stages of weapons development. As a result, costs often escalate significantly. Introducing immature technologies and concepts into engineering development can lead to a major waste of resources. Constant modifications in program specifications can significantly drive up costs. The acquisition system today is characterized by underfunding, turbulence, occasional lack of competition, and a propensity to follow routine processes rather than focus on producing on-time results. In addition, the current system gives incentives to program offices to spend all their annual appropriation regardless of need. We therefore recommend that the Defense Department allocate resources for weapon development programs by phase rather than in annual increments.

This approach to resource allocation within DoD should include the provision of financial reserves to resolve unanticipated problems, as is common commercial practice. This can be accomplished by providing contingency funds in advance to deal with program uncertainties. To ensure their proper use, such funds should be placed not in the program office, but under the control of the Service acquisition official. Fully funding programs during each phase-and especially the early phases-will decrease program turbulence and provide a basis for more reliable budget and schedule

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forecasting. It will also allow better program management and produce significant cost savings.

Robust experimentation and exploration of innovative technologies are essential, but there must also be an effective screening process for the selection of mature, affordable technologies before entering full-scale development. DoD currently uses a complex acquisition schedule, where problems associated with technology generation, prototyping, and engineering development often migrate into production. The acquisition system inadequately addresses concurrent risk. Worst of all, testing procedures are generally viewed (and feared) as report cards in the weapon development process. This discourages program managers from using tests to attain knowledge, demonstrate technology maturity, and assure the viability of key manufacturing processes.

We therefore recommend that the recently adopted three-phase acquisition process be institutionalized. Those three phases are technology development, product development, and production. Testing should be a key part of the technology development process as well as the last two phases.

A three-phase system would focus on maturing robust technologies prior to decisions on development, and then on identifying problems earlier in engineering development to minimize risk and cost in production. Some overlap between phases is inevitable, but steps can be taken to control the concurrent risk. This will require that DoD adopt a "knowledge-based" evaluation and testing procedure to establish technology maturity, to evaluate risks, costs and operational limitations. Testing should follow commercial practices, which test early, hard, and often to identify problems, to generate "knowledge," and to guide subsequent program development. Commercial testing is also more systematic. Subcomponents are thoroughly tested before they are combined into components, components are thoroughly tested before they are combined into subsystems, and so forth.

We believe that a clear three-phrase process-with bright red stop signs erected to prevent premature entry into subsequent phases-will help in every respect, and we applaud DoD's recent move in this direction. More importantly, this Commission recommends that program reviews focus on the need, merit, and maturity of the program, and not be used by individuals to reopen past debates about the wisdom of the original program approval.

Congress and others have put in place an accumulation of laws and regulations to protect against fraud, waste, and abuse, the net effect of which is to create a system of requirements and acquisition oversight that creates the very waste it was intended to prevent.

The "regulation cost" in DoD and the defense industry has been estimated by various observers to be on the order of 30 percent of the acquisition budget, while the indirect management and oversight burden in the nation's commercial sector ranges from 5 to 15 percent-and is falling. The Defense Contract Audit Agency (DCAA) and the Defense Contract Management Command (DCMC) employ a "division equivalent" of auditors, and these are complemented by multitudes of various Service auditing organizations. They create costly inefficiencies and often lead to inferior

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products.

Moreover, the DoD oversight process, by engendering an adversarial system, encourages timid decision-making and forces industry to go to extremes in accounting and business procedures. This system, which is based on institutional and individual distrust, needs to be replaced with one that conforms better to normal business practices. The Defense Department needs to mimic the nation's private sector-again, to the extent possible-in reducing costs, improving product development cycles, and adapting rapidly to new technologies.

Specifically, federal acquisition regulations must no longer weigh down business with so much gratuitous paperwork and regulation that they discourage firms from doing business with the government. While the requirement for public accountability can never allow the defense acquisition system to mirror image the private sector completely, excess regulation can and should be significantly reduced. We therefore recommend the following:

· 32: Congress should modernize Defense Department auditing and oversight requirements by rewriting relevant sections of U.S. Code, Title 10, and the Federal Acquisition Regulations (FARs).

The goal should be to reduce the numbers of auditors and inspectors for the DoD weapons acquisition system to a level commensurate with the marginal benefits produced by such auditing and inspection. Compared to leading companies in the commercial sector, this would entail an approximate reduction within DoD of 50 to 60 percent.

Rewriting the FARs should be premised on two principles. First, the government must pay for the legitimate costs that it causes to be incurred for what it demands in the acquisition process. The government must reimburse legitimate costs so that contractors may invest in new technology. The government must also share cost savings to create incentives for efficiency. Progress payments, covering a legitimate cost of business, should be automatically indexed to interest rates. Second, FARs must encourage competition and give incentives for timely production. The rewritten FARs must have the flexibility that promote a profit policy under which firms that perform well are rewarded well-and firms that perform poorly are penalized or terminated, or both.*66

To make this recommendation work, DoD will have to exercise significant leadership and work with Congress and industry to change the existing culture throughout the acquisition and procurement infrastructure. But that is not the only problem. Both industry and government officials often fail to take advantage of flexibilities in government regulations because it is less risky for them to follow old procedures. Positive actions taken in the past decade have paid off only when both DoD program managers and industry changed their way of doing business.

DoD's goal to expand participation in the defense industrial base will be helped significantly by introducing competition, placing emphasis on timely output versus process, increasing the funding for technology experimentation, transitioning more quickly from technology development into

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production, fostering program stability, reducing the oversight burden, changing regulations, and revamping the penalty focus of today's system.*66

It might be appropriate for the revised FARs to test a modified version of the award fee process tied to schedule, cost, and performance. This discretionary award could range from a higher-than-present level to a moderately negative level. The determining evaluation would be based upon separate periodic input from the program manager, the contractor, and outside auditors who would advise either the Service acquisition official or an independent board with authority to determine the fee.

Finally, amidst the other structure and process recommendations, this Commission would offer its suggestions on the force structure process. As the Commission indicated in its Phase Two report, the concept of fighting two major theater wars (2MTW) near- simultaneously, the current threat basis for U.S. military force planning, is not producing the capabilities this nation requires.*67 It is difficult to envision, at this period in history, two opponents capable of challenging the United States at the theater level of conflict, although we see the value in maintaining the capability to deter opportunists who might seek advantage while the United States was otherwise engaged. Indeed, the commitment for concurrent, all-out engagement in two regions of the world, without strategic prioritizing and sequencing of campaigns, is in itself an extraordinary notion. We believe it more useful to plan and retain readiness for a major conflict, while also securing the homeland and responding to small or medium-scale conflicts, international terrorism, peacekeeping, humanitarian actions, and other commitments requiring U.S. support.

We conclude that the concept of two major, coincident wars is a remote possibility supported neither by actual intelligence estimates nor by this Commission's view of the likely future.Thus, it is no longer an appropriate basis for our force structure planning and should be replaced by a new approach that accelerates the transformation to capabilities and forces better suited to the security environment that predominantly exists today.

The Commission believes that the world of the next ten to twenty years will be much like that of the last decade. While the United States has no peer competitor, it faces threats to its homeland from a widening array of actors on the global stage with access to weapons of mass destruction and disruption. The likelihood of interstate conflict threatening to U.S. interests is diminished, while intrastate conflict in areas important to U.S. security is on the rise.

This Commission believes the United States should maintain full capabilities of the kind it now possesses to prevail against the possible emergence of a theater-level opponent. The United States, however, must further improve its ability to deal with small to medium violent conflicts, often occurring simultaneously, which require very rapid, forced entry response capabilities, as well as long term stability operations in tense, post-conflict scenarios. We should thus strive to achieve land, sea and air capabilities suitable to this security environment that possess speed, agility, lethality, ease of deployment and sustainment, and highly networked connectivity. Demand for peacekeeping and humanitarian duties will likely continue, with their inherent constabulary

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requirements, and the United States must organize and train for these missions. Finally, new emphasis must be placed on the special needs of homeland security. Accordingly, the Commission recommends that:

· 33: The Secretary of Defense should direct the DoD to shift from the threat-based, 2MTW force sizing process to one which measures requirements against recent operational activity trends, actual intelligence estimates of potential adversaries' capabilities, and national security objectives as defined in the new administration's national security strategy-once formulated.

In such a capability-based sizing process, force structure planning would proceed from a strategic vision of the current and projected security environment and the national security objectives the new administration seeks to achieve. Sizing would take into account intelligence projections of potential adversary's capabilities plus actual operational activity trends, reflecting recent demands. Finally, adoption of updated modeling techniques, which this Commission recommends, would value the synergistic effects of Joint forces with modern weapons that are employable in a networked environment.

It would be inappropriate for the Commission to dictate the exact number and type of divisions, wings, and naval battle groups that this nation needs to execute its strategy. We can, however, provide guidance and a mechanism to help the Department move in the necessary direction. Accordingly, the Commission recommends that the Secretary should revise the current categories of Major Force Programs (MFPs) used in the Defense Program Review to focus on providing a different mix of military capabilities. Given the need for transformation, the Major Force Programs should be updated, and new ones created corresponding to the five military capabilities the Commission prescribed in its Phase II report. We expand on those capabilities below.

Strategic nuclear forces must retain the capability to perform the classic role of nuclear deterrence. The future security environment and probable strategic nuclear arms reduction efforts, however, likely will call for appropriately smaller numbers of nuclear weapons and delivery systems. Homeland security forces must possess the ability to deter, protect, and respond to threats to the American homeland. Homeland security is not just a military function; it requires the capabilities and expertise of numerous government agencies, best integrated by this Commission's proposed National Homeland Security Agency. For DoD's contribution to this vital mission, the Commission recommends that reserve component forces should be assigned a primary role. They should be trained and equipped to respond as deployable forces to natural, manmade, and/or WMD-triggered disasters. Active duty military forces should be trained to perform these missions in augmenting the reserve component forces.

Conventional forces must be sized and tailored to threats defined by realistic needs and updated force modeling. For the near future, conventional forces of the types now possessed can provide this capability. Fewer such forces, however, will be required to dominate potential threats than have been previously required by current assumptions and models. Given likely limitations on

strategic air mobility assets, fast sealift and pre-positioned equipment in regions at risk should receive higher funding priority.

Expeditionary capabilities should be distinguished from "current conventional capabilities" insofar as they are designed to respond to crises very rapidly, operate with much lower logistic requirements in a network-centric environment, and possess technological superiority to dominate any potential adversary in the foreseeable future. Rapid power projection with forced entry ability, from forward locations and afar, must characterize these capabilities which, in the Commission's view, describes few of the forces the U.S. now possesses.

Humanitarian relief and constabulary operations will involve all the military services, including the support that has been customarily provided by naval, air, and ground forces. Other government and non-government organizations will undoubtedly be involved, and this should be anticipated in preparing for such missions. The constabulary capabilities should be vested primarily in Army and Marine Corps elements trained and equipped with weapons and mobility resources that will enhance the conduct of such missions, which should be additive to other force structure requirements.

This Commission recognizes the transformation process will produce these five capabilities over time, yet some must mature at a faster rate. Ultimately, the transformation process will blur the distinction between expeditionary and conventional forces, as both types of capabilities will eventually possess enhanced mobility. For the near term, however, those we call expeditionary capabilities require the most emphasis. Consequently, we recommend that:

· 34: The Defense Department should devote its highest priority to improving and further developing its expeditionary capabilities.

This Commission has identified what our military needs to achieve for the future-how to get there is best left to the responsible experts. We may discover that a transformed U.S. force structure will require a resource and capabilities baseline that is actually higher than that derived through the current 2MTW construct. Moreover, these transformed forces will be the ones this nation uses to fight all its conflicts, large and small, one at a time or simultaneously. Clearly, the transformation process will require a reprioritization of current resources. Ultimately, the result may be a larger force, or a smaller one, but we are confident that it will be a better force, appropriate to the environment in which it must serve.

The President and the Secretary of Defense can accomplish many of these structural reforms within and among the DoD staffs as well as reform of the budgeting and force planning processes. The structural reforms recommended for the defense infrastructure will require Congressional support and enabling legislation. Acquisition reform will require both DoD policy and statutory changes.

E. SPACE POLICY

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In its earlier work, this Commission has recognized space as a critical national security environment.68 In so doing, it affirms current U.S. National Security Strategy, which considers "unimpeded access to and use of space" a vital national interest.*69

The United States relies on space for the viability of both its economy and its national defense. Space technologies, such as the Global Positioning System, are already revolutionizing several major industries. The nation's military and intelligence activities, too, depend increasingly on space. U.S. superiority in space makes possible a military doctrine based on information superiority. U.S. military forces exploit space as the "high ground" for command, control, computers, communications, intelligence, surveillance, and reconnaissance (C4ISR) activities. The U.S. military cannot undertake any major operation, anywhere in the world, without relying on systems in space. Key elements of the U.S. strategic deterrent posture will be maintained in space as will the nation's ISR systems critical to avoiding strategic surprise. Space will be a crucial component to any layered defense the United States may construct in the next quarter century against ballistic missiles.

That is why the nation's space architecture-the infrastructure required to conduct space activities-must serve a multiplicity of commercial, civil, military, and intelligence purposes. Its protection must also be assured against threats that are clearly on the horizon.

Unfortunately, the superiority the United States enjoys today in space is unlikely to persist. Many countries have space capability or access to space. A few states already have the satellite and weapons technology to threaten U.S. space assets, and more will acquire such technology in due course.

In terms of defining its space strategy, the United States must balance two related goals. On the one hand, it seems prudent for the United States to seek space superiority, defined by the Defense Department as "that degree of dominance in space of one force over another, which permits the conduct of operations by the former and its related land, sea and air forces at a given time and place without prohibitive interference by the opposing force."*70 On the other hand, the United States should continue to support general international norms that protect space as an international domain where all participants are free to pursue peaceful activities. The problem is that unilateral U.S. steps taken to assure military superiority in space may be seen by others as implying an ability to deny access to space and freedom of action there. Even if that ability is never used, it could complicate the ability of the United States to shape a benign international environment. The United States recognizes space as a global commons, but if it does so without qualification, it risks being surprised and overtaken militarily in a crucial environment by some future adversary.

At the very least, this Commission believes that the United States should pursue a robust ground- and space-based C4ISR capability.*71 Because space capabilities take a long time to develop, the United States must also take, in the near- and middle-term, the steps necessary to protect its space assets within the current international legal framework should the need arise.*72

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In our view, now is the time to reevaluate how both space activities and assets serve broader U.S. national security needs, and then how the U.S. government is organized to manage these. The first is required because science and technology are generating a rapid rate of innovation, and that innovation has both commercial and military implications the interplay of which we do not yet fully comprehend. The second is required because, frankly, the current state of affairs is inadequate.

As it happens, other commissions or boards have recently addressed or are currently addressing space issues, and they are doing so in a more comprehensive way than this Commission.*73 We endorse their work and offer recommendations that bear, in particular, on issues of structure and process.

This Commission finds serious problems with the way the existing interagency procedures in the U.S. government deal with space. No standing interagency process for space exists. Neither the NSC staff nor the White House Office of Science and Technology Policy is adequately manned to coordinate space issues. This means that space issues are addressed as they arise on an ad hoc basis. Neither the NSC, the National Science and Technology Council (NSTC), or the National Economic Council (NEC) integrates U.S. space activities. Hence, the Commission recommends the following:

· 35: The President should establish an Interagency Working Group on Space (IWGS) at the National Security Council to coordinate all aspects of the nation's space policy, and place on the NSC staff those with the necessary expertise in this area.

Such a working group would include key representatives from the Executive Office of the President (NSC, OSTP, OMB) and stakeholder representatives: the Departments of Defense, State, Transportation, and Commerce, the Director of Central Intelligence, and the Chairman of the Joint Chiefs of Staff.*74 The creation of the IWGS would allow space to be considered systematically and consistently as a critical element of U.S. national security policy.

The global presence and responsibilities of the United States, and the demands of the information age, have placed enormous new requirements for space and information infrastructures. These will create major demands for resources in both the Defense Department and the intelligence community. The problem is that the nation has not developed the concept of a comprehensive national space architecture to guide the allocation of resources.*75

A national intelligence Future Imagery Architecture (FIA) does exist, but it has been given woefully inadequate means either to fully process or to disseminate the information collected for its clients in the intelligence community, DoD, and other agencies.*76 Rectifying these problems is estimated to cost several billion dollars and no funds have so far been earmarked for this purpose. At present, then, the system for national intelligence imagery collection, processing, and dissemination is not fully integrated. The National Reconnaissance Office (NRO) and the National

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Imagery and Mapping Agency (NIMA) have failed to provide imagery capability that meets U.S. security needs.*77 As currently envisioned, too, the National Missile Defense (NMD) architecture focuses solely on engagement, not on an architecture that integrates the entire spectrum of national and defense-related intelligence, or that covers pre- engagement and post-strike assessments and reconstitution activities. Other space activities, such as those of NASA and NOAA, have been given little attention in thinking about the nation's space architecture. This is also the case for commercial space activities.

There is within the Defense Department a National Security Space Architect (NSSA) with responsibility for the design and oversight of the nation's defense and intelligence space infrastructure.*78 But this official lacks the means to affect the non-DoD/intelligence space architecture, much less influence decisions in other departments and agencies. The NSSA does not directly influence programs and budgets and, hence, cannot influence the allocation of resources. This Commission therefore recommends that the existing National Security Space Architect (NSSA) should be transferred from DoD to the NSC staff and take the lead in this effort.

Moreover, the problem of organizing for space policy must also be addressed at levels below the interagency. In the Department of Defense, responsibility for space policy and oversight is dispersed among various elements of the Office of the Secretary of Defense's (OSD) staff. We recommend establishing one office responsible for oversight of the department's R&D, acquisition, and launch/operation of its space assets. Coordination of military intelligence activities and long-range intelligence requirements, both within the department and with the intelligence community, should reside in this office. This official would therefore develop all defense-specific space, intelligence, and space architecture policy for DoD, and coordinate these issues at the interagency level. Accordingly, we recommend the Department of Defense create an Under Secretary of Defense for Space, Intelligence, and Information by consolidating current functions on the OSD staff.*79

One of the nation's most valuable forms of critical infrastructure is its space-based satellite constellation and ground support facilities. It is also our most vulnerable. Nowhere else does our defense capability rest on such an insecure firmament, even though warning and imagery are unquestionably critical. The concept of critical infrastructure protection highlighted in Section I must be extended to U.S. space networks as well. In light of U.S. reliance on these assets and the present dearth of means to protect them, the Commission endorses the conclusions of the recent Commission to Assess U.S National Security Space Management and Organization, and recommends increased investment in the protection of U.S. space assets, including deployment of a space-based surveillance network.

Such a network will require, first, that the United States be able to detect when its systems are being attacked and then respond. Protective methods must be developed and fielded. Second, the nation's access to space must be expanded in ways that are more cost-effective. The more robust U.S. space launch capability, the more able the United States will be to retain its space superiority, reconstitute systems after attack, and reduce its vulnerabilities. The Commission strongly recommends that the modernization of the nation's space-launch capability be accelerated.

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F. THE INTELLIGENCE COMMUNITY

The basic structure of the U.S. intelligence community does not require change. The community has implemented many of the recommendations for reform made by other studies. This Commission's focus is on those changes in intelligence policy, operations, and resources needed for the full implementation of recommendations found elsewhere within this report.

While the intelligence community is generally given high marks for timely and useful contributions to policymaking and crisis management, it failed to warn of Indian nuclear tests or to anticipate the rapidity of missile developments in Iran and North Korea. U.S. intelligence has, at times, been unable to respond to the burgeoning requirements levied by more demanding consumers trying to cope with a more complex array of problems. Steep declines in human intelligence resources over the last decade have been forcing dangerous tradeoffs between coverage of important countries, regions, and functional challenges. Warfighters in theater are often frustrated because the granulated detail of intelligence that they need rarely gets to them, even though they know that it exists somewhere in the intelligence system.

It is a commonplace that the intelligence community lost its focus when the Berlin Wall fell. Since then, three other problems have compounded its challenges. First, the world is a more complex place, with more diffuse dangers requiring different kinds of intelligence and new means of acquiring them. Second, its resources-personnel and monetary-have been reduced. Third, the dangers of terrorism and proliferation, as well as ethnic conflicts and humanitarian emergencies, have led to a focus on providing warning and crisis management, rather than on long-term analysis.

The result of these three developments is an intelligence community that is more demand-driven than it was two decades ago. That demand is also more driven by military consumers and, therefore, what the intelligence community is doing is narrower and more short- term than it was two decades ago. Given the paucity of resources, this means that important regions and trends are not receiving adequate attention and that the more comprehensive analytical tasks that everyone agrees the intelligence community should be performing simply cannot be done properly.

This Commission has emphasized that strategic planning needs to be introduced throughout the national security institutions of the U.S. government. We have also emphasized the critical importance of preventive diplomacy. Both require an intelligence community that can support such innovations, but current trends are leading in the opposite direction.

This Commission has also stressed the increasing importance of diplomatic and especially economic components in U.S. statecraft. The intelligence community as a whole needs to maintain its level of effort in military domains, but also to do much more in economic domains. In a world where proprietary science and technology developments are increasingly the sinews of national power, the intelligence community needs to be concerned more than ever with U.S. technological security, not least in cyberspace. And here, too, the trends within the intelligence community point

not toward, but away from, the country's essential needs. Resources devoted to handling such economic and technical issues are not increasing, but declining.

To respond to these challenges, some have recommended strengthening the Director of Central Intelligence (DCI) through organizational changes, such as vesting greater budgetary authority in him and giving him greater control over personnel throughout the community. We believe, however, that current efforts to strengthen community management while maintaining the ongoing relationship between the DCI and the Secretary of Defense are bearing fruit. We recommend no major structural changes, but offer certain recommendations to strengthen the DCI's role and the efficiency of the process.

The National Security Act of 1947 gave the National Security Council responsibility for providing guidance with respect to intelligence functions. In practice, however, administrations have varied widely in their approach to this function-sometimes actively setting priorities for intelligence collection and analysis and sometimes focusing simply on coordinating intelligence response in times of crisis.

To achieve the strategy envisioned in our Phase II report, and to make the budgetary recommendations of this section most effective, more consistent attention must be paid to the setting of national intelligence priorities. To do this, we recommend the following:

· 36: The President should order the setting of national intelligence priorities through National Security Council guidance to the Director of Central Intelligence. In recommending this, we echo the conclusion of the Commission on the Roles and Capabilities of the United States Intelligence Community (the Brown-Rudman Commission).

While we do not want to dictate how future Presidents might use the National Security Council, we believe this is a crucial function that must be filled in some way. The President's authority to set strategic intelligence priorities should be exercised through continuous NSC engagement with the DCI, from which the DCI can establish appropriate collection and analysis priorities. Such an approach would ensure consistent policymaker input into the intelligence effort and, if policymakers come to feel a part of the intelligence process, it should enable greater support for the intelligence community, as well. We believe that this function would be best fulfilled by a true strategic planning staff at the NSC-as per our recommendation 14. The point is that policy and strategic guidance for intelligence should be formulated in tandem.

We have emphasized the importance of securing the homeland in this new century and have urged, specifically in recommendation 4, that it be a higher intelligence priority. Making it so means greatly strengthening U.S. human intelligence (HUMINT) capability. This involves ensuring the quality of those entering the community's clandestine service, as well as the recruitment of foreign nationals as agents with the best chance of providing crucial information about terrorism and other threats to the homeland.

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Along with the National Commission on Terrorism, we believe that guidelines for the recruitment of foreign nationals should be reviewed to ensure that, while respecting legal and human rights concerns, they maximize the intelligence community's ability to collect intelligence on terrorist plans and methods. We recognize the need to observe basic moral standards in all U.S. government conduct, but the people who can best help U.S. agents penetrate effectively into terrorist organizations, for example, are not liable to be model citizens of spotless virtue. Operative regulations in this respect must balance national security interests with concern for American values and principles. We therefore recommend the following:

· 37: The Director of Central Intelligence should emphasize the recruitment of human intelligence sources on terrorism as one of the intelligence community's highest priorities, and ensure that operational guidelines are balanced between security needs and respect for American values and principles.

The DCI must also give greater priority to the analysis of economic and science and technology trends where the U.S. intelligence community's capabilities are inadequate. While improvements have been made, especially in the wake of the Asian financial crisis, the global economic and scientific environments are changing so rapidly and dramatically that the United States needs to develop new tools merely to understand what is happening in the world. The Treasury Department has made important strides in this regard, but it has a long way to go. Treasury and CIA also need to coordinate better efforts in this critical area. We therefore recommend the following:

· 38: The intelligence community should place new emphasis on collection and analysis of economic and science/technology security concerns, and incorporate more open- source intelligence into analytical products. Congress should support this new emphasis by increasing significantly the National Foreign Intelligence Program (NFIP) budget for collection and analysis.

In order to maintain U.S. strength in traditional areas while building new capabilities, the President and the Congress should give priority to economic and science/technology intelligence. We need to increase overall funding in these areas significantly and the DCI needs to emphasize improvement in the collection and analysis of this intelligence. This will require, in turn, a major investment in the community's long-term analytical capacities, but these capacities are crucial in any event to supporting the strategic planning that we have emphasized throughout this report.

Better analysis in non-military areas also means ensuring that open-source intelligence is a vital part of all-source analysis. Many new challenges, but especially economic, scientific, and technological ones, call for greater attention to the wealth of openly available information. Analyses of the failure of the community to anticipate India's nuclear tests, when clear indications were available in open-source publications, demonstrate that this capability has relevance for traditional security issues as well.

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We thus urge the strengthening of HUMINT capabilities, the broadening of analytical efforts across a range of issues, and the incorporation of more open-source information into all-source analysis. Meeting the nation's future intelligence needs, however, will also require changes in the community's technological capabilities.

Technological superiority has long been a hallmark of U.S. intelligence. Yet some agencies within the National Foreign Intelligence Program spend as little as three to four percent of their budget on all aspects of research and development, and as little as one percent on advanced research and development. This reflects a decline in overall intelligence expenditures in real terms, while salaries and benefits for intelligence personnel have been on the rise. Concerted effort is needed to ensure that research and development receive greater funding.

At the same time, the intelligence community must think about its technological capabilities in new ways. During the Cold War, the National Security Agency (NSA) and other agencies derived a great wealth of information through signals and communications intelligence. In today's Internet age, global networks, cable, and wireless communications are increasingly ubiquitous, with attendant improvements in encryption technologies. Together these trends make signal intelligence collection increasingly difficult. The United States must possess the best platforms and capabilities to ensure that it can collect necessary information consistent with respecting Americans' privacy. It must also have high-quality technical and scientific personnel able to respond to future challenges. To these ends, we recommend that the DCI should provide the President a strategic assessment of the effectiveness of current technical intelligence capabilities to ensure the fullest range of collection across all intelligence domains, particularly as they relate to cyberspace and new communications technologies.

Should the U.S. intelligence community lack a full-spectrum capability either in collection or analysis, the United States would forfeit the depth of intelligence coverage it enjoyed during the Cold War. Maintaining this edge will require greater funding and expertise in the information and communication sciences. We must also pursue innovative approaches with the private sector to establish access to new technologies as they become available.

This Commission, in sum, urges an overall increase in the NFIP budget to accommodate greater priority placed on non-military intelligence challenges. Military intelligence needs also remain critical, however, so a simple reallocation of existing resources will not suffice. To ensure the continuing technological strength of the community, and to build cutting-edge intelligence platforms, there is no escaping the need for an increase in overall resources for the intelligence community.

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IV. The Human Requirements for National Security

As it enters the 21st century, the United States finds itself on the brink of an unprecedented crisis of competence in government. The maintenance of American power in the world depends on the quality of U.S. government personnel, civil and military, at all levels. We must take immediate action in the personnel area to ensure that the United States can meet future challenges.

In its Phase I report, this Commission asserted that "the ability to carry out effective foreign and military policies requires not only a skilled military, but talented professionals in all forms of public service as well."80 We reaffirm here our conviction that the quality of personnel serving in government is critically important to U.S. national security in the 21st century. The excellence of American public servants is the foundation upon which an effective national security strategy must rest-in large part because future success will require the mastery of advanced technology, from the economy to combat, as well as leading-edge concepts of governance. We therefore repeat our conclusion from the Phase II report, that the United States "must strengthen government (civil and military) personnel systems in order to improve recruitment, retention, and effectiveness at all levels."*81

In this light, the declining orientation toward government service as a prestigious career is deeply troubling. The problem manifests itself in different ways throughout various departments, agencies, and the military services, yet all face growing difficulties in recruiting and retaining America's most promising talent. These deficits are traceable to several sources, one of which is that the sustained growth of the U.S. economy has created private sector opportunities with salaries and advancement potential well beyond those provided by the government. This has a particular impact in shaping career decisions in an era of rising student debt loads. The contrast with the private sector is also organizational. In government, positions of responsibility and the ability to advance are hemmed in by multiple layers, even at senior levels; in the private sector, both often come more quickly. Rigid, lengthy, and arcane government personnel procedures- including those germane to application, compensation, promotion, retirement, and benefits systems-also discourage some otherwise interested applicants.

Another source of the problem is that there is no single overarching motivation to entice patriotic Americans into public service as there was during the Cold War. Careers in government no longer seem to hold out the prospect for highly regarded service to the nation. Meanwhile, the private and non-profit sectors are now replete with opportunities that have broad appeal to idealistic Americans who in an earlier time might have found a home within government service. Government has to compete with the private sector not only in salary and benefits, then, but often in terms of the intrinsic interest of the work and the sense of individual efficacy and fulfillment that this work bestows.

At the same time, the trust that Americans have in their government is buffeted by worrisome cynicism. Consistent criticism of government employees and agencies by politicians and the press has magnified public dissatisfaction and lowered regard for the worthiness of government service.

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Political candidates running "against Washington" have fueled the impression that all government is prone to management and services of a quality below that of similar organizations in the private sector. This is not the case, but virtually every Presidential candidate in the past thirty years has deployed campaign rhetoric criticizing "the bloated bureaucracy" as a means of securing "outsider" status in the campaign. Neither critics nor their audiences often differentiate between performance failures based on political maneuvering and the efforts of apolitical professional public servants striving to implement policy. The cumulative effect of this rhetoric on public attitudes toward the government is demonstrated in a 1999 study highlighting American frustration with "the poor performance of government" and "the absence of effective public leadership."*82

A final reality is that today's technological age has created sweeping expectations of speed, accuracy, and customization for every product and service. Government is not immune to these expectations, but its overall reputation remains that of a plodding bureaucracy. Talented people seeking careers where they can quickly make a difference see government as the antithesis to best management practices, despite many government improvements in this area. Part of the recruitment and retention problem, therefore, flows from the image of overall government management and must be addressed by making government more effective and responsive at every level.

The effect of these realities on recruiting and retention problems is manifest. The number of applicants taking the Foreign Service entrance exam, for example, is down sharply and the State Department shows signs of a growing retention problem. The national security community also faces critical problems recruiting and retaining scientific and information technology professionals in an economy that has made them ever more valuable. The national security elements of the Civil Service face similar problems, and these problems are magnified by the fact that the Civil Service is doing little recruiting at a time when a retirement wave of baby-boomers is imminent.

For the armed services, the aforementioned trends have widened the cultural gap, between the military and the country at large, that continues to be affected by the abolition of the draft in the 1970s. While Americans admire the military, they are increasingly less likely to serve in it, to relate to its real dangers and hardships, or to understand its profound commitment requirements. With a total active strength of 1.4 million, only one-half of one percent of the nation serves in the military. Military life and values are thus virtually unknown to the vast majority of Americans.

The military's capabilities, professionalism, and unique culture are pillars of America's national strength and leadership in the world. Without a renewed call to military service and systemic internal personnel reform to retain quality people, the requisite leadership and professionalism necessary for an effective military will be in jeopardy. For this reason, the Commission asserted in its Phase II report that the "United States must strengthen the bonds between the American people and those of its members who serve in the armed forces."*83 We reaffirm that assertion here.

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A. A NATIONAL CAMPAIGN FOR SERVICE TO THE NATION

To remedy these problems, the Commission believes that a national campaign to reinvigorate and enhance the prestige of service to the nation is necessary to attract the best Americans to military and civilian government service. The key step in such a campaign must be to revive a positive attitude toward public service. It has to be made clear from the highest levels that frustrations with particular government policies or agencies should not be conveyed through the denigration of federal employees en masse. Calls for smaller government, too, should not be read as indictments of the quality of government servants. Instead, specific issues should be addressed on the merits, while a broader campaign should be waged to stress the importance of public service in a democracy.

Implementing such a campaign requires strong and consistent Presidential commitment, Congressional legislation, and innovative departmental actions throughout the federal government. We know this is a tall order, but we take heart in previous examples of such leadership. The clarion call of President John F. Kennedy, encompassed in but a few well-chosen remarks spread over several speeches, had enormous impact and inspired an entire generation to public service. We also remember how President Ronald Reagan reinvigorated the spirit of the U.S. military after the tragedies of the Vietnam War and subsequent periods of low funding and plummeting morale. What the President says, and how he says it, matters. Moreover, only the President can shape the Executive Branch agenda to undertake the changes needed in U.S. personnel systems.

While the President's involvement is central, other leaders must help build a new foundation for public service. Congress must be convinced not only to pass the legislative remedies proffered below, but also to change its own rhetoric to support national service. It must work with department heads and other affected institutions to ensure that a common message is conveyed, and that Executive departments and agencies have the flexibility they need to make real improvements.

Rhetoric alone, however, will not bring America's best talent to public service. The Commission believes that unless government service is made competitively rewarding to 21st century future leaders, words will surely fade to inaction. Section II of this report highlighted the urgent national need for outstanding science and technology professionals. So, too, does government need high-quality people with expertise in the social sciences, foreign languages, and humanities. The decreased funding available for these programs from universities and foundations may threaten the ability of the government to produce future leaders with the requisite knowledge-in foreign languages, economics, and history to take several examples-to meet 21st century security challenges.

Therefore this Commission proposes a complement to the National Security Science and Technology Education Act (NSSTEA) presented in recommendation 11 of this report. As in the case of the NSSTEA, which applies to math and hard science majors, we would extend scholarship and debt relief benefits to those social science, foreign language, and humanities students who

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serve the nation. We therefore make the following recommendation:

· 39: Congress should significantly expand the National Security Education Act (NSEA) to include broad support for social sciences, humanities, and foreign languages in exchange for military and civilian service to the nation.*84

The current National Security Education Act (NSEA) of 1991 provides limited undergraduate scholarships and graduate fellowships for students to study certain subjects, including foreign language and foreign area studies. The Act also allows the use of funds at institutions of higher learning to develop faculty expertise in the languages and cultures of less commonly studied countries. Recipients of these funds incur an obligation either to work for an office or agency of the federal government involved in national security affairs, or to pursue careers as educators for a period equal to the time covered by the scholarship.*85

An expanded Act would increase the subjects currently designated for study, offering one- to four-year scholarships good for study at qualified U.S. universities and colleges. Upon completion of their studies, recipients could fulfill their service in a number of ways: in the active duty U.S. military; in National Guard or Reserve units; in national security departments and agencies of the Civil Service; or in the Foreign Service. To prepare students to fulfill their service requirements, the scholarship program should include a training element. One model of this training might be a civilian equivalent of the Reserve Officers Training Corps (ROTC) or Platoon Leader Course (PLC).*86

The Act should also provide for those who choose government service after completing their education. In those cases, the Act could offer several sorts of incentives in lieu of scholarships foregone. One such incentive would be the deferral of educational loan repayment while individuals serve in government. Another would reduce school loan principal amounts by a set percentage for every year the individual stays in government service up to complete repayment.*87 In such cases, the government would assume the financial obligations of the graduate, so that neither financial nor educational institutions suffer. The Commission believes the combination of the NSSTEA for math and science, and for other majors this significantly expanded NSEA will prepare Americans for many forms of service and more generally help recruit high-quality civil service and military personnel.

B. THE PRESIDENTIAL APPOINTMENTS PROCESS

A concerted campaign to improve the attractiveness of service to the nation is the first step in ensuring that talented people continue to serve in government. However, fundamental changes are also needed to personnel management systems throughout the national security agencies of government. Not least among the institutions needing reform is the Presidential appointments system.

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The problem with government personnel starts at the top. Unlike many other countries, the United States staffs the high levels of its national government with many outside, non-career personnel. The most senior of these are Presidential appointees whose positions require Senate confirmation. While career personnel provide much-needed expertise, continuity, and professionalism, Presidential appointees are a source of many valuable qualities as well-fresh ideas, experience outside government, specialized expertise, management skills, and often an impressive personal dynamism. They also ensure political accountability in policy execution, by transmitting the President's policies to the departments and agencies of government. Indeed, the tradition of public-spirited citizens coming in and out of government is an old and honorable one, serving the country well from the days of George Washington. This infusion of outside skills is truly indispensable today, when the private sector is the source of so much of the country's managerial and technological innovation.

What a tragedy, then, that the system for recruiting such outside talent has broken down. According to a recent study, "the Founders' model of presidential service is near the breaking point" and "the presidential appointments process now verges on complete collapse."*88 The ordeal to which outside nominees are subjected is so great-above and beyond whatever financial or career sacrifice is involved-as to make it prohibitive for many individuals of talent and experience to accept public service. To take a vivid recent example: "The Clinton Administration . . . had great difficulty filling key Energy Department positions overseeing the disposal of nuclear waste because most experts in the field came directly or indirectly from the nuclear industry and were thus rejected for their perceived conflicts of interest."*89 The problem takes several forms.

First, there are extraordinary-and lengthening-delays in the vetting and confirmation process. On average, the process for those appointees who required Senate confirmation has lengthened from about two and one-half months in the early 1960s to an extraordinary eight and one-half months in 1996-suggesting that many sub-cabinet positions in the new administration will be fortunate to be in place by the fall of 2001.*90 As Norman Ornstein and Thomas Donilon point out: "The lag in getting people into office seriously impedes good governance. A new president's first year-clearly the most important year for accomplishments and the most vulnerable to mistakes-is now routinely impaired by the lack of supporting staff. For executive agencies, leaderless periods mean decisions not taken, initiatives not launched, and accountability not upheld."*91 The result is a gross distortion of the Constitutional process; the American people exert themselves to elect a President and yet he is impeded from even beginning to carry out his mandate until one-sixth of his term has elapsed.

Second, the ethics rules-conflict of interest and financial disclosure requirements-have proliferated beyond all proportion to the point where they are not only a source of excessive delay but a prohibitive obstacle to the recruitment of honest men and women to public service. Stacks of different background forms covering much of the same information must be completed for the White House, the Senate, and the FBI (in addition to the financial disclosure forms for the Office of Government Ethics). These disclosure requirements put appointees through weeks of effort and often significant expense. The Defense Department and Senate Armed Services Committee

routinely force nominees to divest completely their holdings related to the defense industry instead of exploring other options such as blind trusts, discretionary waivers, and recusals.*92 This impedes recruiting high-level appointees whose knowledge of that industry should be regarded as a valuable asset to the office, not reason for disqualification.
The complexity of the ethics rules is not only a barrier and a time-consuming burden before confirmation; it is a source of traps for unwary but honest officials after confirmation. This is despite the fact that the U.S. federal government is remarkable for the rarity of real corruption in high office compared to many other advanced societies. Yet we proliferate "scandals" because of appearances of improprieties, or inadvertent breaches of highly technical provisions. Worse, these rules are increasingly matters of criminal rather than administrative remedies. It appears to us that those who have written these conflict of interest regulations themselves have little experience in such matters.

Third, and closely related, are the post-employment restrictions that a new recruit knows he or she must endure, particularly appointees subject to Senate confirmation. We will simply cease to attract talented outsiders who have a track record of success if the price for a few years of government service is to forsake not only income but the very fields in which they had demonstrated talent and found success. The recent trend has been to add to the restrictions. However, we applaud the recent revocation of Executive Order 12834 as an important step in removing some unnecessary restrictions.*93

A fourth dimension of the problem is the proliferation of Presidential-appointee positions. In the last 30 years, the number of Senate-confirmable Presidential-appointee positions throughout the federal government has quadrupled, from 196 to 786. Within the Defense Department, the figure has risen from 31 to 45 during the same period.*94 The growing number of appointees contributes directly to the backlog that slows the confirmation process. It also makes public service in many of these positions less attractive; as the Defense Science Board noted in the case of the Defense Department, "an assistant secretary post may be less attractive buried several layers below the secretary than as a number two or three job."*95 Moreover, Presidential appointments can hardly serve as a transmission belt of Presidential authority if multiple layers of political appointees diffuse accountability and make departments and agencies more cumbersome and less responsive. And it runs glaringly counter to the trend in today's private sector toward flatter and leaner management structures.
Finally, the appointments process feeds the pervasive atmosphere of distrust and cynicism about government service. The encrustation of complex rules is based on the presumption that all officials, and especially those with experience in or contact with the private sector, are criminals waiting to be unmasked. Congress and, especially, the media relish accusations or suspicions, whether substantiated or not. Yet the U.S. government will not be able to function effectively unless public service is restored to a place of honor and prestige, especially for private citizens who have achieved success in their chosen fields.

We need to rebuild the present system nearly from the ground up, and the beginning of a new administration is the ideal time to start. Our recommendations support those made in the Defense

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Science Board's Human Resource Study, in the joint survey undertaken by the Brookings Institution and the Heritage Foundation, and by Norman Ornstein and Thomas Donilon. We therefore recommend the following:

· 40: The Executive and Legislative Branches should cooperate to revise the current Presidential appointee process by reducing the impediments that have made high- level public service undesirable to many distinguished Americans. Specifically, they should reduce the number of Senate confirmed and non-career SES positions by 25 percent; shorten the appointment process; and moderate draconian ethics regulations.

Reducing non-career positions would, as the Defense Science Board has noted, "allow more upward career mobility for Senior Executive Service employees and provide greater continuity and corporate memory in conducting the day-to-day business affairs of the Defense Department during the transition between administrations."*96 Recommendation 43 below to create a National Security Service Corps should help ensure that career employees develop the qualifications to be eligible to hold senior positions throughout the government.

The aim of reducing the number of Presidential appointees is not to weaken Presidential political authority over the bureaucracy, but to eliminate the excessive layering that clogs the government's functioning in addition to slowing the appointment process. That said, an exact balance between political and career appointees cannot be specified in the abstract. Both groups include skilled and talented people. But Presidents should be held to a qualitative standard-that political appointees, whether for Ambassadors or for policymaking positions in Washington, should be chosen for the real talents they will bring and not the campaign contributions they brought. [See recommendation 23]

To streamline and shorten the current appointment process, the President and leaders of the new Congress should meet as soon as possible to agree on the following measures.

· CONFIRM THE NATIONAL SECURITY TEAM FIRST. By tradition, the Senate foreign relations, armed services, and intelligence committees hold hearings before inauguration on the nominees for Secretaries of State and Defense and the Director of Central Intelligence, and vote on inauguration day. This practice should continue. Future Presidents should also present to the Senate no later than inauguration day his nominees for the top ten positions at State and at Defense and the top three posts at CIA. Leaders of the relevant committees should agree to move the full slate of appointments to the full Senate within 30 days of receiving the nomination (barring some serious legitimate concern about an individual nominee).*97

· REDUCE AND STANDARDIZE PAPERWORK REQUIREMENTS. The "Transition to Governing Project" jointly undertaken by the American Enterprise Institute and the Brookings Institution is developing software that will enable appointees to collect information once and direct it to the necessary forms. The new President should direct all relevant agencies and authorities to accept these computerized forms and to streamline the paperwork requirements for future

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appointees.*98

· REDUCE THE NUMBER OF NOMINEES SUBJECT TO FULL FBI BACKGROUND CHECKS. Full field investigations should be required only for national security or other sensitive top- level posts. Most other appointees need only abbreviated background checks, and part- time or lesser posts need only simple identification checks.99 The risks to the Republic of such an approach are minor and manageable, and are far outweighed by the benefit that would accrue in saved resources and expedited vetting.

· LIMIT ACCESS TO FULL FBI FILES. Distribution of raw FBI files should be severely restricted to the chairman and ranking minority member of the confirming Senate committee.100 Nothing deters the recruitment of senior people more than the fear that their private lives will be shredded by the leakage of such material to the national media. To significantly revise current conflict-of-interest and ethics regulations, the President and Congressional leaders should meet quickly and instruct their top aides to make recommendations within 90 days of January 20, 2001. This Commission endorses retention of basic laws and regulations that prevent bribery and corrupt practices as well as the restrictions in the U.S. Code that ban former officials from lobbying their former agencies for one year. We also endorse lifetime prohibitions against acting as a representative of a foreign government and against making a formal appearance in reference to a "particular matter" in which he or she participated personally and substantially, or a matter under his or her official responsibilities. However, the Commission recommends two important actions:

· Conduct a comprehensive review of the regulations and statutory framework covering Presidential appointments to ensure that regulations do not exceed statutory requirements.

· Make blind trusts, discretionary waivers, and recusals more easily available as alternatives to complete divestiture of financial and business holdings of concern.

The conflict of interest regime should also be decriminalized. Technical or inadvertent misstatements on complex disclosure forms, or innocent contacts with the private sector, should not be presumptively criminal. The Office of Government Ethics should be enabled and encouraged to enforce the disclosure and post-employment statutes as civil or administrative matters; to decide questions expeditiously; and to see its job as clearing the innocent, as well as pursuing wrongdoers.

These recommendations can be accomplished through Executive Branch action, such as that which rescinded Executive Order 12834. Other recommendations, however, will require Congressional concurrence and action. We therefore urge the new President to take the initiative immediately with Congress to agree on future statutory reforms.

C. THE FOREIGN SERVICE

An effective and motivated Foreign Service is critical to the success of the Commission's

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restructuring proposal for the State Department [see Section III above].Yet among career government systems, the Foreign Service, which is set apart from other civilian personnel systems by its specialized entrance procedures and up-or-out approach to promotion, is most in need of repair.

While some believe the Foreign Service has retained much of its historical allure and cachet, many close observers contend that the Foreign Service no longer attracts or retains the quality of people needed to meet the diplomatic challenges of the 21st century. Overall educational competence in areas crucial to a quality Foreign Service-including history, geography, economics, humanities, and foreign languages-is declining, resulting in a shrinking pool of those with the requisite knowledge and skills for this service.*101 The proposed revision to the National Security Education Act [recommendation 39 above] is one response to this deficit.

Data indicate that recruitment is currently the Foreign Service's major concern.*102 There are now 25 percent fewer people taking the entrance exam as there were in the mid-1980s. Other careers, in corporations and non-governmental organizations, now offer many of the same opportunities on which the Foreign Service used to hold the monopoly: living overseas, learning foreign languages, and developing negotiating experience. These other opportunities generally pay better, do not entail the same level of austerity and danger often faced by Foreign Service officers posted abroad, and do not impose the same constraints on two-career families.

Beyond this lack of flexibility, many of the State Department's own policies are detrimental to attracting and keeping the highest quality people. The recruiting process is exceedingly slow, often taking two years from written exam to the first day of work. At a time when potential officers have many other career choices they may elect, this is a fatal weakness.

The oral exam also works at odds with the goal of attracting those with the range of knowledge (foreign policy, economics, cultural studies) and skills (languages, leadership, technology) necessary to an effective Foreign Service. The exam's "blindfolding" policy, whereby the examiners who decide who enters the Service know nothing about an applicant's background, has the admirable goal of ensuring a level playing field. But it runs completely counter to common sense in selecting the most qualified applicants.

The lack of professional educational opportunities currently afforded Foreign Service officers is also a problem both for the quality of those who stay and as a reason for those who leave. While the Foreign Service certainly needs more training in languages and emerging global issues, recent studies find an additional problem involving the lack of effective management and leadership throughout the State Department.*103 We therefore recommend the following:

· 41: The President should order the overhauling of the Foreign Service system by revamping the examination process, dramatically improving the level of on-going professional education, and making leadership a core value of the State Department.

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In order to revamp the exam process, changes must be made to shorten the hiring process dramatically without compromising the competitiveness of the system. The Commission is encouraged by the use of the shorter Alternative Examination Program (AEP) which allows applicants (now limited to current government employees) to advance to the oral examination on the basis of their professional experience. Contingent upon evaluation of its success, this program should be broadened and other innovative approaches encouraged. If the written exam is retained, it might be administered by computer, allowing applicants to sit for the test at different times throughout the year.

In addition, the oral exam's blindfolding policy should end. While we sympathize with the aim of fair consideration for all, and with the State Department's eagerness to avoid legal harassment, this approach seriously damages the effectiveness of the examination process. It omits consideration of the professional and other experiences candidates may bring to the Foreign Service. It also makes it impossible for examiners to counsel applicants on the appropriateness of their backgrounds to particular cones (political, economic, consular, public diplomacy, or administrative). There is no legal requirement for this practice.

A successful Foreign Service also requires officers who are consistently building new knowledge and skills. As we recommend below for the Civil Service, the Commission endorses a ten to fifteen percent increase in personnel to allow for that proportion of the overall service to be in training at any given point.104 Current State Department professional development, focused mostly on languages, must be greatly expanded to ensure a diplomatic corps on the cutting edge of 21st century policy and management skills. We agree with the recommendations of McKinsey and the Overseas Presence Advisory Panel that call for a full range of mandatory educational courses in functional topics, languages, leadership, and management. Training milestones should be met in advance of promotions or advancements to supervisory positions.
Beyond problems with the exam process and the lack of professional development programs, all levels of the State Department suffer from a lack of focus on leadership and management. Improvements will require a cultural shift that must flow from the top. We urge future Presidents and Secretaries of State in selecting senior State Department officials to consider management strengths and departmental leadership abilities in addition to substantive expertise. Our proposal for restructuring the State Department [recommendation 19] is also aimed at fostering better management skills.

At lower levels, too, the State Department must develop sound talent management practices. We endorse many of the McKinsey report's findings: allow leaders more discretion in making key talent decisions; reduce time-in-grade requirements to allow the best performers to advance more quickly; and improve feedback to allow managers to gain from insights provided both from above and below.

Most of these problems can be handled effectively by the State Department without additional legislative mandate; yet some of these changes, particularly promoting professional education,

require Congress to appropriate additional funds. The Department of State estimates that it would cost $200 million annually to create a ten to fifteen percent training float. The Commission endorses such an investment. Additionally, the Commission believes we must restore the external reputation of those who serve our nation through diplomatic careers. As a means of achieving this, we recommend changing the Foreign Service's name to the U.S. Diplomatic Service. This rhetorical change will serve as a needed reminder that this group of people does not serve the interest of foreign states, but is a pillar of U.S. national security.

D. THE CIVIL SERVICE*105

While there is disagreement as to the extent of the crisis in Civil Service quality, there are clearly specific problems requiring substantial and immediate attention.*106 These include: the aging of the federal workforce; the institutional challenges of bringing new workers into government service; and critical gaps in recruiting and retaining information technology professionals and those with less-common language skills. Most striking is how many of these problems are self-inflicted to the extent that departmental authority already provides some remedy if only the institutional will and budgetary resources were also available. Fixing these problems will make a major contribution to improving recruitment and retention.

A prominent problem confronting all of the Civil Service is its aging workforce. The post-World War II baby-boomer generation heeded President Kennedy's call to government service in unprecedented numbers, but the first of this age cohort will turn 55 in 2001. A retirement wave that will continue for the next eighteen years will reach crisis proportions in many departments. Nearly 60 percent of the entire civilian workforce is eligible for early or regular retirement today.*107 Within that overall figure, 27 percent of the career Senior Executive Service (SES) is eligible for regular retirement now; 70 percent will be eligible within five years.*108 This growing retirement wave is exacerbated by the small numbers of employees in their twenties and thirties in most agencies. When agencies such as the Department of Defense and those within the Intelligence Community chose to downsize through hiring freezes, they contributed to this trend.

While some have argued that the "Generation X" cohort is less inclined toward government employment, our analysis suggests that this cohort does see government as one of several desirable career tracks. If recruiting were resumed, many within this age group would seek federal jobs. This is suggested by the fact that the one current mechanism for bringing graduate students into government-the Presidential Management Internship program-has remained highly competitive.*109

Yet there are still two major problems in converting interest in government positions to actual service. First, many young adults have completed or are enrolled in graduate school, and thus carry a much heavier student loan burden than their predecessors. Our recommendations for expanding student loan forgiveness programs [recommendations 11 and 39] should help mitigate this problem.

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Second, the length and complexity of most application and security clearance processes is devastating in an economy where private sector firms can make on-the-spot offers. In a survey of employees from the Departments of Commerce and the Treasury, fully 54 percent of Treasury respondents and 73 percent of Commerce respondents reported that it took at least four months to receive an offer from the time they submitted an application.*110 Departments must shorten the appointment and security clearance process.
Yet a third major problem for the civil service is the difficulty of attracting and retaining information technology (IT) professionals who are in great demand throughout the economy. To meet expected demand, the nation will need an additional 130,000 new IT workers each year through at least 2006. The federal government will also need more IT capability, requiring constant hiring to keep up with requirements. The strong demand for IT professionals in the private sector will insure a continuing pay gap between public and private opportunities, making it even more difficult for the government to attract needed talent. This is compounded by a growing "speed-to-seat metric"-a measure of the time taken to recruit, hire, and place an employee. It means that some government IT projects with compressed life-cycles, including some too sensitive to contract out, may expire before a new hire can even start the project.*111

Beyond recruiting difficulties, the federal government faces significant IT retention challenges. Deficiencies in governmental occupational structures and position descriptions contribute to the loss of IT personnel to the private sector. Corporations can alter the role of IT personnel rapidly as technology advances, while government position structures are comparatively sluggish. As a result, IT position descriptions in the government often do not match those in the private sector.*112

These trends pose particular problems for the national security community. IT professionals are needed not only for crucial support functions but also to help run sophisticated intelligence platforms. Lengthy security clearance processes and less competitive compensation packages make recruiting high-quality IT personnel for these purposes very difficult. There are also retention problems as younger IT civil servants are lured away by the private sector. The National Security Agency (NSA) reports growing attrition rates particularly among young professionals, the group most skilled in new technologies and most in demand.*113

There is a corresponding problem, though of lesser magnitude, for less common ("low density") languages. The United States faces a broader range of national security challenges in the post-Cold War world, requiring policy analysts and intelligence personnel with expertise in more countries, regions, and issues. The people most likely to bring these skills are native speakers of other languages with direct cultural experiences; yet members of this group often face the greatest difficulties in getting a security clearance. We therefore recommend the following:

· 42: The President should order the elimination of recruitment hurdles for the Civil Service, ensure a faster and easier hiring process, and see to it that strengthened professional education and retention programs are worthy of full funding by Congress.

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The federal government must significantly increase recruiting programs through programs like the National Security Education Act [recommendation 39], which will link educational benefits to a service requirement. To anticipate the coming bow wave of retirements, the government needs to adopt a range of policies that make hiring and promotion practices more flexible. Some progress has been made, particularly in the IT field, in shortening the length of the hiring process. This is crucial to improving government competitiveness. Organizations like the Central Intelligence Agency (for its non-clandestine employees) have authorized recruiters to negotiate on-the-spot offers-including compensation packages-contingent upon successful completion of background investigation and polygraph requirements. These programs should be generalized throughout the national security community, not least for critical science and technology personnel.
The security clearance process itself must be revamped to provide for more efficient and timely processing of applications. There are several ways to go about this. One is to re-code intelligence community positions to allow some employees to start work before receiving the most sensitive security clearances. A bipartisan Executive-Legislative commission could be helpful in examining other methods of streamlining the security clearance process, while maintaining the rigor required for national security positions.

The U.S. Office of Personnel Management (OPM) and individual agency personnel offices have designed many incentive programs to recruit and retain quality employees.*114 But many departments and agencies have not used these programs for lack of funds. Because all incentive programs are drawn from the same pool of money as that for salaries, administrators must trade off incentives for some employees against the ability to hire additional personnel. Additional funds must be provided to maximize agencies' options in recruiting and retaining high-quality personnel.

Similarly, existing authorities provide funds for professional education. Such opportunities are crucial in maintaining a knowledgeable cadre of national security professionals. Supporting employees' desire for professional development is also a means of ensuring retention. Yet the degree of downsizing in national security agencies has yielded a system whereby the workload of an employee on training must be split among others in the office, creating a powerful disincentive for managers to allow their best employees to pursue these opportunities. As a complement to proposals made for the Foreign Service, the Commission would apply the recommendation of the U.S. Overseas Presence Panel to all national security departments and agencies: that "the workforce structure and resources available for staff should take into account the ten to fifteen percent of employees who will be in training. . .at any given time."*115 Thus "full staffing" of a department or agency should be defined as a number ten to fifteen percent greater than the number of available positions.

We also need to give special priority to measures to secure and retain information technology (IT) talent in the most mission-critical areas while finding ways to outsource support functions.

For the mission-critical areas, this means using existing and seeking additional authorities to allow direct-hiring and to provide for more market-based compensation. While the government cannot completely close the pay gap with the private sector, higher salaries, signing bonuses, and

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performance rewards can narrow it. Some agencies have begun this effort by paying senior IT professionals market-based salaries.*116

Further, the Commission endorses the recommendation of the CIO Council, a group of departmental and agency Chief Information Officers, to use and expand existing OPM authorities to lift pay cap restrictions on former Civil Service and military employees.*117 For entry-level talent, we recommend expanding the newly authorized Cyber Corps, akin to the Reserve Officer Training Corps (ROTC) program, whereby the government would pay for two years of a student's schooling in exchange for two years of governmental IT service.

Efforts to retain young IT professionals should recognize that their career plans will likely not include a 30-year or even a ten-year stint in government service. OPM developed departmental flexibility for Y2K programs, including temporary appointments (one to four years) within the competitive service.*118 We believe such authorities should be instituted and expanded for IT professionals. In its own interest, the government needs to maximize the ease with which transitions can be made between government service and the private sector. Young employees' interest in staying may be prolonged through performance-based retention bonuses and through the establishment of a unique and adaptive career path for IT professionals that includes rotational assignments and better opportunities for education and responsibility. Such an effort might also permit the government to move IT capabilities more fluidly across departments and agencies.

Where appropriate, outsourcing IT support functions is still needed. NSA has already turned development and management of non-classified technology over to a private-sector contractor, allowing NSA to focus its in-house IT talent on developing and overseeing core intelligence technologies. More programs like this can be used to supplement the other steps outlined here.

The implementation of these proposals for the civil service will require a multifaceted approach. We believe the endorsement of these recommendations by the President would set a proper tone of importance and urgency. Because many recommendations will affect many departments, an interagency coordinating group should be convened to help OPM develop new provisions. From there, heads of departments and agencies can take steps to implement them. We know that some recommendations, such as improving the recruitment and retention of IT professionals, cannot be fully implemented in the near term. In such cases, we urge departments to set timelines for reaching goals and, for those issues that cross agency lines such as IT needs, departments and agencies should work collaboratively.

These recommendations also presuppose greater Congressional appropriations devoted to making these changes possible. The preceding analysis demonstrates that, in order to allow for critical professional education, agency end-strengths must be increased by ten to fifteen percent, requiring a significant increase in personnel funding.

Beyond training, an aggressive recruitment campaign will require additional funds as well. In proposing the information technology "cyber corps" program, the Clinton Administration

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requested $25 million annually to pay for two years of college for 300 students. IT positions that pay close to market rates will have considerably higher salaries than is currently the case; however, this group would be relatively small. Finally, IT outsourcing proposals are likely to save the government money on a net basis since the cost of contracted labor is less than that of paying civil servant salaries, benefits, and retirement contributions.*119

The national security component of the Civil Service is faced with an additional problem: the need to develop professionals with breadth of experience in the interagency process, and with depth of knowledge about substantive policy issues. Both elements are crucial to ensuring the highest quality policy formulation and analysis for the United States across a range of issues. They are also key to maintaining a robust national security workforce as professionals seek a diversity of experiences along their career paths.

The Commission's Phase II report argued that "traditional national security agencies (State, Defense, CIA, NSC staff) will need to work together in new ways, and economic agencies (Treasury, Commerce, U.S. Trade Representative) will need to work closely with the national security community."*120 Better integration of these agencies in policy development and execution requires a human resource strategy that achieves the following objectives: expanded opportunities to gain expertise and to experience the culture of more than one department or agency; an assignment and promotion system that rewards those who seek broad-based, integrative approaches to problem solving instead of those focused on departmental turf protection; and the erasure of artificial barriers among departments.

The current Civil Service personnel system does not achieve these objectives because career civilians in the national security field rarely serve outside their parent department.*121 We therefore recommend the following:

· 43: The Executive Branch should establish a National Security Service Corps (NSSC) to enhance civilian career paths, and to provide a corps of policy experts with broad- based experience throughout the Executive Branch.

Such a National Security Service Corps would broaden the experience base of senior departmental managers and develop leaders skilled at producing integrative solutions to U.S. national security policy problems.
Participating departments would include Defense, State, Treasury, Commerce, Justice, Energy, and the new National Homeland Security Agency-the departments essential to interagency policymaking on key national security issues. Members of the NSSC would not hold every position within these departments. Rather, each department would designate Corps positions. Members of the participating departments could choose to stay in positions outside the NSSC without career penalty. They would continue to be governed by the current Civil Service system. In order to preserve the firewall that exists between intelligence support to policy and policymaking, intelligence community personnel would not be part of the NSSC. A limited number of rotational spots, however, should be held in selected interagency intelligence

community centers (such as the Non-Proliferation Center and the Counter-Terrorism Center) to allow members of the Corps to understand better intelligence products and processes.

While the Foreign Service will remain separate from the NSSC, an organic relationship between the Foreign Service and the NSSC needs to exist. Members of the Corps would be eligible to compete for all policy positions at the Department of State's headquarters while Foreign Service officers would be able to compete for NSSC positions in all the participating departments. In addition, NSSC personnel could fill select positions in some overseas embassies and at military unified commands. Over time, the difference between the Foreign Service and the NSSC could blur.

A rotational system and robust professional education programs would characterize the NSSC. In designating positions for Corps members, departments will need to identify basic requirements in education and experience. Rotations to other departments and interagency professional education would be required in order to hold certain positions or to be promoted to certain levels.*122 Of course, a limited number of waivers could be granted to allow departments to fill particular gaps as necessary.

While the participating departments would still retain control over their personnel and would continue to make promotion decisions, an interagency advisory group will be key to the NSSC's success. This group would ensure that promotion rates for those within the NSSC were at least comparable to those elsewhere in the Civil Service. They would help establish the guidelines for rotational assignments needed for a Corps member to hold a given position and for the means of meeting the members' educational requirements. Such guidance and oversight will help ensure that there are compelling incentives for professionals to join the NSSC. For this type of interagency program to be successful, employees must see it as being in their own best interest to meet these new requirements.

The Commission believes such a Corps can be established largely through existing departmental authorities and through new regulations from OPM. Specific legislative authority is not necessary.

E. MILITARY PERSONNEL

Today the military is having even greater difficulty recruiting quality people than the civilian sector of the government. Despite significant post-Cold War force reductions in recruiting goals, the Services have missed their quotas in some recent years.*123 Moreover, recruiting costs have risen by nearly one-third over the last four years, while DoD quality indicators of those enlisting have declined by 40 percent.*124 Some Services, struggling to fill ROTC programs with officer candidates, will continue to fall short for the next three years despite a much larger college population and reduced quotas for officer accessions.*125

Even more ominous are the problems in retaining quality personnel. Increased operational commitments are being carried out by a smaller number of military forces, which- along with aging equipment, stringent budgets, depleted family benefits, healthcare deficiencies, and spousal

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dissatisfaction-has engendered an atmosphere of widespread frustration throughout military ranks.*126 Job satisfaction has declined significantly, and increasing numbers of quality people are leaving military service well in advance of retirement, or, in other cases, are retiring as soon as they are eligible.*127 Moreover, data indicate that it is not just the junior officers who are leaving; retention of senior non-commissioned officers (NCOs) has declined as well.*128

The Commission believes retention in the Services is a growing problem in part because the triple systems of "up-or-out" promotion, retirement, and compensation do not fit contemporary realities. The Defense Officer Personnel Management Act (DOPMA) of 1980 *129 mandates retirement at a specific time in an officer's career depending on rank,*130 or, in many cases, separation before retirement in cases of non-promotion up until the grade of O-4. This system itself stems, in part, from a 1947 assumption of a virtually unlimited pool of manpower geared for total war mobilization. The current environment, however, is very different. The supply of incoming personnel is limited and the skills required more specialized. Moreover, older people are not "unfit" for many of today's critical military tasks, and the country cannot afford to squander the investment in training and experience that military professionals possess. The military services do not need to retain everyone, but they do need most of all to retain superior talent for longer periods. Without decentralizing the career management systems, introducing new compensation incentives, and providing an array of institutional rewards for military service, the Commission believes that the United States will be unable to recruit and retain the technical and educated professionals it needs to meet 21st century military challenges.

These problems call for four sets of changes. First, the enhancement of the professional military must proceed hand in hand with the reinvigorization of the citizen soldier. Indeed, confronting many threats to our national security, including those to the American homeland will necessarily rely heavily on reserve military components, as we have specified above in Section I, recommendation 6 in particular.

Second, we must change the ways we recruit military personnel. This means putting greater effort into seeking out youth on college campuses and providing grants and scholarships for promising candidates. The military must also innovate in such areas as rapid promotion, atypical career paths and patterns, and flexible compensation to attract and retain talented candidates. The Services must also offer a greater variety of enlistment options, including short enlistments designed to appeal to college youth, and far more attractive educational inducements.*131 This may include scholarships, college debt deferral and relief, and significantly enhanced GI Bill rewards in exchange for military service.

Third, we must change the promotion system. Promotion has been, and remains, a primary way to reward performance. But the rigidity of the promotion system often has the effect of either taking those with technical specialties away from the job for which they are most valuable, or failing to provide timely and sufficient incentives for quality personnel to stay in military service. In the Commission's view, the promotion system needs to be more flexible. Current law states that promotion rates must comply with Congressionally-mandated grade tables, which specify the

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number of personnel permitted in each grade by Service.*132 This denies needed flexibility. Moreover, promotion should be only one of many rewards for military service. The Services need the flexibility, beyond new forms of fair and competitive compensation, to provide institutional benefits, including more flexible assignments, incentive retirement options, advanced education, alternative career paths, negotiable leaves of absence, and rewards for career- broadening experiences. Promotion is an important tool to shape the force and enhance professionalism, but it should not be the only tool.

The fourth set of changes must address the military retirement system, which is centered on a twenty-year career path. If one serves fewer than twenty years or fails promotion to minimum grades, no retirement benefits are forthcoming either for officers or those in the enlisted ranks.*133 In this "all-or-nothing" system, junior personnel have to commit themselves to a long- duration career. For those who make a twenty-year career choice, the system induces them to leave the military in their early forties.134 In other words, the current system either requires separation at mandatory points for each grade, or actively entices all personnel who do make it to twenty years of service to leave at or just beyond that point.*135

Talented people in uniform, generally in their early forties, thus confront a choice between working essentially at "half pay," or beginning a second career at a time when they are generally most marketable.*136 To those with particularly marketable skills (e.g., pilots, information technology professionals, and medical personnel), the inducements to leave often prove irresistible. But such cases are only the most visible portion of a widespread problem that induces high performers of every description to abandon the military profession. Thus the armed services lose enormous investments in training, education, and experience at the very moment that many mid-grade officers and mid-grade and senior NCOs are poised to make their most valuable contributions.

We urge the President and the Congress to give the Services the flexibility to adapt and dramatically reshape their personnel systems to meet 21st century mission needs. The 1947/1954/1980 legislation*137 that defines military career management, coupled with legislation that governs military retirement and compensation, gives the Services too little authority to modernize and adapt their personnel systems at a time of accelerating change.138 Mandatory promotion rates, officer grade limitations for each Service, required separation points under "up-or-out," rigid compensation levels, special pay restrictions and retirement limits, collectively bind the Services to the point of immobility. Similar restrictions and disincentives apply to enlisted careers and particularly affect senior NCOs and technical specialists.

Earlier in this section we strongly recommended a major expansion of the National Security Education Act (NSEA), as well as the creation of the National Security Science and Technology Education Act (NSSTEA), to provide significantly better incentives for quality personnel to serve in government-civil and military. The Commission believes that these Acts are especially relevant to the recruitment of high-caliber military personnel. In particular, programs offering either college scholarships or college loan repayments in exchange for service after graduation will make

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uniformed service more attractive to all segments of the population.

National Defense Authorization Act 1999 (Public Law 106-65; U.S. Code, Title 10, §1409 (b) which restored to the military service members who entered military service after July 31, 1986, 50 percent of the highest three years average basic pay for twenty years of active duty service, rather than 40 percent under REDUX. Also, it provided for full cost of living adjustments (COLAs) rather than the Consumer Price Index (CPI) minus one percentage point under REDUX.

In addition to the enactment of an expanded NSEA and the creation of a NSSTEA, we propose the following complement:

· 44: Congress should significantly enhance the Montgomery GI Bill, as well as strengthen recently passed and pending legislation supporting benefits-including transition, medical, and homeownership-for qualified veterans.

The current version of the Montgomery GI Bill (hereafter GI Bill) is an educational program in which individuals first perform military service and then are eligible for educational benefits. While in military service, participants must authorize deductions from their salaries, to which the government then adds its contribution.*139 To receive benefits while still in service, service men and women must remain on active duty for the length of their enlistment. To receive benefits after service, one must receive an honorable discharge. The GI Bill is both a strong recruitment tool and, more importantly, a valuable institutional reward for service to the nation in uniform. Another important source of reward for military service is Title 38, which provides a range of veterans' benefits including medical and dental care, transition training, and authorization for Veterans Administration (VA) homeownership loans. Collectively, VA benefits are an institutional reward for honorable military service and integral to the covenant between those who serve in the military and the nation itself. Given the historical value, relevance, and proven utility of these programs, we recommend restoration and enhancements to them as a way of rewarding and honoring military service.

GI Bill entitlements should equal, at the very least, the median education costs of four- year U.S. colleges, and should be indexed to keep pace with increases in those costs.*140 Such a step would have the additional social utility of seeding veterans among the youth at elite colleges. The Bill should accelerate full-term payments to recipients, extend eligibility from ten to twenty years, and support technical training alternatives. The GI Bill's structure should be an institutional entitlement that does not require payments or cost-sharing from Service members. It should allow transferability of benefits to qualified dependents of those Service members who serve more than fifteen years on active duty. In addition, it should carry a sliding scale providing automatic full benefits for Reserve and National Guard personnel who are called to active duty for overseas contingency operations.

We also believe that funding for these GI Bill institutional entitlements is not sufficient and should

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be separated within the Defense budget to give the department more flexibility.*141 Additionally, Title 38, should be modified to reinforce medical, transition, and VA homeownership benefits for career and retired service members. We support recently proposed legislation on this and other veterans benefits, but believe that additional measures are still needed. Taken together, such changes would fulfill the nation's promise of real educational opportunities and place greater value on the service of military personnel. In addition, those in uniform are likely to serve longer to secure these greater benefits.

The laws that make military personnel systems rigid and overly centralized must be altered to provide the required flexibility to meet 21st century challenges. The Commission recommends the following:

· 45: Congress and the Defense Department should cooperate to decentralize military personnel legislation dictating the terms of enlistment/commissioning, career management, retirement, and compensation. Specifically, revised legislation should include the following acts:

· 1980 DEFENSE OFFICER PERSONNEL MANAGEMENT ACT (DOPMA): Provide Service Secretaries increased authority to selectively exempt personnel from "up-or out" career paths, mandatory flight assignment gates, the double pass-over rule,*142 mandatory promotion and officer/enlisted grade sizes, the mandatory retirement "flowpoints" by grade, and active duty service limits. The individual Services should be funded to test alternative career and enlistment paths that are fully complemented by modified compensation, promotion, and retirement/separation packages.

· 1999 NATIONAL DEFENSE AUTHORIZATION ACT: Permit testing of a conversion of the defined benefit systems to a partial defined contribution system, as well as early vesting schedules and other progressive alternatives to the current military retirement system. Allow the Services to shape modified retirement plans to complement alternative career paths and specialty service.

· U.S. CODE TITLE 37 (Compensation): Correct immediately the pay compression of senior NCOs in all the Services and test merit pay systems and alternative pay schedules based on experience, performance, and seniority.*143 Allow Service Secretaries discretion concerning continued flight pay for pilots undergoing non-flying career-broadening billets by modifying the 1974 Aviation Career Incentive Act.

· SYSTEM INTEGRATION: Reconcile a new DOPMA system (active duty) with ROPMA (Reserves), with the Technician Act (1968), the Guard AGR Act (National Guard), and with Civil Service personnel systems to facilitate and encourage increased movement among branches. This Commission understands that implementing these recommendations will take time and require the support of the President, Congress, senior military officers, and Defense Department civilian leadership. We urge the creation of an Executive-Legislative working group that would set guidelines for service-centered trial programs. The working group should also evaluate new forms

of enlistment options, selective performance pay, new career patterns, modified retirements for extended careers, and other initiatives that may support the Services. The group should undertake to estimate the projected costs as well as assess any unintended consequences that may result. At the same time, the Congressional Budget Office should further define and detail the costs of our proposed enhancements to the GI Bill and other veterans' benefits.

These recommendations will cost money. Treating the GI Bill's benefits as an entitlement, indexing tuition allotments with rising education costs, extending benefits to dependents, and enhancing veteran benefits to include medical, dental, and homeownership benefits will incur substantial costs. But we believe that the cost of inaction would be far more profound. If we do not change the present system, the United States will have to spend increasingly more money for increasingly lower-quality personnel. Moreover, balanced against the initial costs of an enhanced National Security Education Act and a National Security Science and Technology Education Act would be long-term gains in recruiting and retaining quality personnel that would more than offset these costs. A 1986 Congressional Research Service study indicated that the country recouped between $5.00 and $12.50 for every dollar invested in the original GI Bill enacted after World War II.*144 We believe this would also be the case under our proposed legislation. Moreover, there will be significant budgetary savings associated with reducing this high first-term attrition, as well as with improving the retention of both mid-level enlisted personnel and junior officers, particularly in technical specialties.*145

In sum, the Commission recommends major personnel policy reforms for both the civilian and the military domains. For the former, we emphasize the urgent need to revamp the Presidential appointment process for senior leadership, to attract talented younger cohorts to government service, to fix the Foreign Service, and to establish a National Security Service Corps that strengthens the government's ability to integrate the increasingly interconnected facets of national security policy. With respect to military personnel, our recommendations point to increasing the attractiveness of government service to high-quality youth, providing enhanced rewards for that service, and modernizing military career management, retirement, and compensation systems. Each of this Commission's recommendations aims to expand the pool of quality individuals, to decrease early attrition, and to increase retention. The need is critical, but these reforms will go along way to avert or ameliorate the crisis. In a bipartisan spirit, we call upon the President and Congress to confront the challenge. Let it be their legacy that they stepped up to this challenge and rebuilt the foundation of the nation's long- term security.

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V. The Role of Congress

This Commission has recommended substantial change in Executive Branch institutions, change that is needed if America is to retain its ability to lead the world and to assure the nation's safety. A number of prominent leaders have exhausted themselves and frustrated their careers by too aggressively seeking to reform the House or Senate. The Legislative Branch, however, must change as well.

It is one thing to appeal to Congress to reform the State Department or the Defense Department, quite another to call on Congress to reform itself. Over the years since World War II, the Legislative Branch has been reformed and modernized much less than the Executive Branch. Indeed, the very nature of power in Congress makes it difficult for legislators to reform their collective institution. Yet American national security in the 21st century, and the prominent role of daily global involvement that is the nature of American life in our generation, mandates a serious reappraisal of both the individual and collective efforts of Congress and its members.

Such a reappraisal must begin with a shared understanding of the Legislative Branch's role in the development and assessment of post-Cold War foreign policy. Divided Constitutional responsibilities require the Executive and Legislature to work together in order for U.S. foreign policy to have coherence. Yet the Executive Branch has at times informed rather than consulted Congress. It has often treated Congress as an obstacle rather than as a partner, seeking Congressional input mostly in times of crisis rather than in an ongoing way that would yield support when crises occur. For its part, Congress has not always taken full responsibility for educating its members on foreign policy issues. It is not often receptive to consultation with the Executive Branch, as well, and has sustained a structure that undermines rather than strengthens its ability to fulfill its Constitutional obligations in the foreign policy arena.

Several measures are needed to address these shortcomings and they are described below. But as an immediate first step we recommend that:

· 46: The Congressional leadership should conduct a thorough bicameral, bipartisan review of the Legislative Branch relationship to national security and foreign policy. The Speaker of the House, the Majority and Minority leaders of the House, and the Majority and Minority leaders of the Senate should form a bipartisan, bicameral working group with select staff and outside advisory panels to review the totality of Executive-Legislative relations in the real-time global information age we are entering. Only by having the five most powerful members of the Congress directly involved is there any hope of real reform. They should work methodically for one year and, by the beginning of the second session of this Congress, they should report on proposed reforms to be implemented by the next Congress. The President, the Vice President, the National Security Advisor, and senior cabinet officers should work directly with this unique panel to rethink the structure of Executive-Legislative relations in the national security and foreign policy domains. With that as a basis, reforms can and must be undertaken in three crucial areas: improving the

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foreign policy and national security expertise of individual members of Congress; undertaking organizational and process changes within the Legislative Branch; and achieving a sustained and effective Executive-Legislative dialogue on national security issues.

Despite the range of foreign policy challenges facing the United States, many current members of Congress are poorly informed in this area. Their main electoral priorities are generally within domestic policy; foreign policy concerns are often limited to issues of concern to special interests or to prominent ethnic groups in their districts. Once in office, attention to foreign policy issues generally focuses on pending votes and looming crises. To build a broad base of informed and involved members on foreign policy issues, we recommend the following:

· 47: Congressional and Executive Branch leaders must build programs to encourage individual members to acquire knowledge and experience in both national security and foreign policy.

In particular, this means that:

· The Congressional leadership should educate its members on foreign policy and national security matters beyond the freshman orientation provided for new members. Such education should emphasize Congress' foreign policy roles and responsibilities. We must reinforce the principle of minimal partisanship on foreign policy issues: that politics stops at the water's edge. Effective education of members will ensure a more knowledgeable debate and better partnership with the Executive Branch on foreign policy issues. It also will allow members to become more effective educators of their constituencies about the importance of national security concerns.

· Members should be encouraged to travel overseas for serious purposes and each member should get letters from the President or from the head of their body formally asking them to undertake trips in the national interest. A concerted effort should be made to distinguish between junkets (pleasure trips at taxpayer expense) and the serious work that members need to undertake to learn about the world. A major effort should be made to ensure that every new member of Congress undertakes at least one serious trip in his or her first term, and is involved in one or more trips each year from the second term on.

· Legislature-to-legislature exchanges and visits should be encouraged and expanded. More funding and staffing should be provided to both accommodate foreign legislators visiting the United States and to encourage American legislators and their spouses to visit foreign legislatures. Much is to be gained by strengthening the institutions of democracy and by improving understanding among elected officials. This should get a much greater emphasis and much more institutional support than it currently does.

· The wargaming center at the National Defense University should be expanded so that virtually every member of Congress can participate in one or more war games per two- year cycle. By role-

modeling key decision-makers (American and foreign), members of Congress will acquire a better understanding of the limits of American power, and of the reality that any action the United States takes invariably has multiple permutations abroad. Giving members of Congress a reason to learn about a region, about the procedures and systems of Executive Branch decision-making, and about crisis interactions will lead eventually to a more sophisticated Legislative Branch. On occasion, particularly useful or insightful games should lead to a meeting between the participating Congressmen and Senators and key Executive Branch officials.

Members' increased fluency in national security issues is a positive step but one that must be accompanied by structural reforms that address how Congress organizes itself and conducts its business. Several recommendations concerning Congressional structure have already been made in this report: to create a special Congressional body to deal with homeland security issues (recommendation 7); to consider all of the State Department's appropriations within the Foreign Operations subcommittee (recommendation 22); and to move to a two-year budget cycle for defense modernization programs (recommendation 31). To meet the challenges of the next quarter century, we recommend Congress take additional steps.

· 48: Congress should rationalize its current committee structure so that it best serves U.S. national security objectives; specifically, it should merge the current authorizing committees with the relevant appropriations subcommittees.

Our discussion of homeland security highlights the complexity and overlaps of the current committee structure. The Congressional leadership must review its structure systematically in light of likely 21st century security challenges and of U.S. national security priorities. This is to ensure both that important issues receive sufficient attention and oversight and the unnecessary duplication of effort by multiple committees is minimized.

Such an effort would benefit the Executive Branch, as well, which currently bears a significant burden in terms of testimony. The number of times that key Executive Branch officials are required to appear on the same topics in front of different panels is a minor disgrace. At a minimum, we recommend that a public record should be kept of these briefings and published annually. If that were done, it would become obvious to all observers that a great deal of testimony could be given in front of joint panels and, in some cases, bicameral joint panels. While we emphasize the need for strong consultation with the Legislative Branch, we need a better sense of what constitutes a reasonable amount of time that any senior Executive Branch official should spend publicly educating Congress.

Specifically, in terms of committee structure, we believe action must be taken to streamline the budgeting and appropriations processes. In 1974, Congress developed its present budget process as a way of establishing overall priorities for the various authorizations and appropriations committees. Over time, however, the budget process has become a huge bureaucratic undertaking and the authorization process has expanded to cover all spending areas. In light of this, there is no longer a compelling rationale for separate authorization and appropriations bills.

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This is why we believe that the appropriations subcommittees should be merged with their respective authorizing committees. The aggregate committee (for example, the Senate Armed Services Committee) should both authorize and appropriate within the same bill. This will require realigning appropriations subcommittees. For example, appropriations relating to defense are currently dealt with in three subcommittees (defense, military construction, and energy and water); under this proposal, all appropriations would be made within the Senate Armed Services Committee.

This approach has at least two important merits. First, it furthers the aim of rationalizing committee jurisdiction because all appropriating and authorizing elements relating to a specific topic are brought within one committee. Second, it brings greater authority to those charged with oversight as well as appropriations. In the current system, power has shifted from the authorizing committees to the appropriating committees with a much-narrower budgetary focus. By combining the two functions, more effort may be paid to examining how foreign policy laws have been implemented, what their results have been, and how policy objectives can be better achieved. Finally, this new structure may facilitate adoption of two-year budgeting if efforts such as those proposed for defense modernization programs prove successful. The merged committee could authorize, in less detail, for the two-fiscal-year period while appropriating, in greater detail, for the first fiscal year.*146

If this important reform were undertaken, then the budget committees in each house of Congress would consist of the Chairman and ranking member of each new combined committee. As part of the budget function, these two committees would distribute the macro-allocations contained in the budget resolution.

Once Congress has gotten its own house in order, it still remains to ensure that there is ongoing Executive-Legislative consultation and coordination. Efforts to do so are beneficial not only so that both branches can fulfill their Constitutional obligations but also because effective consultation can improve the quality of U.S. policy. We have acknowledged this, for example, in our Defense Department planning recommendation, which defers detailed program and budget decisions until Congress has marked up the previous year's submission.*147 Because Congress is the most representative branch of government, Executive Branch policy that considers a range of Congressional views is more likely to gain public support. The objections raised by differing Congressional opinions can refine policy by forcing the administration to respond to previously unconsidered concerns. Finally, Congress can force the President and his top aides to articulate and explain administration policy-so the American people and the world can better understand it.

Given these benefits, efforts must be undertaken to improve the consultative process. Indeed, a coherent and effective foreign policy requires easy and honest consultation between the branches. The bicameral, bipartisan panel put forward in recommendation 46 is a good first step in this process, but additional processes must be established to ensure that such efforts are ongoing. Therefore, we recommend the following:

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· 49: The Executive Branch must ensure a sustained focus on foreign policy and national security consultation with Congress and devote resources to it. For its part, Congress must make consultation a higher priority and form a permanent consultative group of Congressional leaders as part of this effort.

A sustained effort at consultation must be based on mutual trust, respect, and partnership and on a shared understanding of each branch's role. The Executive Branch must recognize Congress' role in policy formulation and Congress must grant the Executive Branch flexibility in the day-to-day implementation of that policy. Congress must also ensure that if it is consulted and its criticisms are taken seriously, it will act with restraint and allow the Executive Branch to lead. For his part, the President must convey to administration officials the importance of ongoing, bipartisan consultation and dialogue. Efforts must not be limited to periods of crisis. Further, administration officials should take into consideration the differences in knowledge and perspective among members.

Beyond these general principles, specific mechanisms can facilitate better consultation:

· Congress should create a permanent consultative group composed of the Congressional leadership and the Chairmen and ranking members of the main Congressional committees involved in foreign policy. Other members with special interest or expertise could join the group's work on certain issues. The group would meet regularly-in informal and private sessions-with representatives of the Executive Branch. While these may regularly be Cabinet officials, they may often be at the Under Secretary level. This will make possible a regular dialogue with knowledgeable administration officials, allowing the Congressional group not only to respond to crises but to be part of the development of preventive strategies. The agenda for these meetings would not be strictly limited, allowing members to raise issues they are concerned about. The group would also meet on an emergency basis whenever the President considers military action abroad or deals with a foreign policy crisis.

· Beyond this interaction between the leadership of both branches, the administration must reach out to consult with a broader Congressional group. This will involve increasing the number of administration representatives working to consult with Congress and assigning high-quality people to that task. The Executive must send mid-level, as well as high-level, officials to Capitol Hill and keep closer track of the foreign policy views and concerns of every member of Congress. Only through such concerted efforts, combined with the aforementioned education initiatives, will there be a critical mass of members knowledgeable of and engaged in foreign policy issues.

· Finally, in order for Congress to be most effective in partnering with the Executive Branch, it must undertake its own consultation with a broad group of leaders in science, international economics, defense, intelligence, and in the high-technology, venture- capital arena. Congress is far more accessible to this expertise than the Executive Branch and should work to bring these insights into consultations. To do this, however, Members of Congress need regular and direct

dialogue with experts without the screen of their staffs. The best experts in these fields are vastly more knowledgeable than any Congressional staff member, and there needs to be a routine system for bringing members of Congress in touch with experts in the areas in which they will be making decisions.*48 All four parts of the National Academies of Science should play key roles in bringing the most knowledgeable scientists and engineers in contact with members of the Legislative Branch.*149 Policy institutions with deep reservoirs of expertise on defense and foreign policy, too, can help build Congressional fluency with these issues with a measure of detachment and independent perspective. Similar institutions need to be engaged in other areas.

An effective national security policy for the 21st century will require the combined resources of the Executive and Legislative Branches. While much of this report has rightly focused on the needs for reform within Executive Branch structures and processes, corresponding efforts must be undertaken for Congress. We believe that a tripartite effort focused on the foreign policy education of members, the restructuring of the Congressional committee system, and stronger Executive-Legislative consultative efforts will go a long way to ensuring that the United States can meet any future challenges.

A Final Word

Based on its assessment of the next 25 years (Phase I), this Commission has devised a strategy (Phase II) and a program of reform to aid in the achievement of that strategy (Phase III). We propose significant change, and we know that change takes time. We also know that some proposals, however insightful and practical they may be, are never implemented for lack of determined leadership or appropriate method.

We are optimistic that the new administration and the new Congress will pursue the recommendations made here because we believe those recommendations are persuasive on the merits. We are also mindful that, following the 2000 election, the opportunity for the Executive and Legislative Branches together to concentrate on bipartisan efforts to advance the national interest will be particularly appealing. Our recommendations, from a Commission composed of seven Democrats and seven Republicans, fall entirely into that category.

But what of a method? The President may choose any of several models for implementing this Commission's recommendations: an independent advisory commission overseen by the Vice President or some other senior official; a prestigious Special Advisor working with the Executive Office of the President; a joint Executive-Legislative commission with one co-chairman appointed by the President and one by the House and Senate leadership; a group of "Wise Men" drawn from former high government officials of both parties and from the private sector; a special NSC committee; or some combination of these possibilities.

The specific method adopted, however, is a secondary matter. What is crucial is that the President create some mechanism to ensure the implementation of the recommendations proffered here. We therefore recommend the following:

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· 50: The President should create an implementing mechanism to ensure that the major recommendations of this Commission result in the critical reforms necessary to ensure American national security and global leadership over the next quarter century.

The reason this is necessary is that the President, along with all of his top national security advisors, will be busy enough dealing with immediate policy issues. Unless the job of implementing reform is taken seriously, and unless the chosen mechanism designates senior officials to be responsible and accountable for guiding reform, the momentum for real change will quickly dissipate.

In our view, this would be tragic. The difference, for example, between a properly reformed Defense Department and the one we have today may be measured in tens of billions of dollars saved each and every year. The difference between a more effective organization for the Department of State and the crippled organization of today may be measured by opportunities lost in preventing devastating crises abroad that affect American interests and values alike. The difference between a better way of managing science and education and the way it is done now may be measured by the capacity for U.S. global leadership a quarter century hence. The difference between a government personnel system that can attract and keep the highest caliber human capital and one that cannot may be measured by the success or failure of the full range of U.S. national security policies. The difference between modern government organization for homeland security and the diffuse accretion of agencies and responsibilities we have today may be measured in tens of thousands of American lives saved or lost. The stakes of reform are very high. This Commission has done its best to propose serious solutions for deadly serious problems. It is now up to others to do their best to ensure that our efforts are put to their best use for the sake of the American people. That is a task measured in leadership.

APPENDIX 1

The Recommendations

This appendix lists all of the Phase III Report's major recommendations in order of their presentation. The recommendations are numbered sequentially and grouped by Section. The page on which the recommendation appears in the report is noted in the box. Those recommendations in red type indicate recommendations on which Congressional action is required for implementation. Those in blue type can be implemented by Executive Order. Those in green type can be implemented by the head of an Executive Branch department or agency, or by the Congressional leadership, as appropriate.

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Securing the National Homeland

1: The President should develop a comprehensive strategy to heighten America's ability to prevent and protect against all forms of attacks on the homeland, and to respond to such attacks if prevention and protection fail. (p. 11)

2: The President should propose, and Congress should agree, to create a National Homeland Security Agency (NHSA) with responsibility for planning, coordinating, and integrating various U.S. government activities involved in homeland security. They should use the Federal Emergency Management Agency (FEMA) as a key building block in this effort. (p. 15)

3: The President should propose to Congress the transfer of the Customs Service, the Border Patrol, and Coast Guard to the National Homeland Security Agency, while preserving them as distinct entities. (p. 15)

4: The President should ensure that the National Intelligence Council include homeland security and asymmetric threats as an area of analysis; assign that portfolio to a National Intelligence Officer; and produce National Intelligence Estimates on these threats. (p. 23)

5: The President should propose to Congress the establishment of an Assistant Secretary of Defense for Homeland Security within the Office of the Secretary of Defense, reporting directly to the Secretary. (p. 23)

6: The Secretary of Defense, at the President's direction, should make homeland security a primary mission of the National Guard, and the Guard should be reorganized, properly trained, and adequately equipped to undertake that mission. (p. 25)

7: Congress should establish a special body to deal with homeland security issues, as has been done with intelligence oversight. Members should be chosen for their expertise in foreign policy, defense, intelligence, law enforcement, and appropriations. This body should also include members of all relevant Congressional committees as well as ex-officio members from the leadership of both Houses of Congress. (p. 28)

Recapitalizing America's Strengths in Science and Education

8: The President should propose, and the Congress should support, doubling the U.S. government's investment in science and technology R&D by 2010. (p. 32)

9: The President should empower his Science Advisor to establish non-military R&D objectives that meet changing national needs, and to be responsible for coordinating budget development within the relevant departments and agencies. (p. 34)

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10: The President should propose, and the Congress should fund, the reorganization of the national laboratories, providing individual laboratories with new mission goals that minimize overlap. (p. 37)

11: The President should propose, and Congress should pass, a National Security Science and Technology Education Act (NSSTEA) with four sections: reduced-interest loans and scholarships for students to pursue degrees in science, mathematics, and engineering; loan forgiveness and scholarships for those in these fields entering government or military service; a National Security Teaching Program to foster science and math teaching at the K- 12 level; and increased funding for professional development for science and math teachers. (p. 41)

12: The President should direct the Department of Education to work with the states to devise a comprehensive plan to avert a looming shortage of quality teachers. This plan should emphasize raising teacher compensation, improving infrastructure support, reforming the certification process, and expanding existing programs targeted at districts with especially acute problems. (p. 43)

13: The President and Congress should devise a targeted program to strengthen the historically black colleges and universities in our country, and should particularly support those that emphasize science, mathematics, and engineering. (p. 45)

Institutional Redesign

14: The President should personally guide a top-down strategic planning process and delegate authority to the National Security Advisor to coordinate that process. (p. 48)

15: The President should prepare and present to the Congress an overall national security budget to serve the critical goals that emerge from the NSC strategic planning process. Separately, the President should continue to submit budgets for individual national security departments and agencies for Congressional review and appropriation. (p. 49)

16: The National Security Council (NSC) should be responsible for advising the President and for coordinating the multiplicity of national security activities, broadly defined to include economic and domestic law enforcement activities as well as the traditional national security agenda. The NSC Advisor and staff should resist the temptation to assume a central policymaking and operational role. (p. 50)

17: The President should propose to the Congress that the Secretary of Treasury be made a statutory member of the National Security Council. (p. 51)

18: The President should abolish the National Economic Council, distributing its domestic economic policy responsibilities to the Domestic Policy Council and its international economic

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responsibilities to the National Security Council. (p. 52)

19: The President should propose to the Congress a plan to reorganize the State Department, creating five Under Secretaries, with responsibility for overseeing the regions of Africa, Asia, Europe, Inter-America, and Near East/South Asia, and redefining the responsibilities of the Under Secretary for Global Affairs. These new Under Secretaries would operate in conjunction with the existing Under Secretary for Management. (p. 54)

20: The President should propose to the Congress that the U.S. Agency for International Development be consolidated into the State Department. (p. 55)

21: The Secretary of State should give greater emphasis to strategic planning in the State Department and link it directly to the allocation of resources through the establishment of a Strategic Planning, Assistance, and Budget Office. (p. 56)

22: The President should ask Congress to appropriate funds to the State Department in a single integrated Foreign Operations budget, which would include all foreign assistance programs and activities as well as all expenses for personnel and operations. (p. 58)

23: The President should ensure that Ambassadors have the requisite area knowledge as well as leadership and management skills to function effectively. He should therefore appoint an independent, bipartisan advisory panel to the Secretary of State to vet ambassadorial appointees, career and non-career alike. (p. 62)

24: The Secretary of Defense should propose to Congress a restructuring plan for the Office of the Under Secretary of Defense for Policy, which would abolish the office of the Assistant Secretary for Special Operations and Low-Intensity Conflict (SOLIC), and create a new office of an Assistant Secretary dedicated to Strategy and Planning (S/P). (p. 64)

25: Based on a review of the core roles and responsibilities of the staffs of the Office of the Secretary of Defense, the Joint Staff, the military services, and the CINCs, the Secretary of Defense should reorganize and reduce those staffs by ten to fifteen percent. (p. 65)

26: The Secretary of Defense should establish a ten-year goal of reducing infrastructure costs by 20 to 25 percent through outsourcing and privatizing as many DoD support agencies as possible. (p. 66)

27: The Congress and the Secretary of Defense should move the Quadrennial Defense Review to the second year of a Presidential term. (p. 68)

28: The Secretary of Defense should introduce a new process that would require the Services and defense agencies to compete for the allocation of some resources within the overall Defense budget. (p. 69)

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29: The Secretary of Defense should establish and employ a two-track acquisition system, one for major acquisitions and a second, "fast track" for a limited number of potential breakthrough systems, especially those in the area of command and control. (p. 71)

30: The Secretary of Defense should foster innovation by directing a return to the pattern of increased prototyping and testing of selected weapons and support systems. (p. 72)

31: Congress should implement two-year defense budgeting solely for the modernization element of the DoD budget (R&D/procurement) because of its long-term character, and it should expand the use of multiyear procurement. (p. 73)

32: Congress should modernize Defense Department auditing and oversight requirements by rewriting relevant sections of U.S. Code, Title 10, and the Federal Acquisition Regulations. (p. 75)

33: The Secretary of Defense should direct the DoD to shift from the threat-based 2MTW force sizing process to one which measures requirements against recent operational activity trends, actual intelligence estimates of potential adversaries' capabilities, and national security objectives as defined in the new administration's national security strategy-once formulated. (p. 76)

34: The Defense Department should devote its highest priority to improving and furthering expeditionary capabilities. (p. 78)

35: The President should establish an Interagency Working Group on Space (IWGS) at the National Security Council to coordinate all aspects of the nation's space policy, and place on the NSC staff those with the necessary expertise in this area. (p. 80)

36: The President should order the setting of national intelligence priorities through National Security Council guidance to the Director of Central Intelligence. (p. 83)

37: The Director of Central Intelligence should emphasize the recruitment of human intelligence sources on terrorism as one of the intelligence community's highest priorities, and ensure that operational guidelines are balanced between security needs and respect for American values and principles. (p. 84)

38: The intelligence community should place new emphasis on collection and analysis of economic and science/technology security concerns, and incorporate more open source intelligence into analytical products. Congress should support this new emphasis by increasing significantly the National Foreign Intelligence Program (NFIP) budget for collection and analysis. (p. 84)

The Human Requirements for National Security

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39: Congress should significantly expand the National Security Education Act (NSEA) to include broad support for social sciences, humanities, and foreign languages in exchange for military and civilian service to the nation. (p. 89)

40: The Executive and Legislative Branches should cooperate to revise the current Presidential appointee process by reducing the impediments that have made high-level public service undesirable to many distinguished Americans. Specifically, they should reduce the number of Senate confirmed and non-career Senior Executive Service (SES) positions by 25 percent; shorten the appointment process; and revise draconian ethics regulations. (p. 92)

41: The President should order the overhauling of the Foreign Service system by revamping the examination process, dramatically improving the level of on-going professional education, and making leadership a core value of the State Department. (p. 95)

42: The President should order the elimination of recruitment hurdles for the Civil Service, ensure a faster and easier hiring process, and see to it that strengthened professional education and retention programs are worthy of full funding by Congress. (p. 98)

43: The Executive Branch should establish a National Security Service Corps (NSSC) to enhance civilian career paths, and to provide a corps of policy experts with broad-based experience throughout the Executive Branch. (p. 101)

44: Congress should significantly enhance the Montgomery GI Bill, as well as strengthen recently passed and pending legislation supporting benefits-including transition, medical, and homeownership-for qualified veterans. (p. 106)

45: Congress and the Defense Department should cooperate to decentralize military personnel legislation dictating the terms of enlistment/commissioning, career management, retirement, and compensation. (p. 107)

The Role of Congress

46: The Congressional leadership should conduct a thorough bicameral, bipartisan review of the Legislative Branch relationship to national security and foreign policy. (p. 110)

47: Congressional and Executive Branch leaders must build programs to encourage individual members to acquire knowledge and experience in both national security and foreign policy. (p. 111)

48: Congress should rationalize its current committee structure so that it best serves U.S. national security objectives; specifically, it should merge the current authorizing committees with the

relevant appropriations subcommittees. (p. 112)

49: The Executive Branch must ensure a sustained focus on foreign policy and national security consultation with Congress and devote resources to it. For its part, Congress must make consultation a higher priority and form a permanent consultative group of Congressional leaders as part of this effort. (p. 113)

50: The President should create an implementing mechanism to ensure that the major recommendations of this Commission result in the critical reforms necessary to ensure American national security and global leadership over the next quarter century. (p. 111)

APPENDIX 2

Charter of the U.S. Commission on National Security/21st Century

SEC. 1. ESTABLISHMENT AND PURPOSE.

The Department of Defense recognizes that America should advance its position as a strong, secure, and persuasive force for freedom and progress in the world. Consequently, there is a requirement to: 1) conduct a comprehensive review of the early 21st Century global security environment, including likely trends and potential "wild cards"; 2) develop a comprehensive overview of American strategic interests and objectives for the security environment we will likely encounter in the 21st Century; 3) delineate a national security strategy appropriate to that environment and the nation's character; 4) identify a range of alternatives to implement the national security strategy, by defining the security goals for American society, and by describing the internal and external policy instruments required to apply American resources in the 21st Century; and 5) develop a detailed plan to implement the range of alternatives by describing the sequence of measures necessary to attain the national security strategy, to include recommending concomitant changes to the national security apparatus as necessary. A Commission, the U.S. Commission on National Security/21st Century (USCNS/21), will be established to fulfill this requirement, supported by a Study Group. Two individuals who have national recognition and significant depth of experience and public service will oversee the efforts of this Commission and serve as its Co-chairpersons. The study effort shall be conducted by a Study Group, composed of individuals who will be appointed as Department of Defense (DoD) personnel, in accordance with Section VI below. Based on the results of this study and the Commission's consideration thereof, the USCNS/21 will advance practical recommendations that the President of the United States, with the support of the Congress, could begin to implement in the Fiscal Year 2002 budget, if desired.

SEC. II. BOARD OF COMMISSIONERS

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(a) **CO-CHAIRPERSONS**.- The Secretary of Defense, in consultation with the Assistant to the President for National Security Affairs and the Secretary of State, shall select two Co-chairpersons to oversee the study effort and to co-chair the U.S. Commission on National Security/21st Century. The Co-chairpersons shall be prominent United States citizens, with national recognition, significant depth of experience, and prior public service.

(b) **MEMBERSHIP**.- The Secretary of Defense, in consultation with the Assistant to the President for National Security Affairs and the Secretary of State, shall select 15-17 individuals to serve as a board of Commissioners to the study, drawing on accomplished and prominent United States citizens and reflecting a cross-section of American public and private sector life.

(c) **OPERATION**.- The Commissioners shall meet at the discretion of the Co-chairpersons to provide visionary leadership and guidance for the study effort, and to consider appropriate recommendations to the Secretary of Defense and the President, based on the results of the study. The Co-chairpersons shall provide oversight for the study effort. The USCNS/21 will be chartered separately and operated as a Federal advisory committee in accordance with the Federal Advisory Committee Act (Public Law 92-463), as amended.

(d) **PERIOD OF APPOINTMENT; VACANCIES**.- All Commissioners shall be appointed for the life of the study effort. Vacancies shall be filled in the same manner as the original appointment, in accordance with the Commission's charter.

SEC. III. DUTIES.

(a) **COMPREHENSIVE REVIEW**.- The study will define America's role and purpose in the first quarter of the 21st Century through an integrated analysis, and identify the national security strategy in political, economic, military, societal, and technological terms that must be implemented for America to fulfill that role and achieve its purpose. This study shall include the following:
(1) A description of the national security environments that the United States will likely encounter in the 21st Century, and an evaluation of the security threats which can be reasonably expected in political, economic, military, societal, and technological terms.

(2) A comprehensive overview of American domestic and international strategic interests and objectives for the security environment we will likely encounter in the 21st Century.

(3) Delineation of the national security strategy that must be implemented to achieve America's objectives in the 21st Century.

(4) Identification of the range of alternatives to implement the national security strategy, by defining the domestic security goals for American society, and by describing the internal and external policy instruments required to apply American resources in the 21st Century.

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(5) Development of a detailed plan to implement the range of alternatives by describing the sequence of measures necessary to attain the national security strategy.

(b) **MATTERS TO BE CONSIDERED**.- In carrying out the study, the USCNS/21 shall develop specific findings and recommendations for each of the following:

(1) Identification of nations, supranational groups, and trends that may assist the fulfillment of U.S national security strategy.

(2) Identification of nations, supranational groups, and trends that may pose military, economic, or technological threats to fulfillment of the United States national security strategy.

(3) Identification of societal forces that enable the attainment of United States national security strategy, and recommendations to exploit those forces.

(4) Identification of societal forces that inhibit the attainment of the United States national security strategy, and recommendations to overcome those inhibitors.

(5) Identification of the roles to be played by the Armed Forces and Federal civilian agencies of the United States in attainment of the United States national security strategy.

(6) The adequacy of the current national security apparatus to meet early 21st Century security challenges, and recommendations to modify this apparatus as necessary.

(7) Examination of existing and/or required international security arrangements, to include recommendations for modification, as appropriate.

(8) Recommended course(s) of action to secure the active support of an informed American public for the implementation of our national security strategy in the 21st Century.

SEC. IV. METHODOLOGY.

The USCNS/21 will accomplish its mission in three phases, as set forth below.

(a) **PHASE ONE.**- Phase One will examine and describe the kind of nation the United States will be in the early 21st Century and the range of likely international security environments that we can reasonably anticipate. The goal will be to establish the domestic and international contexts in which the United States will exist in the next century. The study will seek to identify the most likely domestic and international trends, taking account of less likely or "wild card" events, such as the spread of weapons of mass destruction, technological breakthroughs, natural disasters, or regime changes abroad. This phase will predict the possible international security environments with consideration of the interrelationships of the various sectors involved. Phase One will terminate with the submission by the Co-chairpersons, after consultation with the board of

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Commissioners, of a report to the Secretary of Defense describing the range of potential domestic and international environments as they relate to national security.

(b) **PHASE TWO.-** Existing national interests and objectives will be reviewed and analyzed for applicability in the early part of the next century. If appropriate, modifications will be recommended to bring the policy objectives into line with the anticipated global environment. Where necessary objectives and interests have not yet been clearly articulated for security arenas in which the United States must function in the future, the USCNS/21 will recommend appropriate objectives. These objectives should encompass all critical American security concerns. Delineation of national security strategy (or strategies) for the early part of the 21st Century will complete Phase Two of the study. A proposed strategy will be constrained by only the following factors: it must support attainment of our national security objectives, it must be acceptable to the American people, and it must be feasible within current (or projected) resource availability. (For the purposes of this study, an acceptable national security strategy is one that is reasonably consistent with the projected values and desires of the American people, taking into account the ability of confident national leaders to move public opinion in the direction of rational responses to new national challenges). The goal of Phase Two is to describe America's interests and objectives in a comprehensive, attainable, and supportable national security strategy that gives the Executive and Legislative Branches policy options for allocation of national resources and for domestic and international strategic initiatives. Phase Two will terminate upon the submission by the Co-chairpersons, after consultation with the board of Commissioners, of a report to the Secretary of Defense which meets this goal.

(c) **PHASE THREE.-** As needed, the USCNS/21 will propose measures to adapt existing national security structures or to create new structures where none exists. These measures must be appropriate to the range of anticipated international environments identified in Phase One and the national security objectives identified in Phase Two. Selected measures may require some modification of certain institutions, processes and structures in order to improve their relevance in the first two decades of the 2lst Century and enhance their positive impact upon the national security process. When appropriate, cost and time estimates to complete these improvements and a recommended sequence of actions will be provided. The end result of Phase Three will be an institutional road map for the early part of the 21st Century, provided as a report from the U.S. Commission on National Security/21st Century to the Secretary of Defense, with detailed recommendations for each major segment of the United States government's national security apparatus.

SEC. V. REPORTS.

All reports shall be submitted in unclassified form, but may include classified annexes. The Secretary of Defense will transmit a copy of each report to the Congress.

(a) **PHASE ONE.-** The Co-chairs shall submit to the Secretary of Defense a report on Phase One of the study, as outlined in Section IV(a), not later than September 15, 1999.

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(b) **PHASE TWO.-** The Co-chairs shall submit to the Secretary of Defense a report on Phase Two of the study, as outlined in Section IV(b), not later than April 14, 2000.

(c) **FINAL REPORT.-** The Co-chairs shall submit to the Secretary of Defense a final report, including assessments and recommendations and the institutional road map outlined in Section IV(c), not later than February 16, 2001.

SEC.VI. PERSONNEL AND ADMINISTRATIVE SUPPORT.
(a) **ADMINISTRATIVE AND SUPPORT SERVICES.-** The U.S. Commission on National Security/21st Century will be supported by the Study Group and its staff. The Study Group, as a DoD organizational element, will receive administrative and other support services from the Director, Administration and Management, including four individuals detailed to support the Study Group, consistent with the budgetary parameters established in Section VIII. Additional administrative and support services requested by the Co-chairpersons or the Executive Director (which position is provided for in paragraph (d)(1), below) in support of the USCNS/21 will be furnished by DoD as necessary and appropriate. These support requirements will be administered by the Director, Administration and Management, in conjunction with other DoD officials, as appropriate.

(b) **SECURITY CLEARANCES.-** Insofar as expeditious processing of personnel security clearances is essential to the timely completion of the study, DoD will expedite personnel security clearance procedures for access to classified information for Study Group personnel and staff to the extent permitted by law and Executive Order, when requested by the Executive Director.

(c) **BOARD OF COMMISSIONERS APPOINTMENT AND COMPENSATION.-** Commissioners of the USCNS/21, including the Co-chairpersons, who are not full-time officers or employees of the United States shall be appointed by the Secretary of Defense as special government employees. Such members may serve with or without compensation and shall be allowed travel expenses, including per diem in lieu of subsistence, in accordance with the Board's charter.

(d) **STUDY GROUP APPOINTMENT AND COMPENSATION.**

(1) **EXECUTIVE DIRECTOR**.- The Secretary of Defense, upon advice of the Co-chairpersons, shall select an Executive Director. The Executive Director shall be appointed to a limited term (not to exceed three years), Senior Executive Service position within DoD. The Executive Director shall supervise the Study Group and its staff, with full authority, in accordance with applicable law and regulations, and merit system principles.

(2) **MEMBERSHIP.-** The Secretary of Defense, in consultation with the Assistant to the President for National Security Affairs, the Secretary of State and the Executive Director, will

select sufficient individuals with diverse experience and expertise to fill positions as members of the Study Group. All Study Group members shall be United States citizens with widely-recognized expertise in fields relevant to the Study Group's national security objectives. Members should be innovative and creative practitioners or strategists in their respective fields of endeavor. The Study Group members shall be appointed under an appropriate authority which allows for an assignment of a temporary duration. Terms for such appointments shall not exceed the length of the study, but may be such shorter period of time as determined by the Executive Director. Vacancies shall be filled by the Executive Director, with the approval of the Secretary of Defense.

(e) **STAFF APPOINTMENT AND COMPENSATION**.- The Executive Director may select for appointment as DoD employees, in accordance with paragraph VI(a), above, and applicable Civil Service laws and regulations and DoD policies, up to twelve individuals. Selectees who are not currently full time DoD military or civilian personnel will be given limited term appointments for up to the length of the study, in accordance with section VI(a) above, to support the study Group.

(f) **TEMPORARY AND INTERMITTENT SERVICES**.- The Executive Director may procure temporary and intermittent services under section 3109(b) of title 5, United States Code, at a rate of pay not to exceed the daily rate of pay for a GS-15, step 10 in accordance with such title.

SEC. VII. TERMINATION OF THE STUDY.

The study will terminate not later than 30 days after the Co-chairpersons submit the final report to the Secretary of Defense, or no later than March 15, 2001, whichever is earlier.*50 SEC.

VIII. FUNDING.

Except as provided herein, the operating costs of the study, including the compensation, travel, and per diem allowances for the Commissioners and the Study Group members and staff, will be paid by the Department of Defense. The overall cost for this project (excluding the cost of the four detailees described in section VI(a) above) may not exceed $10.44 Mil, without prior approval by the Secretary of Defense or designee. These funds are expected to be obligated as follows: FY 1999-$1.43 Mil; FY 1999-$3.76 Mil; FY 2000-$3.73 Mil; and FY 2001-$1.52 Mil. William S. Cohen, Secretary of Defense SEPT 2, 1999

FOOTNOTES

*1 Disclaimer: This Commission has striven successfully to achieve consensus on all major issues, and each Commissioner stands by all the major recommendations made in this report. However, as is to be expected when discussing complex issues, not every Commissioner agrees completely with every statement in the text that follows.

*2 See Appendix 3 for Commissioner biographies and a staff listing.

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*3 Publication consisted of two documents: Major Themes and Implications and Supporting Research and Analysis.

*4 All of this Commission's reports may be found on its web page at www.nssg.gov.

*5 See Appendix 2 for the full text of the Charter.

*6 The recommendations are listed together in Appendix 1, pp. 118-123.

*7 See New World Coming, p. 4, and the Report of the National Defense Panel, Transforming Defense: National Security in the 21 st Century (Washington, DC: December 1997), p. 17.

*8 See International Crime Threat Assessment (Washington, DC: The White House, December 2000).

*9 Note in this regard Stephen E. Flynn, "Beyond Border Control," Foreign Affairs (November/December 2000).

*10 See the Report of the Interagency Commission on Crime and Security in U.S. Seaports (Washington, DC: Fall 2000).

*11 See the Report of the U.S. Commission on Immigration Reform (Washington, DC: 1997).

*12 See Report of the Interagency Task Force on U.S. Coast Guard Roles and Missions, A Coast Guard for the Twenty First-Century (Washington, DC: December 1999).

*13 We return to this problem below in Section IV.

*14 The Chief Information Officer Council is a government organization consisting of all the statutory Chief Information Officers in the government. It is located within OMB under the Deputy Director for Management.

*15 We return to this issue in our discussion of the Intelligence Community in Section III.F., particularly inrecommendation 37.

*16 See also the Report of the National Defense University Quadrennial Defense Review 2001 Working Group (Washington, DC: Institute for National Strategic Studies, November 2000), p. 60.

*17 Sponsored by Senators Sam Nunn and Richard Lugar.

*18 See Public Law 104-201, National Defense Authorization Act for FY 1997: Defense Against

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Weapons of Mass Destruction. This legislation, known as the Nunn-Lugar-Domenici Amendment, was passed in July 1996.

*19 We note: the Rumsfeld Commission [Report of the Commission to Assess the Ballistic Missile Threat to the United States (Washington, DC: July 15, 1998)]; the Deutch Commission [Combating Proliferation of Weapons of Mass Destruction (Washington, DC: July 14, 1999)]; Judge William Webster's Commission [Report on the Advancement of Federal Law Enforcement (Washington, DC: January 2000)]; the Bremer Commission [Report of the National Commission on Terrorism, Countering the Changing Threat of International Terrorism (Washington, DC: June 2000)]; and an advisory panel led Virginia Governor James Gilmore [First Annual Report to the President and the Congress of the Advisory Panel to Assess Domestic Response Capabilities for Terrorism Involving Weapons of Mass Destruction (Washington, DC: December 15, 1999)].

*20 The Defense Production Act was developed during the Korean War, when shortages of critical natural resources such as coal, oil, and gas were prioritized for national defense purposes. [See Defense Production Act of 1950, codified at 50 USC App. § 2061 et seq. Title I includes delegations to prioritize and allocate goods and services based on national defense needs.] Executive Order 12919, National Defense Industrial Resources Preparedness, June 6, 1994, implements Title I of the Defense Production Act. Congressional review should focus on the applicability of the Defense Production Act to homeland security needs, ranging from prevention to restoration activities. Section 706 of the Communications Act of 1934 also needs revision so that it includes the electronic media that have developed in the past two decades. [See 48 Stat. 1104, 47 USC § 606, as amended.] Executive Order 12472, Assignment of National Security and Emergency Preparedness Telecommunications Functions, April 3, 1984, followed the breakup of AT&T and attempted to specify anew the prerogatives of the Executive Branch in accordance with the 1934 Act in directing national communications media during a national security emergency. It came before the Internet, however, and does not clearly apply to it.

*21 For more than four years, multiple institutions have called on national leadership to support laws and policies promoting security cooperation through public-private partnerships. See, for example, the President's Commission on Critical Infrastructure Protection, Critical Foundations, Protecting America's Infrastructures (Washington, DC: October 1997), pp. 86-88 and Report of the Defense Science Board Task Force on Information Warfare (Washington, DC: November 1996).

*22 This includes substantial efforts in multiple forums, such as the Council of Europe and the G8, to fight transnational organized crime. See Communiqué on principles to fight transnational organized crime, Meeting of the Justice and Interior Ministers of the Eight, December 9-10, 1997.

*23 This is why it is not possible to establish a direct correlation between educational achievement and either productivity or economic growth indices. For the last two decades, for example, U.S. educational achievements have lagged behind those of many other countries even as U.S. productivity and growth measures have outdistanced them.

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*24 The President's FY2001 budget allocates U.S. government research monies to its major players as follows: 43 percent NIH, 12 percent NASA, 12 percent DOE, 11 percent DoD, 8 percent NSF, 4 percent USDA, 10 percent all others. See AAAS Report XXV, Research and Development FY2001 (Washington, DC: American Association for the Advancement of Science, 2000), pp. 35. These are research budget figures only, not total R&D accounts.

*25 There is, in addition, a Federally-Funded Research and Development Center mandated by Congress-the Critical Technologies Institute located within RAND-that acts as a think-tank for the OSTP. It plays a useful role and should be preserved, but it cannot substitute for a more capable OSTP itself.

*26 We believe that the creation of a counterintelligence "czar," announced by the out-going Clinton Administration on January 4, 2001, is a step in the right direction for this purpose. But proper inventory stewardship is a precondition for such a "czar" to be effective.

*27 Founded in 1863 by Abraham Lincoln, the National Academy of Sciences today consists of four parts: the National Academy of Science, the National Academy of Engineering, the Institute of Medicine, and the National Research Council. The NAS advises the government, but it is not a government organization.

*28 Research accounts for approximately ten percent of DoD's $38 billion R&D budget for fiscal year 2001. See AAAS Report XXV, Research and Development FY 2001, p. 71.

*29 About 43 percent of the labs' physical facilities is more than 40 years old, and 73 percent is more than twenty years old.

*30 National Commission on Mathematics and Science Teaching for the 21st Century, Before It's Too Late (Washington, DC: September 27, 2000), p. 12.

*31 Ibid., p. 21.

*32 U.S. Department of Education, National Center for Education Statistics, 1993-1994 Schools and Staffing Survey (Teacher Questionnaire) (Washington, DC: 1997), p. 26.

*33 National Science Board, Science and Engineering Indicators-1998 (Arlington, VA: National Science Foundation, 1998), p. A-36.

*34 We discuss these shortages and their implications for government below in Section IV.

*35 This is because the majority of public school teachers are currently in their forties, with the normal retirement age being around 65 years old. U.S. Department of Education, National Center for Education Statistics, "Schools and Staffing Survey."

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*36 In 1995, the Third International Mathematics and Science Study (TIMSS) ranked the performance of American 12th graders in general mathematics and science knowledge among the lowest of all participating countries. Americans placed 19th out of 21 in general mathematics and 17th out of 21 in general science. In advanced mathematics and physics knowledge, American 12th graders placed 15th out of 16 in mathematics and dead last in physics. In all content areas of physics and advanced mathematics, the American students' performance was among the lowest of all the nations participating in the TIMSS. Some observers question the utility of these tests on the grounds that in many other countries only the brightest students take the test because children are separated into vocational and college tracks at an early age. Most believe, however, that the test results are instructive of general trends

*37 See Diana Jean Schemo, "Students in U.S. Do Not Keep Up in Global Tests," The New York Times, December 6, 2000, pp. A1, A18.

*38 The National Academy of Sciences/National Research Council, through its Center for Science, Mathematics, and Engineering Education, has completed the Defense Reinvestment Initiative (DRI) funded by the Department of Defense. The program worked with the Los Angeles Unified School District to build a model for the transition of professional scientists, mathematicians, and engineers from military duty, defense-related and aerospace industries, and national laboratories into careers teaching secondary school science and mathematics. See the Final Report to the U.S. Department of Defense on the Defense Reinvestment Initiative, Defense Reinvestment Initiative Advisory Board, National Research Council, 1999. http://www.nap.edu.

*39 As recommended by the National Academy of Science in Attracting Science and Mathematics Ph.Ds to Secondary School Education (Washington, DC: National Academy Press, 2000).

*40 The Eisenhower Professional Development Program (Title II of the Elementary and Secondary Education Act, as amended by the Improving America's Schools Act of 1994) focuses on the professional development of mathematics and science teachers. See U.S. Department of Education, Office of the Under Secretary, Planning and Evaluation Service, Designing Effective Professional Development: Lessons from the Eisenhower Program, Executive Summary (Washington, DC: 1999)

*41 "ETS Report Discusses Teacher Quality," NSTA Reports, Dec. 2000-Jan. 2001, p. 11.

*42 Before It's Too Late, pp. 19, 26-30.

*43 National Writing Project, 1999 Annual Report.

*44 In lieu of or in addition to raising salaries, which may be restricted in some places by issues of inter- jurisdictional equity and union complications, signing bonuses can be used to attract people to teaching. 45 We note the successful example of the Long Beach Unified School District. Over

the past five years, it has partnered with California State University Long Beach (CSULB), and Long Beach City College, in collaboration with additional local, regional, and national partners, to developed a seamless (preK-18) approach that has aligned content standards, learning methodology, and assessment from pre-school through the masters level. The aim is to ensure coherent exit and entry expectations among the three institutions. They have collaborated to address curriculum, preparation, and professional development issues as well.

*45: Congress and the Defense Department should cooperate to decentralize military personnel legislation dictating the terms of enlistment/commissioning, career management, retirement, and compensation.

*46 Two-year budgeting specifically for DoD modernization accounts would entail authorization and appropriation for both fiscal years simultaneously, if our recommendation 31is adopted.

*47 See the discussion on page 69 following recommendation 28.

*48 A problem well described years ago in C.P. Snow, Science and Government (Cambridge, MA: Harvard University Press, 1961).

*49 Note 5 in Section II, on page 34, lists these four constituent parts.

*50 The termination date of the study was moved to July 31, 2001 in October 2000.

*51 Today, the Function 150 budget categories are defined in terms of titles such as Export and Investment Assistance, Bilateral Economic Assistance, Military Assistance, and Multilateral Economic Assistance. More purposeful titles should be put in their place; e.g., economic development or international security.

*52 New World Coming, p. 38.

*53 The Commission supports the recommendation of the Overseas Presence Advisory Panel to upgrade immediately the State Department's information and communications technologies by providing all overseas staff with Internet access, e-mail, a secure unclassified Internet website, and shared applications, permitting unclassified communications among all agencies around the globe. See The Report of the Overseas Presence Advisory Panel, America's Overseas Presence in the 21 st Century (Washington, DC: November 1999), p. 7.

*54 The Overseas Presence Advisory Panel made this recommendation in November 1999. The Panel concluded that significant savings are achievable from right-sizing U.S. embassies; e.g., a ten percent reduction in all agencies' staff would save almost $380 million annually. The Secretary of State has taken steps to implement this recommendation.

*55 Many studies have endorsed such principles, including GAO studies in 1976, 1978, 1996,

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1999, and 2000, as well as the Rockefeller Committee, the Rice Report, the Packard Commission, the Senate Armed Services Committee study leading up to Goldwater-Nichols, the Commission on Roles and Missions, the Hicks & Associates study, the Defense Reform Initiative, and the BENS (Business Executives for National Security) Tail-to-Tooth Commission.

*56 We are speaking only of these specific staff roles, not of DoD civilian personnel in general. We are aware that, in this more general category, there has been a reduction of approximately 35 percent since 1990.

*57 At the same time, our discussion of the Civil Service in Section IV.D, specifically in recommendation 42, calls for a ten to fifteen percent personnel float to allow for adequate professional training should be introduced in civilian staff offices within OSD. In other words, while we advocate cutting staff slots by ten to fifteen percent, the actual number of civilian employees working in OSD staffs may not change significantly.

*58 Infrastructure is defined as non-combat activities and support services that commonly operate from fixed locations (e.g., installation support, central training, central medical, central logistics, acquisition infrastructure, central personnel, and central command, control, and communications.)

*59 Outsourcing combines government ownership with private contracting. Privatization means reducing or eliminating government ownership and getting DoD out of the process of competing with private industry. Outsourcing can achieve ten percent savings; privatization may achieve savings of up to twenty percent in some sectors.

*60 Commissaries and exchanges would still exist, but they would be privately owned and operated.

*61 Goldwater-Nichols mandated the National Security Strategy as a way for the President to describe the country's broad national security directions. Required by law every January, the NSS is habitually late, and its objectives and goals have never been prioritized. By this Commission's definition, the NSS is not a "strategy" document because it fails to relate ends to means.

*62 In our discussion of Presidential appointments in Section IV, we recommend shortening this period.

*63 Note the Services and defense agencies must identify "programs" not "funds." Otherwise they will stretch programmed procurement to free budget year "funds," but increase future unit costs by doing so.

*64 See John Harbison, Thomas Moorman Jr., Michael Jones, and Jikun Kim, "U.S. Defense Industry Under Siege-An Agenda for Change," Booz-Allen & Hamilton Viewpoint, July 2000; "Preserving a Healthy and Competitive U.S. Defense Industry to Ensure our Future National Security," Defense Science Board Task Force briefing to USCNS/21, June 2000; "U.S. Space

Industrial Base Study," DoD and NRO Co-sponsored Study by Booz-Allen & Hamilton, briefed to USCNS/21, June 2000; "The National Crisis in the Defense Industry," study briefed by the Scowcroft Group and DFI International to USCNS/21, June 2000.

*65 In DoD acquisition jargon, the period from requirement definition to production of a weapon system is referred to as its "cycle time."

*66 It might be appropriate for the revised FARs to test a modified version of the award fee process tied to schedule, cost, and performance. This discretionary award could range from a higher-than-present level to a moderately negative level. The determining evaluation would be based upon separate periodic input from the program manager, the contractor, and outside auditors who would advise either the Service acquisition official or an independent board with authority to determine the fee.

*67 While the military departments have never defined the term MTW, we infer it to require all forms of military capability (land, sea, air) on the scale equivalent to the Gulf War or that envisioned in the past for North Korea.

*68 New World Coming, pp. 53-4, and Seeking a National Strategy, p. 9.

*69 A National Security Strategy for a New Century (Washington, DC: The White House, December 1999),pp. 12.

*70 This is how the 1999 DoD promulgated space policy defined space superiority.

*71 See Report of the Defense Science Board Task Force on Space Superiority (Washington, DC: Office of the Under Secretary of Defense for Acquisition and Technology, February 2000.)

*72 The Outer Space Treaty bans only the deployment of weapons of mass destruction in space, and the ABM Treaty only limits interference with national means of verification with respect to arms control agreements. Meanwhile, even the United Nations Charter, in Article 51, states explicitly that no nation is precluded from taking appropriate defensive measures in any environment.

*73 Recent or ongoing examinations of space issues include: Report of the Defense Science Board Task Force on Space Superiority (Washington, DC: Office of the Under Secretary of Defense for Acquisition and Technology, February 2000); "U.S. Space Industrial Base," Booz-Allen Hamilton report to the NRO and DoD, June 2000; and the Congressionally-mandated "Commission to Assess United States National Security Space Management and Organization."

*74 The representation of relevant agencies would be achieved through their departments; e.g., FAA representation through the Department of Transportation, and that of the National Oceanic and Atmospheric Administration (NOAA) through the Department of Commerce.

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*75 A more detailed definition of space architecture includes: the on-orbit force structure and missions; configurations to include type of sensors, on-board processing, and dissemination; ground control systems and downloading/processing capabilities; frequency spectrum use and deconfliction; multi-mission capabilities; and system protection measures and security requirements.

*76 The national Future Imagery Architecture [FIA] is sponsored by the National Reconnaissance Office (NRO).

*77 The NRO is responsible for satellite, constellation, and ground operations design and acquisition; NIMA is responsible for imagery product development and dissemination.

*78 The NSSA currently reports to the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence ASD(C3I) for DoD-related issues, and coordinates with the Deputy Director of Central Intelligence (DDCI) and the DDCI for Collection Management on intelligence-related issues.

*79 The primary elements would come from the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)), and the Assistant Secretary of Defense for Command, Control, Computers, and Intelligence (ASD(C3I)). In essence ASD(C3I) would transfer the proposed reorganization.

*80 New World Coming, p. 130.

*81 Seeking a National Strategy, p. 9.

*82 Panel on Civic Trust and Citizen Responsibility, A Government to Trust and Respect: Rebuilding Citizen-Government Relations for the 21 st Century (Washington, DC: National Academy of Public Administration, 1999), p. iii.

*83 Seeking a National Strategy, p. 9.

*84 Our model is the National Defense Education Act of the late 1950s and 1960s, which provided loan forgiveness incentives for those willing to serve in the military or teach in schools with disadvantaged students or in disadvantaged areas. That act provided scholarships to those studying hard sciences and mathematics, as well as those studying critical foreign languages where the country at large confronted significant deficiencies.

*85 National Security Education Act 1991 (Public Law 102-183-December 4, 1991.)

*86 The Marine Corps PLC scholarship program is similar to the ROTC program, but is not affiliated with a particular learning institution and is not tied to an actual cadre unit at a specific

school.

*87 A limited version of this loan reduction concept is currently under development in a portion of the Civil Service. See "Proposed Rules-Repayment of Student Loans", Federal Register, June 22, 2000, pp. 38791- 38794.

*88 Paul C. Light and Virginia L. Thomas, The Merit and Reputation of an Administration: Presidential Appointees on the Appointments Process (Washington, DC: The Brookings Institution and The Heritage Foundation, April 28, 2000), p. 3.

*89 Norman Ornstein and Thomas Donilon, "The Confirmation Clog," Foreign Affairs, November/December 2000, p. 91.

*90 Defense Science Board, Final Report of the Defense Science Board Task Force on Human Resources Strategy (Washington, DC: Office of the Secretary of Defense, February 2000), p. 41.

*91 Ornstein and Donilon, p. 89.

*92 Defense Science Board, p. D-6.

*93 The recently-rescinded Executive Order 12834, signed by President Clinton on January 20, 1993, his first day in office, extended to five years the previous one-year ban on an ex-official's appearance before his or her former agency. This restriction was placed on the most senior presidential appointees. All former employees face certain limitations, but Senate-confirmable employees paid at the EL-V or EL-IV level (and non-career SES appointees whose salaries fall within this range) face additional regulations potentially very harmful to their post-service careers. Under Executive Order 12834, they could not lobby their former agency for five years, while other appointees are restricted only for one year. See Defense Science Board, p. D-7 and the relevant section of the U.S. Code, 18 USC §207.

*94 Defense Science Board, pp. 42-43. 95 Ibid., p. 43.

*96 Ibid., p. 44.

*97 Ornstein and Donilon, p. 97. We also advocate accelerating the appointment process for the 80 key science and technology personnel in government. See Section II above, and Science and Technology in the National Interest: The Presidential Appointments Process, National Academies of Science, June 30, 2000. The 80 positions of which we speak are listed on p. 8.

*98 Ornstein and Donilon, p. 94.

*99 Ibid., p. 95.

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*100 Former FBI (and CIA) Director William Webster has noted that these files are "often freighted with hearsay, rumor, innuendo, and unsubstantial allegations." Quoted in ibid., p. 95.
*101 According to the National Center for Education Statistics, 30 to 35 percent of students at three different grade levels performed below the "basic" level of civics knowledge. 38 percent at the 4 th grade level, 41 percent at the 8 th grade level, and 59 percent at the 12 th grade level performed below the "basic" level of U.S. history knowledge. Roughly 30 percent of students at all grade levels performed below the "basic" level in geography.

*102 There are indications that retention may be a looming concern as well. According to data provided by the State Department, while most Foreign Service entering classes have shown attrition rates between 12 and 17 percent by the eighth year of service, two recent classes show figures at 23 and 32 percent. These indications are not conclusive but they are supported by two major studies on departmental talent management, one completed by McKinsey & Company for the department and the other by the Overseas Presence Advisory Panel. Both found that while qualified applicants valued faster advancement and greater autonomy, it is precisely those things, along with quality management and respect for their family situations, they found lacking once in the Foreign Service.

*103 The State-commissioned report by McKinsey & Company, The War for Talent: Maintaining a Strong Talent Pool, emphasized that for the State Department to sustain its talent base, it must improve talent management. The final report of the Overseas Presence Advisory Panel built on McKinsey's finding and highlighted that "private sector managers were almost twice as likely as public-sector managers to give high performers the best development opportunities and fast-track growth. More than 70 percent of the private-sector managers viewed motivating and attending to people as a prime priority, while less than 30 percent of State Department managers interviewed considered it a top priority." [Overseas Presence Advisory Panel, p. 52.]

*104 Ibid., p. 55.

*105 The Commission considers personnel from the Departments of State (excluding the Foreign Service), Defense, Commerce, Justice, and Treasury and members of the Intelligence Community to constitute the core national security members of the Civil Service. Members of the Intelligence Community, however, are governed by separate personnel regulations and authorities.

*106 On the general question, compare the pessimistic study led by Paul Volcker [The National Commission on the Public Service, Leadership for America: Rebuilding the Public Service (Washington, DC: The National Commission on the Public Service, 1989)] with the more optimistic assessment of Joel D. Aberbach and Bert A. Rockman [In the Web of Politics: Three Decades of the U.S. Federal Executive (Washington, DC: Brookings Institution Press, 2000).]

*107 U.S. Office of Personnel Management, The Fact Book: Federal Civilian Workforce Statistics (Washington, DC: Office of Personnel Management, September 1999).

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*108 U.S. Office of Personnel Management and Senior Executives Association, Survey of Senior Executive Service (Washington, DC: Office of Personnel Management, 1999); United States General Accounting Office, Senior Executive Service: Retirement Trends Underscore the Importance of Succession Planning (Washington, DC: General Accounting Office, May 2000), p. 2. This latter document offers startling figures for individual departments: 77 percent of those at the Department of Commerce, 74 percent of those at the Department of Defense, and 71 percent of those at the Department of the Treasury will be eligible for regular retirement by 2005, (p. 46).

*109 The Office of the Secretary of Defense has received between 100 and 140 applications each year since 1997 for six to eight open PMI positions. Data provided by the OSD, July 7, 2000.

*110 Booz-Allen & Hamilton, Inc., Employee Recruitment and Retention Survey Results, August 30, 2000, pp. 33.

*111 CIO Council, Meeting the Federal IT Workforce Challenge (Washington, DC: CIO Council, June 1999), p. 15.

*112 Ibid., p. 11.

*113 Data provided by the National Security Agency.

*114 Examples include recruitment and retention bonuses, the use of special pay scales for specific types of professionals, and pay banding whereby agencies would have greater flexibility in allocating personnel funds among employees of different quality and skills. New regulations currently under review at OPM would allow departments to repay federally funded student loans by $6,000 a year up to a maximum of $40,000. See "Proposed Rules-Repayment of Student Loans."

*115 Overseas Presence Advisory Panel, p. 55.

*116 The Director of Central Intelligence (DCI) currently has the authority and funding to conduct a five-year pilot program through which he can hire up to 39 technical specialists in critical functions and pay them on the basis of market standards rather than on the federal pay scale. The Federal Bureau of Investigation has a similar program.

*117 CIO Council, p. 13. On the CIO Council, see note 14 in Section I.

*118 Ibid., p. 15.

*119 The recent NSA outsourcing is estimated to save the government $1 billion over the ten-year life of the contract. See ibid., p. A29.

*120 Seeking A National Strategy, p. 14.

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*121 For example, a recent OPM survey of SES personnel indicates that only nine percent of those surveyed have changed jobs to work in another agency since becoming an SES member, despite the fact that 45 percent said that mobility would improve job performance. See U.S. Office of Personnel Management and Senior Executives Association, pp. 27-8.
*122 For example, departments might designate that personnel must hold one assignment outside his or her parent department in order to become a member of the SES and another such assignment to be promoted to SES-4. [SES pay scales are numbered one through six. An additional rotation is suggested for promotion to SES-4 because this is the pay grade at which many SES members serve during their final tours, when they generally have the highest level of responsibility for interagency activities.]

*123 Data provided by the Office of the Secretary of Defense, showing both active and reserve recruiting results, July 2000. See also William S. Cohen, Annual Report to the President and the Congress (Washington DC: Department of Defense, 2000), chapter 4.

*124 Statement of the Honorable Rudy De Leon, Under Secretary of Defense (Personnel and Readiness) before the Military Personnel Subcommittee of the Armed Service Committee, "Sustaining the All-Volunteer Force: Military Recruiting and Retention," March 8, 2000.

*125 Department of Defense, Quarterly Readiness Report to Congress, January-March 2000.

*126 Some numbers illustrate the problem. The Navy is nine hundred pilots short of necessary levels, while the Air Force reported the largest peacetime pilot shortage in its history (1,200 pilots short of operational requirements). The Air Force pilot loss rate is projected to double by 2002 [William Taylor, S. Craig Moore, and C. Robert Roll, Jr., The Air Force Pilot Shortage: A Crisis for Operational Units? (Washington, DC: RAND, 2000, pp. iii and 1]. Over the past ten years, the Army has experienced a 58 percent increase in the percentage of Captains voluntarily leaving the military before promotion to Major [Information Paper TAPC-ARI-PS, October 22, 1999]. High-quality junior officers are also leaving military service earlier. In 1987, 38 percent of the Army's West Point graduates left military service before ten years of active duty-the best retention rate among all Army commissioning sources. In 1999, 68 percent of West Point graduates left before the ten-year point, the lowest retention rate among all Army commissioning sources. [DMDC West DoD Officer Retention Data, July 2000, verified by Army Personnel Branch, July 2000]. High-quality Lieutenant Colonels/Colonels and their Navy equivalents (O-5s and O-6s who have had Department/Battalion/Squadron/Ship-level commands in their careers) are leaving early, as well. The Navy reports that both post-department officers and post-squadron Commanders are separating at a rate three times higher than a decade ago.

*127 See "Spring 1999 Sample Survey of Military Personnel: Career Intent," U.S. Army Research Institute for the Behavioral and Social Sciences Survey Report, October 1999.

*128 Garnered from ten-year point junior officer retention data provided by Defense Manpower

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Data Center to USCNS/21, July 2000.

*129 DOPMA Public Law 96-513.

*130 Those Majors/Lieutenant Commanders not selected for promotion must normally retire at twenty years; Lieutenant Colonels and Navy Commanders must retire at 28 years if not selected for promotion to Colonel/Captain; Colonels, and Navy Captains have until the 30-years point to make promotion to flag officer rank before mandatory retirement; and most flag officers that remain in grade have a 35-year limit of commissioned service. It should be noted that most Colonels/Navy Captains know by the time of their promotion to O-6 whether they have a chance at further promotion. Most do not, and the incentives currently in place encourage those officers to retire at the earliest possible time. The result is a significant talent drain of officers who, under the current system, could have served at least five or six additional years.

*131 Charles Moskos, Military Recruitment Survey, Northwestern University Students," report prepared for
the Commission, March 2000.

132 See DOPMA Public Law 96-513 §3202, 8202, 5444, 5442.

*133 Military Retirement Act of 1986 (Public Law 99-348). This authorizes military benefits for personnel after twenty years of service at 40 percent of their five years' highest basic pay. Effective October 1, 1999, the Military Retirement Act of 1986 (REDUX), U.S. Code, Title 10, §1409(b), was repealed by the National Defense Authorization Act 1999 (Public Law 106-65; U.S. Code, Title 10, §1409 (b) which restored to the military service members who entered military service after July 31, 1986, 50 percent of the highest three years average basic pay for twenty years of active duty service, rather than 40 percent under REDUX. Also, it provided for full cost of living adjustments (COLAs) rather than the Consumer Price Index (CPI) minus one percentage point under REDUX.

*134 There is 2.5 percent increase in the retirement percentage of base pay for each year of service past twenty years, which stops at 30 years. In addition, 26 years of service is where the last bi-yearly longevity salary increase occurs.

*135 DOPMA Public Law 96-513, §633 requires that Lt. Colonels and Navy Commanders who are not listed for promotion to the next higher grade be retired upon completion of 28 years of active commissioned service.

*136 Half-pay is a term of art referring to the fact that after twenty years' service, a soldier is entitled to 50 percent of pay upon retirement. Since a soldier would get half pay even if he were not still in service, staying in service can be characterized as working for the other 50 percent-hence the phrase "working for half pay."

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*137 See Bernard Rostker, Harry Thie, James L. Lacy, Jennifer H. Kawata, and S.W. Purnell, The Defense Officer Personnel Management Act of 1980: A Retrospective (Santa Monica, CA: RAND, 1993).

*138 Defense Science Board, p. 79

*139 The program is administered by the Veterans Administration, under agreements with the Secretary of Defense and the Secretary of Transportation, who submit an annual request to Congress detailing the necessary appropriations. Funds are transferred to the Veterans Administration from the Department of Defense Education Benefits Fund administered by the Treasury Department, or from appropriations made to the Department of Transportation in the case of the Coast Guard .

*140 See Veterans Administration web site October 2000, Summary of Educational Benefits under the Montgomery GI Bill Active Duty Educational Assistance Program, Chapter 30 of Title 38 U.S. Code and Selected Reserve Educational Assistance Program Chapter 1606 of Title 10 U.S. Code. Active duty servicemen and women can elect a $100/month reduction in pay for twelve months in exchange for up to 36 months of educational entitlements. The maximum entitlement rate is $552 per month. However, servicemen do not necessarily receive the full $552. Monthly rates are calculated according to the cost of tuition. Recipients are entitled to a full 36 months of benefits, not the compounded total of $552 for 36 months. Reservists do not contribute $100 per month, but receive a maximum of only $263 per month. Bill S1402, currently pending Presidential approval, would increase the Active Duty Rate to $650 per month in educational entitlements. In the event of death, the $1,200 reduction in pay is refunded, but benefits are non-transferable.

*141 The College Board, Trends in College Pricing 2000. The College Board report indicates 2000-01 annual costs for a commuter student at a public four-year institution is $9,229 and $7,024 for a two-year institution. This far exceeds the current maximum GI Bill entitlement of $552 per month for active duty members.

*142 The double pass over rule refers to officers who have been in the primary zone for promotion to the next higher grade but who have been passed over for promotion for two consecutive years. Once such officers are passed over twice, they become subject to DOPMAs mandatory "up-or-out" exit flowpoints.

*143 In 1964 senior enlisted leader (E-8s) pay was by comparison to junior enlisted (E-2's) pay a 7:1 ratio. With the pay increases associated with the All-Volunteer Force, the ratio of senior to junior enlisted pay is currently 3:1. In other words, in relation to the junior personnel they supervise, senior enlisted service members are paid significantly less than senior NCOs were in the draft military. In addition, the advent of large enlistment and reenlistment bonuses for junior enlisted personnel menas that ratio of senior to junior enlisted pay has compressed even further.

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*144 This resulted from increased taxes paid by veterans who achieved higher incomes made possible by college education.

*145 About one-third of all recruits do not complete their initial military obligation.

*146 Two-year budgeting specifically for DoD modernization accounts would entail authorization and appropriation for both fiscal years simultaneously, if our recommendation 31is adopted.

*147 See the discussion on page 69 following recommendation 28.

*148 A problem well described years ago in C.P. Snow, Science and Government (Cambridge, MA: Harvard University Press, 1961).

*149 Note 5 in Section II, on page 34, lists these four constituent parts.

*150 The termination date of the study was moved to July 31, 2001 in October 2000.