

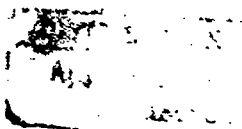
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Total Force Policy Report to the Congress



Department of Defense
December 1990





OFFICE OF THE SECRETARY OF DEFENSE
TOTAL FORCE POLICY STUDY GROUP
WASHINGTON, DC 20301

December 31, 1990

The Secretary of Defense
The Pentagon
Washington, D.C. 20301

Dear Mr. Secretary:

Pursuant to your memorandum of December 26, 1989 and Section 1101 of the FY 1990 National Defense Authorization Act, we have the honor to present this Final Report of the work of the Total Force Policy Study Group.

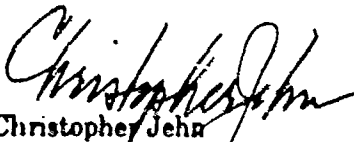
The work of the Study Group has taken place during a time of rapid and historic change in the strategic environment. When the work commenced, American armed forces were engaged in Operation JUST CAUSE. As this report is forwarded, American forces are engaged in Operation DESERT SHIELD, one of the largest and most successful deployments of military power in our nation's history and an operation that has already involved the call-up of 134,000 members of the Selected Reserve. Public debate also continues on issues that will have significant implications for future defense budgets.

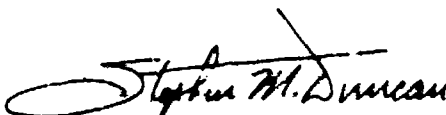
This Final Report is not intended to answer with finality the many complex issues the Study Group considered. The Study Group's work has already served, however, as an important tool for the reevaluation of old assumptions, the consideration of the lessons being learned daily from our experience in DESERT SHIELD, and the building of the forces to meet the nation's future national security needs.

All of the 24 members of the Study Group and the very dedicated staff have contributed significantly to the work of the Group. We are deeply appreciative of their professional efforts to share their experience and perspectives with us. While much of the Final Report has the collective support of the Study Group, every member does not agree with every point in it. To the extent possible, the Report reflects the views of the members of the Study Group.

While we should continue our efforts to improve the implementation of the Total Force Policy, the wisdom of the policy and the contribution it makes to our nation's military flexibility and balance are not in doubt. We concur completely with the Chairman of the Joint Chiefs of Staff who testified to Congress that the participation of National Guardsmen and Reservists in DESERT SHIELD has been significant and reinforces the policies and decisions made over the last ten years to strengthen the Total Force concept.

Sincerely,


Christopher Jehu
Assistant Secretary of Defense
for Force Management
& Personnel
Chairman


Stephen M. Duncan
Assistant Secretary of Defense
for Reserve Affairs
Vice Chairman

Total Force Policy

Report to the Congress



Department of Defense
December 1990

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PREFACE

In accordance with Section 1101 of the National Defense Authorization Act for Fiscal Years 1990 and 1991, the Department of Defense (DoD) has reviewed its Total Force Policy, active-reserve force mix, and military force structure. As required by the Authorization Act, the review has given special emphasis to the operation, effectiveness, and soundness of the Total Force Policy; the assignment of missions within and between the active and reserve components; the structure of U.S. active and reserve forces; and the specific issues raised in subsections 1101 (c) and (d) of the act.

The Total Force Policy Study complements the regular reviews of force structure issues conducted by the Department as part of its planning, programming, and budgeting process. The Study Group has considered numerous assumptions concerning the structure and use of the Total Force, with particular emphasis on the role of the reserve components. As noted in our Interim Report in September, Operation Desert Shield is now testing many of those assumptions. The insights it is providing have contributed to this review, and will guide future DoD total force considerations.

The Total Force Policy Study was conducted by a group of 24 senior civilian and military officials appointed by the Secretary of Defense. The Assistant Secretary of Defense (Force Management and Personnel) and the Assistant Secretary of Defense (Reserve Affairs) served as chairman and vice chairman, respectively, of the Study Group. A professional staff of 40 civilian analysts and military officers supported the group's efforts. A member of the Senior Executive Service served as Executive Director. A roster of the Study Group's members and a description of the group's major activities can be found in the supplement to this report.

This Final Report is divided into five sections. Section I provides a brief description of the evolution of the Total Force, including an update of Total Force activities related to Operation Desert Shield. The section also describes the components of the Total Force, and discusses some of the principles that have guided the implementation of the Total Force Policy over the past two decades. Section II describes the process by which the Department makes force structure decisions, reviews the costs associated with placing units in either the active force or the reserve components, and provides a brief discussion of the Department's medical programs. In addition, the section discusses the role of the reserve components in the Total Force--the capabilities they contribute, how their participation in military missions is obtained, and their potential uses in "quick reaction" contingencies.

Section III examines changes in the strategic environment. Section IV discusses the effects of the new strategic environment on the structure of the Total Force, and describes a number of approaches for managing the Total Force in the new environment. Section V is a concluding statement. In

addition to this report, material in a Supplement elaborates on many of the topics considered in this Final Report.

In addition to producing this study and the related Supplement, the Study Group requested several studies from federally funded research and development centers (FFRDCs). The FFRDC studies include a review of costing methodologies and a study of unit cohesion between the active and reserve components, several manpower studies, and studies on the use of civilian contractors and the history of the Total Force. While the results of these efforts are referred to in the report, each FFRDC will publish other documents on the topics. By commissioning these studies, the Study Group believes it has expanded and improved the defense community's body of knowledge on important Total Force issues. A bibliography appears in the Supplement.

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EXECUTIVE SUMMARY

The executive summary has two main parts: the first summarizes the content of the report; the second focuses on the matters outlined in Section 1101 of the National Defense Authorization Act for FY 1990-91 for consideration by the Study Group.

THE REPORT

The development of the Total Force Policy has closely paralleled the end of national selective service and its replacement by the All-Volunteer Force (AVF). To take advantage of the manpower resources provided by the AVF, as well as to maximize the use of all resources available for the national defense, the Department of Defense (DoD) has adhered to a Total Force Policy.

Development of the Total Force

The Total Force Policy is a creative response to the nation's post-World War II responsibilities as a global power and the fiscal and demographic realities that have faced DoD since the Vietnam War. While the implementation of the policy has been uneven at times, the Total Force Policy has been a great success.

Historical Use of Active and Reserve Forces in Conflict. The military capability of the United States has never resided exclusively in the active component. America has always depended upon reserve forces and our mobilization base to maintain, in peacetime, capabilities that would be required in war.

Some 200,000 of the 4.7 million Americans who served in World War I were mobilized National Guardsmen or filler personnel from the new reserve components. A total of 16 million Americans served in World War II, and by the end of the war, over 12 million men and women were in uniform (including conscripts and volunteers). Once again, relatively small standing forces and reserve forces, reinforced by conscripts and volunteers, proved to be a workable organization of forces.

After the rapid and massive demobilization following World War II, the country relied more on volunteers and conscription to expand the active force than on the mobilization of reserve components. During the first year of the Korean conflict, over 2 million American men and women entered active military service. Mobilized personnel sources were split evenly among the National Guard and Reserve, voluntary enlistments, and draftees. This experience demonstrated the difficulty of using reserve forces for rapid mobilization when their readiness had been permitted to decline.

Since 1953, U.S. reserve forces have been called into action for international crises on several occasions, including the current call-up for Desert Shield. The major commitment of U.S. troops in Vietnam in 1965, however, did not lead to an immediate call-up of reserve component forces. As an alternative, the draft was increased to supply the wartime manpower pool.

In recent decades, reservists and National Guardsmen have volunteered for duty in connection with a wide range of operations: the military intervention in the Dominican Republic in 1965; in 1973, during the Yom Kippur War; and in 1975, when the S.S. Mayaguez was captured. In 1983, Guard and Reserve personnel participated in the invasion of Grenada as well as volunteered for duty in Lebanon. Members of the Naval Reserve and the Air Force reserve components voluntarily augmented active forces within 72 hours of the 1986 "Eldorado Canyon" raid on Libya. Reservists also contributed to the 1987-88 tanker escort operation in the Persian Gulf, and performed critical missions during Operation Just Cause in Panama in 1989.

Operation Desert Shield. The application of U.S. military power in Operation Desert Shield has involved all components of the Total Force. Because of the scope and complexity of the operation and because the situation in Saudi Arabia is changing so quickly, it is premature to draw broad conclusions about the applicability of the Total Force Policy to it. As the Chairman of the Joint Chiefs of Staff stated in December 3, 1990, testimony to the Senate Armed Services Committee, this has already been one of the largest and most successful deployments in our nation's history. Important lessons are being learned daily.

Reserve Forces in Peacetime Operations. Since the adoption of the Total Force Policy, the reserve components have assumed responsibility for a wide range of ongoing peacetime operational missions. This has freed active force units and personnel for other assignments that require their use. In many instances, it has also resulted in significant cost savings.

National Guard State Missions. The National Guard is actively involved in the new DoD counternarcotics mission and is the first organized force called upon by a state's governor to respond to emergency situations requiring support above the normal capabilities of operating agencies of local or state governments. These factors must be considered in any analysis of the Total Force Policy.

Components of the Total Force. Since its adoption in 1973, the Total Force Policy has provided the DoD with an integrated force of active, reserve, retired military, federal civilian, and contractor personnel. Host nation support agreements have added allied military and civilian personnel to the manpower pool. The sum of these resources constitutes the Total Force (see Figures 1 and 2 in Section I). The Total Force concept has allowed steady and significant progress toward making the most effective and efficient use of the manpower resources available to the DoD. Many of the missions traditionally

performed by active-duty personnel--the most costly manpower asset--have been assumed by reserve forces, civilian government workers, private contractors, and foreign nations that host U.S. forces.

Planning Principles for the Total Force. In light of the dramatic geopolitical changes during the past year, the need for large U.S. forces that can fight on short notice has diminished. Retaining forces in the reserve components rather than on active duty becomes an attractive option because of the cost savings that such steps can generate. The potential savings must, however, be weighed against any loss of desired immediate capability, readiness, or flexibility.

Whether to place early-deploying combat capability for crisis response in the reserve components depends principally on the immediate readiness of the reserve units involved, the probability that they would be available when needed, and the desirability of having the execution of more of our strategy dependent on reserve availability. Warfighting capability should be placed in the reserve components only to the extent that units can, and will, be called up and mission-ready by the time they are deployed.

A basic consideration in force structure decisions is the time assumed between mobilization and combat: the longer the warning time, the lower the required level of peacetime readiness. Not all missions are appropriate for the reserve components. Those that require high levels of activity in wartime but comparatively low levels in peacetime (air defense, for example) are ideal for reservists. Peacetime missions that require intensive training, have highly technical military applications, require continuous presence, or demand high peacetime operating tempos or readiness are generally more appropriate for the active component.

The allocation of resources to the Total Force has been governed by the "first to fight" policy, which gives priority for manning, training, and equipping to those units that would deploy first, whether active or reserve. While the "first to fight" policy addresses a range of issues, it has been applied primarily to equipment allocation.

In light of the changing strategic environment, and as part of the reevaluation of Total Force assignments, unit equipment and training will be reviewed. This reevaluation will undoubtedly lead to the redeployment to the continental United States (CONUS) of some units that currently are stationed abroad, with other units drawn down or inactivated. The size and location of U.S. prepositioning and war reserve stocks also will be reviewed.

Interoperability is another basic principle of the Total Force. Achieving force interoperability generally requires that reserves train on the same types of equipment that they would use upon mobilization. Finally, the reserve components must be given sufficient training to perform their missions

effectively. Training policies attempt to ensure that reservists can attain the required readiness status before deployment.

Management of the Total Force

The effectiveness of the Total Force Policy has in no small measure been the result of the existence of a sound management process within the Department of Defense. The management and command structures of the Department have provided unity of effort as missions and responsibilities of active and reserve components have been integrated into a cohesive whole. This unity has enabled each element of the Total Force to do what it does best in a manner that results in economy of personnel and material resources.

Oversight. The Chairman of the Joint Chiefs of Staff (CJCS) advises the Secretary on existing and projected military threats and the mix of forces needed to meet the threat. The principal advisors to the Secretary of Defense for Total Force issues are the Assistant Secretary of Defense for Force Management and Personnel (ASD/FM&P) and the Assistant Secretary of Defense for Reserve Affairs (ASD/RA).

The Planning, Programming, and Budgeting System (PPBS) provides a management framework for making force structure decisions. Through the PPBS, the Secretary of Defense provides centralized policy direction to the military services and defense agencies, who, in turn, are responsible for developing and executing programs to carry out the Secretary's policy guidelines.

Service Planning Process. Developing a force structure that can carry out the national strategy is the aim of force planning. Decisions affecting the mix of active, reserve, and civilian personnel are made by the services as part of the PPBS process. Although each service uses a different analytic framework to guide its force mix decisions, they all follow the same general procedures to arrive at their proposed forces. Forces are structured to support the national military objectives set forth in the Defense Planning Guidance, and risk evaluations are used to allocate scarce resources. The services' proposed force structures (presented in documents called Program Objective Memoranda) are reviewed and adjusted by the Secretary and Deputy Secretary of Defense and their principal advisors in meetings of the Defense Planning and Resources Board (DPRB).

The Relative Costs of Active and Reserve Forces. The cost-estimation methodologies used to support Total Force Policy decisions consider the cost implications of alternative sizes and mixes of active and reserve component forces. The methodologies incorporate a broad perspective of defense program costs that includes the direct and indirect costs of owning, operating, and supporting forces and recognizes both short- and long-term effects on defense funding. Even though improved methods and data sources are continually being developed, the costing methodologies in use today provide

sufficiently accurate information to assess the costs and risks associated with different force sizes and mixes.

Because of the variety of cost relationships associated with defense funding, we consider four types of costs: direct unit costs, direct support costs, infrastructure costs, and transition costs. Direct unit costs include the compensation (e.g., pay, allowances, and retirement benefits) of unit personnel, the day-to-day operating costs (e.g., fuel, parts, travel) of units, and the long-term recurring investments required to periodically replace unit equipment and keep it up to date. Direct support costs, as their name implies, are expenditures associated with programs and units that provide direct support to primary forces. Examples of these kinds of programs are specialized training that qualifies service members in the operation of weapon systems and funding for large-scale joint exercises. Changes in the size of primary force elements can have effects on direct support costs. Infrastructure programs include activities and services such as installation support, central logistics, central training, and central communications programs. Infrastructure cost impacts are important because nearly one-third of the budgets of the military services goes to provide these base-level and centrally managed services to the Total Force. Finally, transition costs are the one-time costs that arise in implementing changes in force structure. The costs of unit activations, deactivations, and transfers between active and reserve forces can run into the hundreds of millions of dollars, overshadowing the recurring savings. Transition costs fall into three general categories: personnel costs, facility costs, and equipment costs.

Maintaining Early Response Capabilities. The United States must be able to respond to a range of contingencies that require the use of military force. The increased reliance on the reserve components that has taken place in recent years has raised the inevitable question of the proper role of each of the reserve components in crisis situations that require an early response. Some observers believe that in view of the recent geopolitical developments, reserve forces should generally be limited to reinforcing and sustaining roles, in which they would serve only to supplement active forces during protracted contingencies or a general mobilization and subsequent to some initial period of conflict. In addressing this issue, it is important to avoid broad generalizations about reserve forces and to focus on specific missions. Many National Guard and federal reserve units (with a mix of part-time and full-time support personnel) are highly ready and capable of responding rapidly to orders to active duty. Flying units in the Air Reserve Components are obvious examples. In this sense, they are much more than forces held in "reserve." Other reserve units, especially brigade- or division-size ground units, are much more likely to need some post-call-up training before deployment.

Reserve Availability. Under Title 10 U.S.C. Section 573b, the President has the authority to order Selected Reservists to active duty for two successive periods of 90 days whenever they are needed to augment active forces for "operational missions." (This authority was recently expanded to two

consecutive periods of 180 days for Operation Desert Shield combat units for FY 1991 only.) The Presidential call-up authority can be used independent of a partial or full mobilization. It is limited, however, to the activation of units or individual reservists designated as Individual Mobilization Augmentees. Operation Desert Shield marks the first time that the Section 673b call-up authority has been invoked.

Except for Desert Shield and other operations mentioned in the historical review, U.S. presidents have relied on voluntary participation to secure the reserve capabilities needed to augment the active force in contingency operations. While volunteers offer maximum flexibility, cost effectiveness, and responsiveness for the capability attained, several concerns remain. These include: (1) uncertainty regarding the amount and duration of voluntary participation; (2) loss of integral team/unit capability when larger units (e.g., ships, companies) do not volunteer together; and (3) possible employer reprisals against employees who volunteer for active duty.

Current Reliance on Early-Deploying Reserve Forces. As they are structured today, the armed forces rely to widely varying degrees upon their reserve components for the performance of missions that require early deployment. The Army requires substantial reserve augmentation for all major contingency operations. The Air Force has relied with success upon voluntary participation by its reservists to meet the bulk of the strategic and tactical airlift and air-refueling surge requirements for major, short-warning crises. With limited exceptions, however, the Navy and Marine Corps do not plan to use reservists for short-term contingency operations.

Reserve Readiness. While it is appropriate to monitor the readiness and capability of early-deploying active and reserve forces, it is important to note that readiness neither is--nor should be--consistent for all units. Not all active or reserve units need to maintain the capability of immediate deployment. The range of warning times we now anticipate--short amounts for contingencies of moderate size and much greater amounts for large-scale conflicts--argues for expanding and extending differences in readiness.

Medical Forces. The Military Health Services System (MHSS) has two distinct missions. The primary mission is the provision of medical care for the armed forces in wartime. The secondary mission is to provide peacetime health benefits to other authorized beneficiaries, including active and retired military personnel, military dependents, and reserve personnel.

In recent years, increasing effort within the Department of Defense has been concentrated on the development of a medical force that is capable of meeting the wartime mission. At the same time, the Department has been faced with the reality of the spiralling costs of peacetime medical care. Peacetime health services have a direct effect on the readiness of warfighting forces. They also represent a form of compensation, influence the quality of life of all beneficiaries, and are part of a commitment made by the Department of

Defense to "take care of its own." The numbers and kinds of medical personnel required in total, and on active duty, are determined by a combination of anticipated wartime needs and the structure of the peacetime health care system. The Department should continue to address these manpower needs as a high priority.

Integration of Active and Reserve Components. Maintaining the integrity of the Total Force will require a deliberate emphasis on manpower and personnel policies that enhance active and reserve component integration as well as short-run cost-effectiveness. The jobs to which active-duty personnel and reservists are assigned, and the ways in which they interact, influence the relative status, resource levels, and capabilities of active and reserve forces. Various methods to foster greater integration between the active and reserve components are being considered.

The Total Force and the Changing Strategic Environment

Threat Environment. The focus of U.S. national strategy has shifted over the past year in response to the dramatic changes in the Soviet Union and Eastern Europe. As the Warsaw Pact threat in Central Europe has receded, defense planning has begun to focus on the smaller-scale but demanding and most likely types of conflicts in which the United States might be involved. In this changed environment, crisis and contingency response capabilities should loom increasingly large in the military strategy. Regional conflicts and crises--often erupting with very little warning--are the most likely future threats. Retention of the ability to react to such threats in the uncertain times ahead will require continued dependence by the United States on strong--though smaller--active and reserve forces.

Resource Environment. The resources available to the Total Force have changed significantly during the past 20 years, but they continue to have a major impact on Total Force planning and policies. The resource environment includes not only the defense budget and that portion allocated to manpower, but also the manpower pool available to the Total Force and the equipment and technology available to support them. Over the past decade, the reserve component has grown in relation to the overall level of military manpower. This growth has occurred primarily in the Army and the Air Force, although the Navy and Marine Corps have transferred some forces to the reserves. The number of civilians employed directly by DoD or indirectly as contractors also has increased as we have accomplished the transition to an all-volunteer military.

Conventional Forces for Crisis Response. A variety of factors will affect the size and mix of active/reserve conventional forces that will be required for the Atlantic, Pacific, and contingency forces. Different types of forces will be required. For example, heavy and light ground forces, as well as naval and air forces, will be necessary for deterrence and to provide the flexibility to respond to a variety of types, sizes, and locations of crises.

Moreover, when sizable forces are committed to a particular regional contingency, it will still be necessary to retain the ability to deter or counter various other potential regional crises. An overall force that provides the flexibility needed in the Atlantic, Pacific, and contingency forces would also provide such capabilities for a range of concurrent contingencies of similar or differing types, sizes, and locations.

In his August 2, 1990, speech in Aspen, Colorado, the President noted that "the United States would be ill-served by forces that represent nothing more than a scaled-back or shrunken-down version of the ones we possess at present. . . . what we need are not merely reductions--but restructuring."

Reconstitution of Forces. The increased warning time the United States could reasonably expect in the event of a return by the Soviet Union to the force levels that existed during the height of the Cold War should allow us not only to rely on existing forces--but to generate new units. The timely generation of such forces would, of course, require early decisions to increase the readiness of reserve units and to generate new units from cadres, the Individual Ready Reserve, and untrained manpower.

The Effect of the Evolving Military Strategy on the Total Force

Future Roles for Active and Reserve Forces. As the new military strategy is developed in response to the changing strategic environment, it is not possible to design a force structure and a mix of active and reserve forces that will be the best obtainable for all circumstances and all potential conflicts, many of which may not be predictable. Any force structure necessarily involves an attempt to balance the need for forces that can meet predictable national security needs against available resources and acceptable risks. This report describes one force structure that is consistent with the changing strategic environment and illustrative of the kind of structure that can be achieved within current budgetary constraints.

For example, if current trends continue, a reduction of as many as ten Army division flags may be possible. A reduction of that size would have to come from both the active and reserve forces, with the majority of the division reductions taken from the active component, primarily those forces now assigned to the NATO reinforcement mission. Many of these divisions are supported by reserve combat, combat support, and combat service support units, and their inactivation would result in the disestablishment of numerous reserve units.

Active end strength in this illustrative force would be reduced from the FY 1990 level of about 2 million to about 1.7 million by the end of FY 1995. Selected Reserve strength would decrease from 1.15 million to about 910,000 over that same period.

Force Structure. The Army would have 12 active and six reserve divisions, plus two cadre divisions in the reserve component. Reserve forces would continue to provide roundout brigades for active divisions, as well as combat support and combat service support, mainly for the Atlantic force and later-deploying elements of the contingency force. Air Force tactical fighter wing equivalents would be reduced from a total of 36 in the FY 1990 force to about 26 by the end of FY 1995. We assume that the tactical fighter wings would have 72 aircraft per wing in both the active and reserve forces. The interceptor force would consist of 180 aircraft by FY 1995, all in the reserves. By the end of FY 1995, the Navy would have about 450 ships in its active force and 33 in the Naval Reserve Force. Included in the naval force could be 13 carriers (including a training carrier), with 11 active and two reserve air wings. One possibility for using our Naval Reserve forces better would be to place additional frigates (FF-1052 Knox class) in the reserve component in a way that would allow as many as five ships to be mutually supporting ("nested"). Finally, as part of the force restructuring, Marine forces could be reduced by one active Marine Expeditionary Brigade (MEB) by the end of FY 1995.

Resources for Reconstitution. In addition to the active and reserve structure described above, the Total Force should accommodate the ability to reconstitute forces. To maintain a relatively rapid reconstitution capability as a near-term hedge, the United States will continue to need access to some long-lead elements of force structure--specialized personnel with hard-to-regain skills (like maintenance technicians) and weapons platforms with long production or recommissioning times. A parallel, longer-term aspect of the reconstitution concept could be to use resources freed from current forces to invest now in the longer-lead, longer-term innovative--technological, organizational, and doctrinal--concepts needed to hedge against any future resurgence of a more threatening environment abroad.

MATTERS CONSIDERED BY THE STUDY GROUP

Subsections 1101 (c) and (d) of the Authorization Act directed that a number of matters specifically be considered by the Study Group. The matters can be grouped in two general categories: (1) management of the Total Force and (2) structure, readiness, and sustainability of the force.

The initial management consideration is an identification of the basic tenets of the Total Force Policy, how well the policy has been implemented, and possible changes to the existing policy. The report notes two tenets that are fundamental to the policy: first, reliance on reserve forces as the primary augmentation for the active force, with conscription used only during full mobilization; second, the integrated use of all available forces--active, reserve, civilian, and allied. As stated above, since its inception in 1973, the Total Force Policy has been a great success. There has been unprecedented integration of purpose and capability between active and reserve components, as well as improved utilization of the DoD civilian, contractor, and host nation

support communities. The policy will need to be adjusted (not changed) in the coming years. The focus of U.S. national strategy is shifting from a Warsaw Pact threat in Europe to one in which there is a potential for smaller-scale, demanding contingencies throughout the world. As the need to be prepared for a massive, short-warning conflict diminishes, we can now adjust the size, structure, and readiness of our active and reserve forces to deal with the more likely challenges we will face (page 57).

Management and command responsibilities currently in place have served the Department well in evaluating and integrating force requirements among the services and their components. We should continue to use the Planning, Programming, and Budgeting System (PPBS), which has been in place for over a quarter of a century. The PPBS has helped the Secretary of Defense allocate resources consistent with our readiness and sustainability goals for both active and reserve forces and plan for the use of these forces. The PPBS also provides a mechanism for reviewing service force structure and adjusting force mix. It is also a useful framework for reviewing service programs and for integrating the advice of the Secretary's senior civilian and military advisors (page 33).

Responsible officials are active participants in force evaluation and integration and take part in the Department's budget and resource-allocation process. The principal advisors to the Secretary of Defense for Total Force issues are the Assistant Secretary of Defense for Force Management and Personnel and the Assistant Secretary of Defense for Reserve Affairs, who attend all Defense Planning and Resource Board meetings where Total Force issues are being discussed. The Chairman of the Joint Chiefs of Staff advises the Secretary on the threat and the forces needed to meet the threat.

Each service has its own methodology for determining the assignment of missions between the active and reserve components and units within components (page 35). While cost-benefit considerations are at least implicit in all service methodologies, cost is not the driving factor--supporting national military objectives is. Service methodologies should not change when determining the distribution of force reductions, as mission accomplishment would continue to be the deciding factor in determining the units to be downsized or eliminated from the force structure.

Section IV of this report shows the magnitude of possible reductions should world events continue to point to a reduced Soviet threat. Despite the reduced threat, a need exists to preserve skills and equipment and to explore innovative force structure concepts, such as cadre units and "nested" ships. There is also a need to continue evaluation of the strategic environment, so that we do not reach a point where the changes we make are irreversible.

As directed in subsection 1101 (d), the Study Group considered many additional matters in preparing this report.

As noted previously, the PPBS is a process the Department has used and will continue to use for its periodic evaluations of force mix, force structure, readiness, sustainability, and overall mission capabilities of the active and reserve forces. The review conducted in preparing this report supplemented that process.

Section IV provides the broad outline of a possible force for meeting the threats of the future consistent with current and projected resources. That section also addresses competing views on the assignment of quick-reaction missions to active and reserve components. Section IV also discusses crisis response for reserve combat and support units.

The illustrative force structure described in Section IV would not count on reserve participation--other than volunteers--for contingencies expected to last less than 30 days. Reserve support units would be considered for contingencies expected to last up to 60 days. Reserve combat units would be considered for contingencies expected to be longer than 60 days. Reserve units would be expected to maintain the appropriate levels of readiness consistent with the above noted response times (page 64).

The Study Group reviewed factors affecting the readiness and sustainability of active and reserve components individually and the extent to which each component contributed to overall military capability. Measures reviewed included the Status of Resources and Training System (SORTS) and operating tempo (OPTEMPO) data. The report focuses on the extent these comparisons affect training and resourcing, especially in the event of reconstitution.

The Study Group, as a whole, did not have access to the data on units identified for use during the first 30 days of a mobilization. Those data are scenario-dependent and are operational data under the control of the Chairman of the Joint Chiefs of Staff. In a more general sense, the report notes that the departure from focus on a war with the Warsaw Pact centered in Europe has complicated the identification of units needed in the first 30 days of a conflict, as the units change depending on the scenario (page 63). The administration of the "first-to-fight" policy of assigning resources to units is also complicated by the multiplicity of scenarios in the new strategic environment (page 29).

Equipment distribution, modernization priorities, and prepositioning of equipment were considered by the Study Group in conjunction with the "first to fight" policy (page 29), as well as the need for possible redistribution of prepositioned equipment (page 68). Furthermore, the Study Group reviewed the tie between the proposed Marine Corps structure and the Maritime Prepositioning Ships (MPS).

The report considers the need for an adequate base of military personnel and equipment for rotation and deployment. Included in the base are the possible use of non-unit assignments for military personnel (page 70).

Adequate airlift and sealift capabilities for projected missions were considered when analyzing the illustrative force and are included in that force. The Study Group also devoted an entire meeting to a discussion of the adequacy of airlift and sealift, which also influenced the illustrative force structure.

The report does not discuss the funding that is needed for sufficient personnel, equipment, and training of the Total Force. That discussion is properly included in the President's Budget. The report does, however, have an extended discussion of costing methodologies that are used to determine costs for the manning, equipping, and training of the Total Force.

The discussion of Operation Desert Shield describes in detail the capability of the force needed to respond to a crisis situation. In the context of relying on a Total Force, with both active and reserve components, it is not meaningful to consider the capabilities of the active and reserve components separately, as each component complements the other.

SECTION I

DEVELOPMENT OF THE TOTAL FORCE

The "total force" concept was first articulated by Secretary of Defense Melvin Laird in 1970, and adopted as formal DoD policy by Secretary James Schlesinger in 1973. The Total Force Policy has constituted a creative response to the nation's post-World War II responsibilities as a global power and the fiscal and demographic realities that have faced the Department of Defense since the Vietnam War. The Total Force Policy was never intended to make full-time active soldiers and part-time reservists mirror images of each other. It would be expensive, unnecessary, and unrealistic to attempt to make every National Guard and Reserve unit the absolute equal, in terms of readiness and capability, of the best active units.

As a general proposition, the Total Force Policy has had two principal tenets: first, reliance on reserve forces as the primary augmentation for the active force; second, the integrated use of all forces that are available--active, reserve, civilian, and allied. While the implementation of the policy has been uneven at times, since its inception the Total Force Policy has, by any standard, been a great success. There has been unprecedented integration of purpose and capability between the active and reserve components, and improved utilization of the DoD civilian, contractor, and host nation support communities.

The objective of the Total Force Policy has been to maintain as small an active peacetime force as national security policy, military strategy, and overseas commitments permit, and to integrate the capabilities and strengths of active and reserve forces in a cost-effective manner. The effect of this policy, especially during the 1980s, has been to place a substantial portion of our total military force in the reserve components, with reserve forces assigned demanding wartime missions and fulfilling critical peacetime operational responsibilities. The Total Force Policy has thus provided a cost-effective approach for achieving national military objectives at an acceptable level of risk.

Historical Use of Active and Reserve Forces in Conflict

The military capability of the United States has never resided exclusively in the active component. America has always depended upon reserve forces and our mobilization base to maintain, in peacetime, capabilities that would be required in war. (Note: Hereafter, the term "reserve" shall, unless otherwise stated or apparent, include both National Guard and federal reserve personnel.)

The earliest military organization of the American colonies followed the British pattern of local militia maintained for self-defense purposes. The Constitution gave the Congress authority to raise and support armies and to

provide and maintain a navy during peacetime and war. It also provided for the militia, which it put under state control, but it gave the Congress the power to call the militia for federal purposes. Thus, the foundation of our military organization was a small standing force backed by a larger militia force.

The early 20th century saw the beginnings of a federal reserve force entirely separate from the militia, which by then was known as the National Guard. The Army and Naval Reserve were placed under federal control and were not subject to call for state missions. Some 200,000 of the 4.7 million Americans who served in World War I were mobilized National Guardsmen or filler personnel from the new federal reserve components. A combination of regular and National Guard units provided 17 combat divisions; 2.8 million draftees supplied additional manning. After World War I, these standing forces were largely disbanded.

When the war in Europe commenced in 1939, the strength of the regular Army was at 190,000. The Army's organized reserve strength included 104,228 officers and 3,233 enlisted personnel who were available for wartime service. Between September 1940 and June 1941, eighteen Army National Guard divisions composed of 300,000 personnel were mobilized in increments. In addition, the Naval Reserve was mobilized in May 1940. By the time Pearl Harbor was attacked, there were 45,000 Naval Reservists on active duty. At the end of the war, American forces numbered over 12 million men and women in uniform, including conscripts and volunteers. A total of 16 million Americans had served. Once again, relatively small standing forces and reservists, reinforced by conscripts and volunteers, proved to be a workable structure that permitted adequate time for a large-scale mobilization and the equipping and training of combat units before employment. After the war, American forces were rapidly demobilized, and by 1948, the active force had declined to 1.4 million personnel. The strength of the reserve components was 2.6 million.

The invasion of South Korea in June 1950 presented unexpected manpower needs that did not fit with a strategy that called for full mobilization. The time for training, deployment, and employment was limited, and the United States suddenly faced a requirement for substantially larger forces than it had on active duty. After the rapid and massive demobilization following World War II, the country had come to rely more on volunteers and conscription to expand the active force than on the mobilization of reserve components. During the first year of the Korean conflict, over 2 million men and women entered active military service. Mobilized personnel were split evenly among the National Guard and Reserve, voluntary enlistments, and draftees. The need at the beginning of the conflict for trained individuals to fill units and provide replacements resulted in the mobilization of 168,000 individual reservists, including large numbers of World War II veterans who had not trained since their release from active duty following that war. With as little as three days' notice and twelve days of retraining they provided squad

leaders for the Korean Augmentation to the U.S. Army, thereby demonstrating that certain soldier and survival skills can be regained quickly. Because of insufficient resources, however, the readiness of some Army Reserve units had deteriorated rapidly after World War II, and those units required as much as a year of additional training before they could be deployed.

The Marine Corps experienced greater success in recalling reservists for the Korean conflict. Over 90 percent reported quickly to their units, and an additional 5 percent responded to the call-up with only minimal delays. Upon arriving at Camp Pendleton, California, after mobilization, all reserve ground units were disbanded and individual reservists were reassigned to active combat units to alleviate manning shortfalls. Most of the reserve aviation squadrons were employed as units rather than as individual replacements. By the end of the conflict, reservists made up 45 percent of the total Marine force of 192,000 and 48 percent of the Marine forces deployed to Korea. Between August and December 1950, more than 88,000 reservists either reported to Korea as replacements or filled training and support establishment billets in the continental United States (CONUS).

This first experience in the post-World War II era demonstrated the difficulty of using reserve forces for rapid mobilization when their readiness has been permitted to decline. Eventually, eight Army National Guard divisions (138,600 personnel) and many support units were mobilized, as were 14 separate battalions and 40 separate companies of the Army Reserve and 147,000 Air Force reserve component personnel. Only two of the Army National Guard divisions, however, were sent to the Pacific. Two others were sent to Germany in support of the newly formed North Atlantic Treaty Organization (NATO), and four remained in the United States as training divisions and a source of replacements. This raised the issue of how to determine who was to serve when not all forces were engaged. It was clear that a new organization of forces was needed for the new circumstances facing the United States as a global power. As a consequence, after the Korean conflict, active forces were retained at much higher readiness and force levels to compensate for reduced reserve readiness.

Since 1953, U.S. reserve forces have been called to active duty for international crises on several occasions, including the current call-up for Operation Desert Shield. There have also been several federal call-ups of the reserve components in connection with civil emergencies (see Table 1). During the Berlin crisis in 1961, the Congress authorized the President to mobilize 250,000 Ready Reserve personnel for 12 months. Approximately 155,000 reservists served on active duty during the crisis, including 39,000 members of the Individual Ready Reserve. During the Cuban missile crisis in October 1962, the President was given authority to call up as many as 150,000 Ready Reservists for 12 months. Over 14,000 Air Force reservists were ordered to active duty at that time. During both crises, the mobilization of reserve forces served as a means of demonstrating U.S. resolve.

Table 1
Reserve/National Guard Federal Call-Ups
Since the Korean Conflict

<u>Event</u>	<u>Dates</u>	<u>Authority</u>	<u>Components</u>	<u>Number</u>
Little Rock, AR	9/24/57 - 5/29/58	Executive Order 10730 (9/23/57)	Arkansas Army and Air National Guard	9,873
Berlin	10/1/61 - 8/31/63	Joint Resolution (P.L. 87-117) (8/1/61)	Army Reserve and National Guard Navy Reserve Air Force Reserve and National Guard Total	119,622 8,357 27,821 155,800
Oxford, MS	9/30/62 - 10/23/62	Executive Order 11053 (9/30/62)	Mississippi Army and Air National Guard	10,927
Cuba	10/27/62 - 11/1/62	Joint Resolution (P.L. 87-736) (10/3/62)	Air Force Reserve	14,200
Tuscaloosa, AL	6/11/63 - 7/11/63	Executive Order 11111 (6/11/63)	Alabama Army and Air National Guard	16,463
Alabama	9/10/63 - 9/14/63	Executive Order 11118 (9/10/63)	Alabama Army and Air National Guard	All
Selma, AL	3/20/65 - 3/29/65	Executive Order 11207 (3/20/65)	Alabama Army and Air National Guard	4,000
Vietnam	1/25/68 - 12/15/69	Executive Order 11392 (1/25/68)	Army National Guard Air National Guard Army Reserve Air Force Reserve Navy Reserve Total	12,234 10,673 5,181 5,604 1,588 35,280
Pueblo	1/23/68 - 12/22/68	Executive Order 11406 (6/10/68)	Navy Reserve	995
New York City	3/24/70 - 4/10/70	Executive Order 11519 (3/23/70)	Army National Guard Air National Guard Army Reserve Air Force Reserve Navy Reserve Total	10,845 1,876 7,465 3,694 2,207 26,087
Desert Shield*	8/22/90 -	Executive Order 12727 (8/22/90), extended by Executive Order 12733 (11/13/90)	Army Reserve and National Guard Air Force Reserve and National Guard Navy Reserve Marine Corps Reserve Coast Guard Reserve Total	88,183 13,080 7,720 16,313 761 125,057

* As of December 24, 1990

The major commitment of U.S. troops in Vietnam in 1965 did not lead to an immediate call-up of reserve component forces. The draft was increased to supply the wartime manpower pool. By 1968, manpower requirements for Vietnam had become so great that more than 17,000 Army National Guard and Reserve personnel were mobilized. The Air Force Reserve mobilized 5,604 reservists for duty throughout Southeast Asia, and four tactical fighter squadrons of the Air National Guard (10,673 personnel) saw combat service. In the Naval Reserve, six aviation squadrons and two construction force battalions were mobilized. With the exception of 1,700 Individual Ready Reservists who were ordered to active duty by the Army, this call-up of 35,000 personnel was accomplished at the unit level. Concern with the readiness of reserve forces led to the passage in 1967 of P.L. 90-168, "The Reserve Forces Bill of Rights and Vitalization Act," which created the Selected Reserve.

The 1968 crisis involving the U.S.S. Pueblo also resulted in a call-up of reservists. Six Naval Reserve aviation squadrons (995 personnel) were activated. There have also been several call-ups during the past three decades for domestic reasons. For example, in March 1970, approximately 2,000 Naval Reserve personnel and 24,000 members of the Army National Guard and Army Reserve were called to active duty to support the government during the New York City postal strike.

Reservists have also volunteered for duty in connection with a wide range of operations. During the military intervention in the Dominican Republic in 1965, some 600 Air Force reservists were utilized as part of a 115-crew contingent of airlift personnel. In 1973, during the Yom Kippur War, 286 Air Force reservists volunteered and participated directly in the airlifting of personnel out of hostile areas and the provision of assistance to Israel. Another 1,495 volunteers supported Military Airlift Command (MAC) missions, freeing MAC crews to provide direct support for the war efforts. In 1975, when the S.S. MAYAGUEZ was captured, reserve participation consisted of two Air Reserve Component C-141 crews. In 1983, Air National Guard, Air Force Reserve, and Naval Reserve personnel participated in Operation Urgent Fury in Grenada, and volunteered for duty in Lebanon. The Army Reserve and Marine Corps Reserve also participated in the Grenada operation.

Members of the Naval Reserve and the Air Force reserve components voluntarily augmented active forces within 72 hours of the 1986 "Eldorado Canyon" raid on Libya. The Naval Reservists served for 150 days; they included 33 officers and six enlisted personnel who performed search-and-rescue duties. Additionally, Air Force reserve component members of the Strategic Air Command provided aerial-refueling support.

During the 1987-88 tanker escort operation in the Persian Gulf, approximately 300 Naval Reservists volunteered for duty. Naval Reserve volunteers served aboard minesweepers and fast frigates, assumed naval control of shipping duties, and performed missions with small boat units. These

reservists served temporary active-duty tours, ranging from 30 to more than 180 days. Other volunteers performed special warfare tasks and served in the naval control of shipping unit in Bahrain.

Reserve volunteers also performed critical missions during Operation Just Cause in Panama in late 1989 and early 1990. Air National Guard units flew combat sorties (with A-7 aircraft) and airlift missions (C-141 and C-130 aircraft). Air Force Reserve units flew AC-130 gunship sorties, KC-10 tanker missions, C-5 and C-141 airlift missions, and aeromedical evacuation missions. Army Reserve civil affairs units provided critical assistance in the rebuilding of the infrastructure of the new government of Panama. Military police from Army National Guard units detained prisoners and processed civilian detainees.

Operation Desert Shield

The application of U.S. military power in Operation Desert Shield has involved all components of the Total Force. Because of the scope and complexity of the operation and because the situation in Saudi Arabia is changing so quickly, it is premature to draw broad conclusions. Certain preliminary observations can, however, be made.

The Chairman of the Joint Chiefs of Staff stated in December 3, 1990, testimony to the Senate Armed Services Committee that this has already been one of the largest and most successful deployments in our nation's history. The operation has provided the nation with the first large-scale practical test of the Total Force Policy. Important lessons are being learned daily.

Two aircraft carrier battle groups established an initial U.S. presence in the region. After the decision to send forces to Saudi Arabia, a brigade from the 82nd Airborne Division and tactical air forces were quickly deployed, along with components of two Marine Expeditionary Brigades and additional naval forces. A rapid force buildup followed and, by the end of August, approximately 100,000 soldiers, sailors, airmen, and Marines were in the region.

Reserve volunteers were vital to the success of the early stages of the operation. During the first weeks of the deployment, thousands of reserve volunteers performed critically important missions, such as airlift and tanker support. By the sixth week, a combination of active, National Guard, and reserve personnel had already moved by air as much material as was transported during the entire Berlin Airlift--an operation that took place over a period of 65 weeks. More personnel and equipment were moved in the first three weeks of Desert Shield than in the first three months of the Korean conflict.

On August 22, 1990--only 20 days after the Iraqi invasion of Kuwait--the President signed an Executive Order authorizing the Secretary of Defense,

pursuant to Title 10, U.S. Code, Section 673b, to call members of the Selected Reserve to active duty. This particular call-up authority had never before been used. Two days later, the first call-up of specific National Guard and reserve units was announced.

The deployment of active and reserve forces to Saudi Arabia has continued at a rapid pace. By the end of 1990, it is expected that American forces in theater will number approximately 326,000, including 276,000 active personnel and 50,000 reserve personnel. The Secretary of Defense has authorized the call-up of approximately 189,000 Selected Reservists.

Reservists are serving in Saudi Arabia in a wide range of support functions, including communications, transportation, and medical care. Three National Guard combat brigades have also been called to active duty and are currently undergoing individual and unit training. The experience to date in Desert Shield is consistent with the results of a test call-up of randomly selected reserve units conducted in October 1987. The reserve personnel have reported to active duty in a timely fashion, and the number of reservists who have been declared "non-deployable" because of physical or other limiting factors is comparable to that of active personnel. The motivation and initiative that have been demonstrated by the reserve units has also mitigated many of the obstacles encountered during the call-up.

The ongoing role that Reservists and National Guardsmen are playing in Operation Desert Shield should not be overstated, but their numerous contributions to date have been essential to the success of the operation. The prompt integration of active, National Guard, and reserve forces into a formidable "Desert Shield" is eloquent testimony to the capabilities of the reserve forces generally, to the often unique skills and experience they bring to the Total Force, and to the progress that has been made in recent years in implementing the Total Force Policy. On December 3, 1990, the Chairman of the Joint Chiefs of Staff described the application of the Total Force Policy to Desert Shield as follows:

To summarize, the success of the Guard and Reserve participation in Desert Shield cannot be overemphasized. Their participation has been a significant factor in affording us flexibility and balance, and reinforces the policies and decisions made over the last 10 years to strengthen the total force concept.

Host nation support provided by Saudi Arabia has been important to the sustainment of a U.S. presence in the region. The facilities and supplies made available to U.S. forces by the Saudi government have reduced some of the costs associated with the operation. For example, the Saudis are providing fuel to U.S. forces at no charge. Other nations in the region are also providing support to U.S. forces.

Civilian technicians and engineers are performing maintenance on aircraft, missiles, radars, tanks, and helicopters at regional locations, just as they do in the United States. The support they have provided extends to facilities as well, including some Saudi airfields. DoD has also used commercial aircraft provided through the Civil Reserve Air Fleet (CRAF) program to support operations in Southwest Asia. Early in the operation, the Commander of the U.S. Military Transportation Command ordered the implementation of the first stage of the CRAF program, making 38 civilian aircraft (almost all wide-bodied) available to DoD for moving passengers and cargo.

Reserve Forces in Peacetime Operations

Since the adoption of the Total Force Policy, the reserve components have assumed responsibility for a wide range of ongoing peacetime operational missions. This has freed active force units and personnel for other assignments that require their use. In many instances, it has also resulted in significant cost savings.

The nature of the peacetime missions performed by the reserve components has expanded in recent years. At the very minimum, it is clear that as the Total Force Policy has evolved in recent years, reserve forces have become much more than forces in waiting. They have assumed a major role in performing missions that are crucial to the Department's day-to-day responsibilities.

National Guard State Missions

Analyses of the Total Force Policy must necessarily consider the importance of the state or domestic missions of the National Guard, as well as its federal missions. The National Guard is normally the first organized force called upon by governors to respond to situations which require support that exceeds the capabilities of state and local agencies. The scope of the support provided is broad, and ranges from emergency assistance during natural and man-made disasters to congressionally-mandated support to law enforcement agencies in the nation's fight against illegal drugs. In FY 1990 the National Guard responded to nearly 300 calls to state duty, and some 23,171 individual Guardsmen were involved. The state missions included such activities as disaster relief for Hurricane Hugo and the San Francisco Bay area earthquake. In addition, the National Guard used almost 533,000 training mandays to support federal, state, and local law enforcement agencies in the implementation of counternarcotics programs.

Components of the Total Force

Since its adoption in 1973, the Total Force Policy has provided the Department of Defense with an integrated force of active, reserve, retired

military, federal civilian, and contractor personnel. Host nation support agreements have added allied military and civilian personnel to the manpower pool. The sum of these resources constitutes the Total Force (see Figure 1).

Military Personnel. As Figure 2 shows, the active force and the Selected Reserve are the two largest components of the Total Force. Together, they comprise about 3.2 million personnel, with the active component providing two-thirds of the total and the Selected Reserve the remaining one-third. In wartime, the civilian and host nation sectors would grow to fill demands not present in peacetime.

The Total Force Policy has allowed steady and significant progress toward making the most effective and efficient use of the manpower resources available to the Department of Defense. Many of the missions traditionally performed by active-duty personnel--the most costly manpower asset--have been assumed by reserve forces, civilian government employees, private contractors, and foreign nations that host U.S. forces. The active component remains responsible for the mission which it alone can perform: provision of highly ready and rapidly deployable combat and support forces to defend U.S. interests worldwide.

As the Total Force Policy has evolved over the last decade, a dramatic change has occurred in the way some reserve forces are viewed and used. While the Department has planned for decades to rely upon the reserve components as the primary source of augmentation for active forces in a global war or other large-scale conflict, some National Guard and Reserve units (with a mix of part- and full-time personnel) are capable of responding rapidly either as volunteers or on orders to active duty for crises or other operational requirements. These forces are not "reserves" in the traditional "forces in waiting" sense. For example, over 90 percent of the continental air defense mission in the United States is now performed by the Air National Guard. Likewise, major portions of military airlift and counter-drug missions are performed by reserve forces, including the federal reserve forces and the National Guard acting under the control of state authorities.

The reserve components of the armed forces include the Army National Guard of the United States, the Army Reserve, the Naval Reserve, the Marine Corps Reserve, the Air National Guard of the United States, the Air Force Reserve, and the Coast Guard Reserve. Reserve manpower is assigned to one of three categories--the Ready Reserve, the Standby Reserve, or the Retired Reserve. These categories are described in Table 2.

The reserve components have grown significantly over the past decade. In FY 1990, 51 percent of Army military manpower and 27 percent of Air Force military manpower were in the reserve components. The Navy, Marine Corps, and Coast Guard reached their current reserve levels of 21 percent, 18

Figure 1
Components of the Total Force

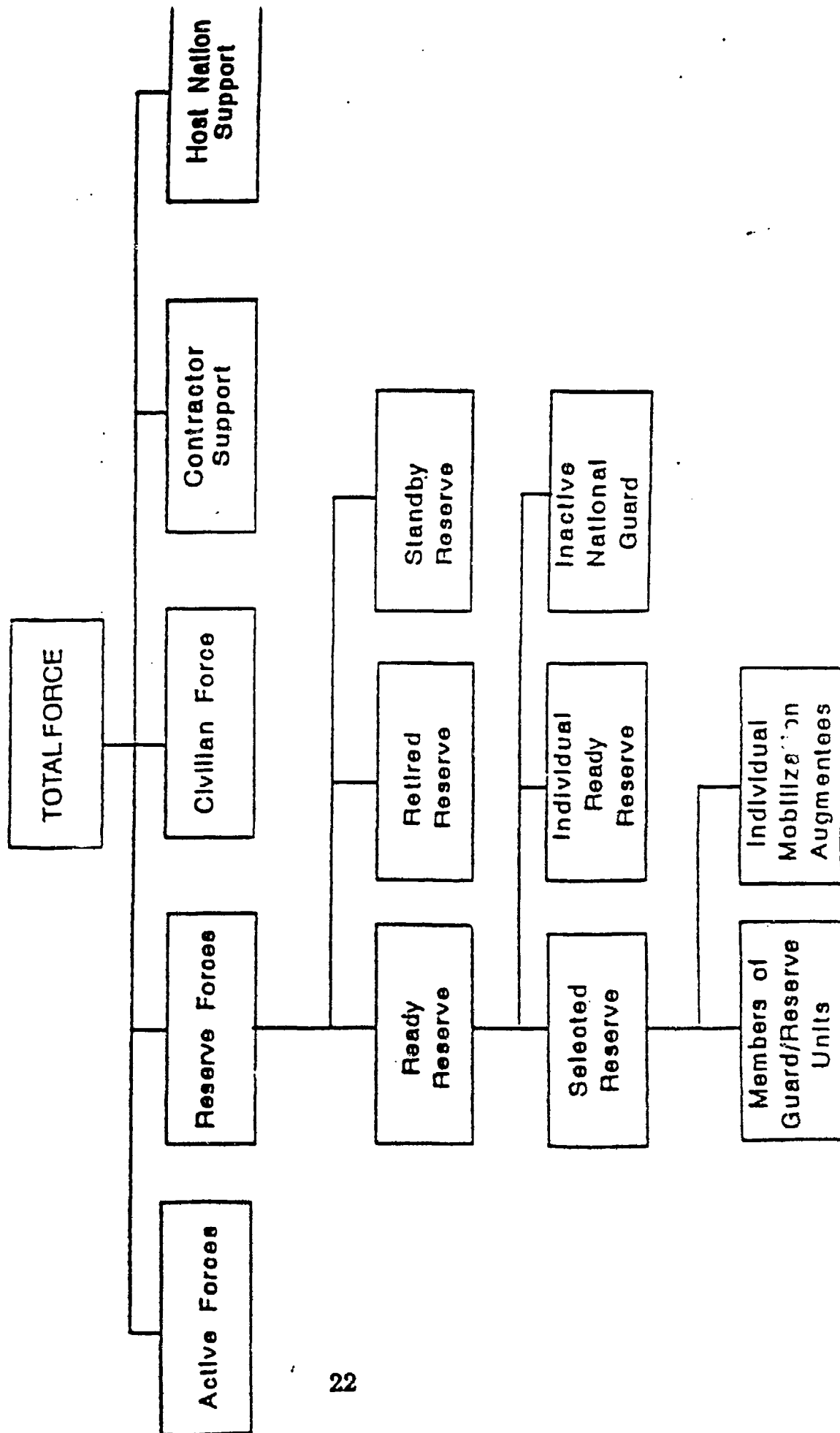
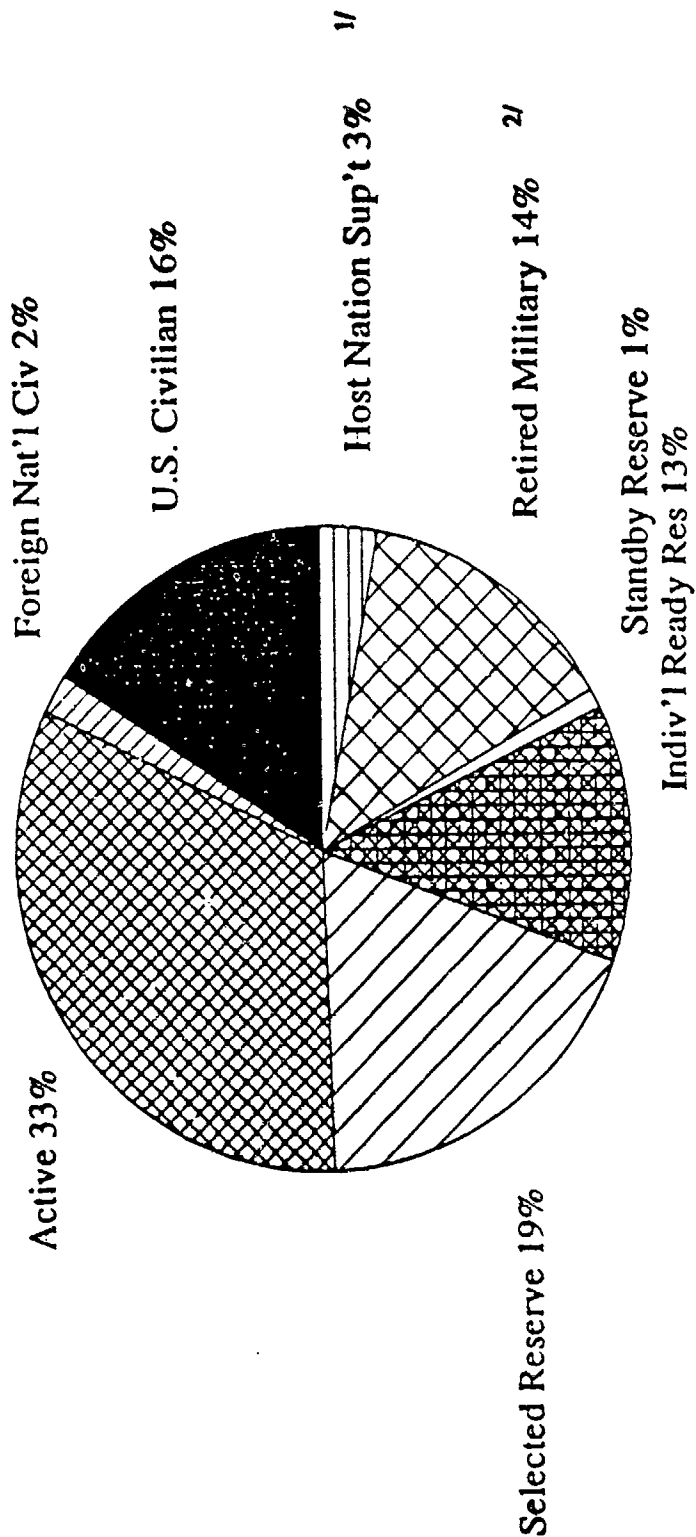


Figure 2
Composition of the Total Force*
FY 1992



- Does not include contractors and U.S. Coast Guard.
- 1 Includes military and civilian personnel at peacetime levels.
- 2 Does not include disabled or retirees above age 60.

percent, and 24 percent, respectively, in the late 1980s. Table 3 shows active and Selected Reserve component and civilian manpower levels by service.

Civilians. The mix of military and civilian personnel in the Total Force reflects organizational changes in the delivery of services and functions, as well as adjustments in force structure. Starting in the late 1950s, the Department established a number of defense agencies to support the military components. These predominantly civilian organizations (about 100,000 nonmilitary employees) have reduced overall costs by consolidating overhead functions and reducing military manning requirements. With changes in technology and continued pressures to reduce defense costs, the Department of Defense--as part of its implementation of the Secretary of Defense's July 1989 *Defense Management Report to the President*--is undertaking additional consolidations of support functions, including financial management, contract management, depot supply, consumable item management, and commissary operations. Organizational and technical changes in support functions will continue to change the military and civilian mix and the way the Department views requirements for military personnel. It should be noted, however, that civilian data reflect peacetime employment only, whereas military data (because they include reserves) reflect wartime resources. The *Defense Manpower Requirements Report* indicates that DoD would need to hire another 320,000 civilians in the event of a major conflict.

Combat and certain support positions are assigned to military personnel, as are other positions needed to maintain an overseas rotation base. It is departmental policy that positions not requiring recent operational military expertise be filled either by civilian DoD employees or private contractors. Nonmilitary functions that can be performed only by government personnel, or that are deemed critical mobilization assets, are reserved for DoD employees. All other nonmilitary functions are assigned to either DoD or contractor personnel, based on the relative cost advantages.

The civilian work force of the Defense Department currently numbers about one million men and women, or about 16 percent of the Total Force. These individuals perform the bulk of logistics, base operation support, and research and development functions. Civilians also constitute a substantial portion of the force structure devoted to medical and personnel support; personnel training; and essential auxiliary activities, including intelligence and communications.

Contractors. In both peacetime and war, civilian contractors make important contributions to the Total Force. Over 200,000 peacetime positions are held by contractors, of which about 80,000 have been subject to contracting competition in the United States, ensuring the least-costly provision of services consistent with national defense needs. Contractors perform about one-third of DoD's depot maintenance workload, a significant portion of research and development (through universities, federally funded research and development

Table 2

Categories of Reserve Personnel

The Ready Reserve consists of the Selected Reserve (including individuals in both National Guard and reserve units), the Individual Ready Reserve (IRR), and the Inactive National Guard (ING).

The Selected Reserve comprises personnel assigned to Selected Reserve units, reservists in training programs, individual mobilization augmentees (IMAs), and full-time support (FTS) personnel.

The Individual Ready Reserve and the Inactive National Guard are composed of reservists who are not attached to units. Most IRR/ING members previously served in the active component or the Selected Reserve, and have a military service obligation remaining. Members of the Individual Ready Reserve are eligible for mobilization and for limited involuntary active duty for training. They may train voluntarily for retirement points and promotion, with or without pay. Members of the Inactive National Guard are not eligible to earn retirement points or pay, nor can they be promoted.

The Standby Reserve is a pool of individuals who could be mobilized to fill specific manpower needs. Members of the Standby Reserve (who often have medical or other skills that might be critical in the case of mobilization) are not required to train, are not assigned to units, and do not receive pay or retirement credit.

The Retired Reserve consists of: (1) reservists who receive retired pay; (2) reservists eligible for retired pay who have not reached age 60 and are not members of the Ready or Standby Reserve; and (3) retired regular enlisted personnel who have completed 20 years but less than 30 years of service. (All retired regular officers and retired enlisted personnel with over 30 years active and retired service are on the regular retired list.) Members of this reserve category may be ordered to active duty in national emergencies under Title 10 U.S.C. Section 672(a), Title 10 U.S.C. Section 675, or Title 10 U.S.C. Section 688(a).

Table 3
Manpower Levels by Service and Component,
End FY 1990
(In thousands)

	<u>Active</u>	<u>Selected Reserve</u>	<u>Civilian</u>	<u>Total</u>
Army	732	754	430	1,950
Navy	580	153	331	1,067
Marine Corps	197	45	21	261
Air Force	535	202	261	1,005
Coast Guard	<u>37</u>	<u>12</u>	<u>5</u>	<u>54</u>
Total	2,081	1,166	1,048	4,337

centers, or private-sector firms), much of the health care provided via CHAMPUS, and peacetime and wartime transportation services. First-year savings from contracting have been estimated to exceed 30 percent of the cost of providing equivalent services "in house." The nearly 150,000 private-sector employees who supported U.S. forces in Southeast Asia during the Vietnam conflict demonstrated the value and practicality of large-scale use of contract services in wartime.

The Defense Department is required by law to rely on contractors for commercial activities where cost-effective. Between 1979 and 1989, DoD's Commercial Activities Program examined 81,519 military and civilian positions, of which 51,244 were transferred to the private sector. Congress exempted core logistics activities from the law. The Commercial Activities Program has been particularly successful in subjecting functions and processes to critical scrutiny, to the extent that even some of the functions designated to remain in house have subsequently been eliminated or restructured on a more cost-effective basis.

Host Nation Support. The United States obtains host nation support (HNS) in varying degrees from almost all of its NATO allies, as well as from other nations, including Korea and Japan. The type and level of support vary from country to country, and may include facilities, exercise support, prepositioning facilities, or infrastructure. Estimates of the value of host nation support depend on the type of assistance provided, but all such arrangements reduce the costs of maintaining U.S. forces abroad. For example, as stated in the 1990 report to Congress, *Allied Contributions to the Common Defense*, the Japanese government paid at least 50 percent of the cost of employing Japanese workers at U.S. military facilities in Japan in 1990, with the total support from that country equating to about \$40,000 for each U.S. service member stationed there.

Wartime host nation support (WHNS) consists of civilian or military assistance provided by host nations to allied forces operating from, or transiting through, their territory in time of war. It has been estimated that, for the Army alone, WHNS agreements provide capabilities equivalent to over 120,000 U.S. military support personnel. These are spaces not formed or paid for because of our ability to rely on allied assistance. The United States relies extensively on WHNS in Europe and Northeast Asia but, until recently, has had few such initiatives in the Americas and Southwest Asia.

The wartime host nation support agreement between the United States and Germany is the most comprehensive such arrangement, with 93,000 German reservists committed to the direct support of U.S. forces. Germany also has agreed to provide 22,000 items of equipment mobilized from the civilian sector. The savings to the United States from having Germany provide this equipment amount to approximately \$578 million.

Planning Principles for the Total Force

Force-Mix Considerations. In light of the dramatic geopolitical changes that have taken place during the past year, the need for large U.S. forces that can fight on short notice has diminished. Retaining forces in the reserve components rather than on active duty becomes an attractive option because of the cost savings that such steps can generate. The potential savings must, however, be weighed against any loss of desired immediate capability, readiness, or flexibility.

Reserve forces are less expensive than comparable active forces, but the precise magnitude of the cost differential varies according to the manning level, mission, and operating tempo of the units in question. Reserve ground units, for example, are considerably less costly than active ground units. While still offering significant savings, some flying units in the Air National Guard, Air Force Reserve, and Naval Reserve are closer in cost to their active counterparts. As an example of the savings that might be achieved, a study by the Center for Naval Analyses concluded that Naval Reserve patrol (P-3) squadrons operate at 44 percent of the cost of active patrol squadrons and Naval Reserve carrier air wings operate at 50 percent of the cost of active wings. On the other hand, historical manning and operating policies for the Naval Reserve Force ships--65 percent active and full-time support (TAR) personnel and 35 percent Selected Reserve crews--result in a less significant cost difference between similar active and reserve frigates. If significant cost savings can be achieved by a transfer of force structure to a reserve component for the performance of a particular mission, prudence requires that the transfer be fully considered. Any such cost savings must be weighed, however, against the decreases in capability and flexibility that could result. (A detailed discussion of cost-estimation methodologies for the Total Force is provided in the Supplement.)

In considering the most appropriate force mix, focus must be placed on the need for forces to (1) provide peacetime presence, (2) maintain rapid crisis-response capabilities, and (3) hedge against a need to reconstitute forces. Peacetime presence is provided by forward-deployed forces. These forces generally are in the active component, and require a rotation base of active-duty personnel to permit members of deployed units to shift from overseas assignments to stateside duty. The need to maintain a forward presence in some regions has not diminished, although in certain areas, deployments could perhaps be reduced or conducted on an intermittent basis, perhaps using both active and reserve units. For example, Naval Reserve patrol (P-3) squadrons have maintained a forward presence for the past ten years, routinely providing support to deployed P-3 squadrons in the Mediterranean (Sixth Fleet) and Western Pacific (Seventh Fleet) theaters of operation. The Army and Air Force have had successful intermittent forward deployment programs in Europe using both active and reserve units. The Army is currently seeking ways to expand its program. The national security implications and costs of maintaining intermittent deployments should be weighed carefully, however, before such an approach is expanded.

The question of whether to place early-deploying combat capability for response to crises in the reserve components depends principally on the immediate readiness of the reserve units that would perform the early-deploying missions, the probability that they would be available when needed, and the general desirability of shifting greater responsibility to the reserve components. Reserve units that include personnel with significant prior active-duty experience may have capabilities comparable to those of active units with similar missions. The Air Reserve Components, for example, often match active units in capability and are typically ready to deploy on short notice, in part because of the high individual skill level of reservists with prior active-duty experience, but also because these units are backed by sizable numbers of full-time personnel. The readiness of reserve ground forces tends to be better in smaller units. Large reserve ground units (e.g., brigades and divisions) often need additional training before they can be employed in combat. Some reserve units are less ready as a result of insufficient resources, management problems involving mismatches between individual military skills and unit requirements, and the difficulties of collective training, which are exacerbated for the reserves by the limited time available for peacetime training.

Participation by reserve forces in operational missions can be secured through different methods. First, and as indicated earlier in this report, National Guardsmen and reservists may volunteer to serve on active duty. Second, and pursuant to the authority granted in Title 10 U.S. Code 673b, the President may call as many as 200,000 Selected Reservists to active duty for a period of 90 days, with an extension of an additional 90 days. A recent amendment to Section 673b (for FY 1991) authorizes the President to order Selected Reserve combat units to active duty in support of operations in and around the Arabian Peninsula and Operation Desert Shield for 180 days, with

an extension of an additional 180 days. Finally, the President may initiate a partial mobilization after declaring a national emergency, or seek the approval of Congress for a total mobilization.

Use of reserve volunteers has tended to work well for unit or individual missions that do not require close, intra-unit coordination (strategic airlift and some support missions, for example). It has been less effective in force elements such as ground combat units or ship crews, where unit training and cohesiveness is more important. The ordering of reserve units to active duty provides enhanced military capabilities in a crisis and a demonstration of national will that can assist in deterring aggression.

A basic consideration in determining the force mix is the time assumed to be available between mobilization and combat: the longer the warning time, the lower the required level of peacetime readiness. Appropriate consideration, however, must be given to the difference between warning and reaction time: firm decisions to act are not always made at the moment of first warning. With the much longer warning times now projected for a European or major global conflict, the United States must weigh anew the size and readiness of the forces heretofore maintained only for those threats. Some of these forces could be transferred to the reserve components, manned at significantly reduced levels, organized into cadre units, or taken out of the force structure entirely. In implementing any of these approaches, some of the long-lead-time equipment that exceeds current requirements must be preserved, in the same manner that we seek to preserve trained leaders and other highly-trained personnel.

Not all missions are appropriate for the reserve components. Those that require a high level of activity in wartime but comparatively low levels in peacetime (air defense and the work of construction battalions, for example) are ideal for reservists. Missions requiring extended peacetime deployments (such as ballistic missile submarine patrols), on the other hand, are often unsuitable for reservists. Some missions can be assigned to either active or reserve units, depending on how soon the missions must be performed after a crisis develops and on the availability and readiness of individual units.

Peacetime missions that require intensive training, have highly technical military applications, require a continuous presence, or demand high peacetime operating tempos or readiness are generally more appropriate for the active component. Many peacetime missions, however, can be performed by reserve units as part of their regular monthly training or annual active-duty tours.

"First to Fight" Policy. The "first to fight" policy was first enunciated in 1982 by then-Secretary of Defense Weinberger:

Under the Total Force Policy, each service Secretary is responsible for providing the manning, equipment, training facilities, construction and maintenance necessary to ensure

that Selected Reserve units meet the readiness standard and deployment schedules required by our national contingency plans. . . . Units that fight first shall be equipped first, regardless of component.

The allocation of resources to the Total Force has been governed by the "first to fight" policy, which gives priority for manning, training, and equipping to those units that would deploy first, whether active or reserve. Thus, some reserve units have a higher priority for manning, equipment, and training than do some active units. The "first to fight" policy has been applied primarily to equipment allocation. Within this context, the policy has provided a basic framework for establishing distribution priorities and schedules. In the past, priorities were determined on the basis of a global war scenario. Although the policy pertained to all forces, it was more easily applied to ground and air combatants, whose deployments could be sequenced in advance. In the new strategic environment, however, with its emphasis on regional contingencies, "first-to-fight" determinations have become less clear and the priority of some units could change.

In light of the new strategic environment, and as part of the reevaluation of Total Force assignments, unit equipment and training should be reviewed. A reevaluation would undoubtedly lead to the redeployment to CONUS of some units that currently are stationed abroad, with other units drawn down or inactivated. With redeployment to CONUS and planned force restructuring, some unit resources may be considered for reapportionment to other units or components. Reserve component units that lack equipment needed upon mobilization may be allocated some of the material currently assigned to forward-deployed units. On the other hand, experience to date in Operation Desert Shield demonstrates that transfers may also be made from reserve to active units, or within the reserve components if early-deploying units lack some of their required equipment.

The size and location of U.S. prepositioning and war reserve stocks also will be reviewed. To the extent permitted under the Conventional Armed Forces in Europe (CFE) Treaty, excess equipment is likely to be redistributed to units in the United States to enhance multi-regional contingency capabilities and alleviate reserve component shortfalls.

Interoperability. Interoperability is another basic principle of the Total Force. Achieving force interoperability generally requires that reservists train on the same type of equipment that they would use upon mobilization. Interoperability also requires that early-deploying reserve forces receive equipment compatible with that of the active units that they support. Temporary situations have occurred in which these requirements could not be met because of problems of availability or distribution. This is often the case, for example, when weapons are produced under multi-year contracts, and thus enter the inventory in increments over a period of years.

Training. U.S. military personnel, whether active or reserve, must be well-trained and capable of responding to threats to the nation's security interests. It is neither necessary nor cost-effective, however, to maintain all units at the same levels of readiness. Later-deploying reserve units can be maintained at levels of readiness that will ensure their readiness for deployment after a certain amount of post-mobilization training. Limits on the availability of training equipment, ranges, and strategic lift make it prudent to consider this factor in structuring forces.

For example, in order to more closely integrate the Total Force, the Army could provide, in peacetime, specific alignments of its reserve divisions and separate brigades to the corps with which they would be employed upon mobilization. The concept would include corps training and readiness affiliation as well as equipment distribution and modernization of all forces within the corps, consistent with the state of modernization of aligned divisions and separate brigades. Such "force packages" could enhance the overall preparedness of the force and complete a relatively fixed affiliation throughout. Such redirection and expansion of the previously successful CAPSTONE program would be a welcome response to the demands brought about by the changing size and direction of the forces.

Concluding Note. The force that has evolved from the colonial militia to the modern Total Force has served the United States well. Through the years, our nation has continued to embrace the philosophy of a comparatively small standing force backed by mobilizable reserve forces. Section II describes how today's Total Force is managed to ensure that its several components form a cohesive, effective organization.

SECTION II

MANAGEMENT OF THE TOTAL FORCE

Choices about the size of the Total Force and the mix of active and reserve forces depend on the nature of current and potential threats to the nation, the military capabilities required to meet those threats, the ability of different types of forces to accomplish their wartime missions, the availability of defense resources, and the willingness to accept the greater or lesser risks associated with various levels of defense spending.

The evaluation of these and related factors, and the planning that is essential to achieve a desired force size and mix, clearly require a sound management process. The effectiveness of the Total Force Policy has in no small measure been the result of the existence of such a process within the Department of Defense. The management and command structures of the Department have provided unity of effort as missions and responsibilities of active and reserve components have been integrated into a cohesive whole. This unity has enabled each element of the Total Force to do what it does best in a manner that results in economy of personnel and material resources.

These issues are discussed in more detail in the remainder of this section. Further information on the Department's force structure plans and manpower policies may be found in Sections III and IV.

Oversight

The Chairman of the Joint Chiefs of Staff (CJCS), assisted by the other members of the Joint Chiefs of Staff and the commanders-in-chief (CINCs) of the unified and specified commands, provides strategic direction to the armed forces and develops operational plans. As part of his force planning responsibilities, he reviews the international security environment and U.S. national security objectives, and provides net assessments of the capabilities of potential adversaries. The scenario-dependent forces that are developed under the Chairman's direction are termed the Risk Evaluation Force.

Within the Office of the Secretary of Defense (OSD), the principal advisors to the Secretary of Defense for Total Force issues are the Assistant Secretary of Defense for Force Management and Personnel (ASD/FM&P) and the Assistant Secretary of Defense for Reserve Affairs (ASD/RA).

The Assistant Secretary of Defense for Force Management and Personnel is the principal staff assistant and advisor to the Secretary of Defense for Total Force management and military and civilian manpower. The ASD(FM&P) also develops plans and programs to support Total Force manpower readiness and sustainability. Furthermore, he develops policy for allocating active, reserve,

and civilian manpower among DoD components and criteria for evaluating the mix of active and reserve military personnel.

The Assistant Secretary of Defense for Reserve Affairs serves as the principal staff assistant and advisor to the Secretary of Defense on reserve component matters, including Total Force policy issues. The responsibilities of the ASD(RA) include full participation in planning, programming, and budgeting activities. He is charged with exercising oversight to ensure that DoD actions are compatible with and support Total Force objectives and requirements, enhance the readiness and capabilities of reserve component units and personnel, promote the integration of reserve components with active-duty forces, and make the most effective use of reserve components within the Total Force.

The Planning, Programming, and Budgeting System (PPBS) provides a management framework for making force structure decisions. Through the PPBS, the Secretary of Defense provides centralized policy direction to the military services and defense agencies, who, in turn, are responsible for developing and executing programs to carry out the Secretary's policy guidelines.

The starting point in determining the composition of the Total Force is the Defense Planning Guidance (DPG), issued by the Secretary of Defense during the initial phase of the PPBS. This document describes projected threats, and outlines the defense policies and strategies needed to meet them. The policy statements embodied in the DPG guide the military services in formulating program plans for the coming six fiscal years. The Secretary's policy guidelines are expanded upon by DoD directives that prescribe detailed procedures for managing specific portions of the Total Force. The Under Secretary of Defense for Policy oversees the preparation of the DPG, in coordination with other components of the Office of the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the secretaries of the military departments.

The military departments use the DPG to develop the respective force structures they recommend to carry out the national military strategy. Although the services use different analytical frameworks to guide their force-mix development processes, they all follow the same general procedures to develop the force structures that they propose to the Secretary of Defense.

The detailed program blueprints that emerge from this second phase of the PPBS process are described in documents entitled Program Objectives Memoranda (POMs). The POMs are reviewed by the Secretary and Deputy Secretary of Defense and their principal advisors. As programs are developed and resources allocated, the CJCS evaluates the capabilities provided by the programs and assesses the risks associated with them. Where appropriate, the CJCS and OSD staff propose changes that would bring the programs into

greater conformance with strategic priorities. Selected issues are considered by the Defense Planning and Resources Board (DPRB)—the Department's most senior management body for programming and budgeting matters. The DPRB includes as permanent members the Secretary and Deputy Secretary of Defense, the service secretaries, the CJCS, the Under Secretaries of Defense for Policy and Acquisition, the DoD Comptroller, and the Assistant Secretary of Defense for Program Analysis and Evaluation. Other senior officials are invited to attend DPRB sessions depending on the topics under discussion. For example, the ASD(FM&P) and the ASD(RA) attend when matters pertaining to active and reserve forces and personnel are discussed.

The DPRB evaluates the service program proposals and alternatives to them, and advises the Secretary and Deputy Secretary of Defense. The Secretary and Deputy Secretary's decisions on the issues are then transmitted to the services in Program Decision Memoranda (PDMs).

The services use the PDMs to prepare budgets to carry out the mix of programs approved by the Secretary and Deputy Secretary. The service budget proposals are subjected to review by the Office of the Secretary of Defense and the Office of Management and Budget, and are modified by the Secretary of Defense or the President before being incorporated into the President's Budget.

Service Force Planning Processes

Developing a force structure that can carry out the national military strategy is the aim of force planning. As noted earlier, the services have developed different analytical frameworks to guide their force structure/mix decisionmaking process. The paragraphs that follow review the processes used by the individual services.

Army. The Army develops its program in a two-year process known as Total Army Analysis (TAA). The process begins with a series of computer-assisted simulations of force deployment and warfighting that are used to identify the combat forces needed to support the DPG. In addition to the DPG, inputs for the TAA are provided by The Army Plan—the official Army interpretation of military strategy, threat data, resource assumptions and priorities, and force structure guidance. Additional computer models and simulations establish time-phased, geographically distributed estimates of nondivisional combat and tactical support units to round out the theater forces. The product of this computer modeling is used to develop the Army's Total Force, following which a plan is prepared showing the transition to the proposed force structure over the POM years.

Projected readiness, desired mobility capability, demographics, and cost are key criteria in making trade-offs between active and reserve forces. Because it is more difficult to maintain the readiness of most reserve component units at very high levels, the Army normally assigns rapid-response

missions to the active force. Missions that require intensive training, highly technical skills, high peacetime operating tempos, or high readiness levels are considered carefully before assignment to the reserve components. For example, forward-deployed forces are composed primarily of active component personnel. Demographic factors limit reserve unit growth in some regions of the country, but more favorable trends in other regions generally offset this constraint, enabling overall manning goals to be achieved. After he has reviewed the recommendations of the major Army commands, the Army Chief of Staff selects a base force that is used to build the Army POM.

Navy. The process by which the Navy develops its force recommendations is not as structured as the Army's TAA approach. The Navy's primary objective in developing its force structure is to meet the objectives of the maritime element of the national military strategy. The Navy's proposed force structure is developed on the general premise that any capability not needed in peacetime and not obtainable from the civilian sector should be assigned to the Naval Reserve.

The Navy force-mix decisionmaking process is a subset of the force structure process, and is designed to maintain: (1) active forces sufficient to meet peacetime commitments; (2) reserve forces trained, equipped, and ready to augment the active force when needed; and (3) an affordable force mix. The Director of Naval Reserve participates in the force review process. The Navy has also designated a Total Force Advocate, a flag-level officer on the staff of the Chief of Naval Operations who has responsibility for keeping naval forces in balance and for providing policy guidance and oversight for the integration of the active and reserve components.

Marine Corps. The Marine Corps force structure, unlike that of the other services, is established by law. Title 10 of the U.S. Code, paragraph 5063, stipulates that the Marine Corps shall have not less than three divisions and three air wings, but it does not prescribe the number or composition of Marine forces. As with the other services, decisions on the structure and active/reserve mix of the Marine Corps are made in accordance with guidance provided by the Secretary of Defense. The Marine Corps focuses its active force on low- to mid-intensity conflicts, with a capacity to make any initial commitment of force in a transition to general war. The Marine Corps Total Force is designed to be capable of responding at any level of conflict, with reserve forces providing capabilities and depth for sustained conventional combat. Force-mix decisions are also consistent with the Marine Corps Total Force Policy. This policy states that the general criteria for determining whether capabilities should be placed in the active component or the reserves are: peacetime commitments and forward-deployments, responsiveness (reserve availability), reserve accessions, rotation base requirements, and cost. In general, unless there is a partial or full mobilization, peacetime forward-deployment demands must be met by active forces.

The number and types of units in the active force are monitored for cost and effectiveness in a peacetime environment. Capabilities not immediately needed for low- to mid-intensity expeditionary operations (including some general support artillery and bulk fuel companies) may be placed in the Marine Corps Reserve. Manpower requirements are examined biennially in conjunction with the PPBS process. Force structure and mission-area analyses are conducted by the Marine Corps Combat and Development Command and documented in approved Master Plans. These plans incorporate a Total Force approach to force structure and manpower specifications. The costs and merits of each proposal are briefed to committees of the senior leadership of the Marine Corps. Ultimately, the approved proposals are submitted to the Office of the Secretary of the Defense as part of the Navy POM.

Air Force. The Air Force develops its programs on the basis of top-down guidance. National military objectives established by the President, the Defense Planning Guidance, the DoD Total Force Policy, and fiscal constraints provide the framework for force development.

In constructing the Air Force POM, the primary objective is to provide aerospace forces to sustain deterrence, provide power projection, supply rapid global mobility, and provide control of both air and space. The major air commands, the Air Force Reserve, and the Air National Guard participate with the Air Staff in the process of developing the POM. The process requires tradeoffs between force structure composition and size on the one hand, and procurement needs and research and development initiatives on the other, all within the bounds of the fiscal constraints provided by OSD. When force structure/force mix issues are discussed, criteria developed jointly by the active and reserve components and approved by the Secretary of the Air Force are used. Their purpose is to provide a framework for use during force structure deliberations and development of supporting rationale for decisions. The criteria are used to provide the most cost-effective force to meet stated warfighting levels. Key considerations include availability, supportability, and mission capabilities. Force structure/force mix options are then forwarded to the Chief of Staff and the Secretary of the Air Force for final approval.

Coast Guard. The Coast Guard, as an agency of the Department of Transportation, approaches force development differently than do the military departments within DoD. The Coast Guard's size and composition is based on statutory missions and the capability needed to accomplish them. Decisions on force structure and force mix are based on Congressional funding actions, which are driven by peacetime missions. The Coast Guard's wartime activities are extensions of peacetime authorities and responsibilities.

The Relative Costs of Active and Reserve Forces

The cost-estimation methodologies used to support Total Force Policy decisions consider the cost implications of alternative sizes and mixes of active and reserve component forces. The methodologies incorporate a broad perspective of defense program costs that includes the direct and indirect costs of owning, operating, and supporting forces and recognizes both short- and long-term effects on defense spending. Even though improved methods and data sources are continually being developed, the costing methodologies in use today provide sufficiently accurate information to assess the costs associated with different force sizes and mixes. (For more information on the costs of active and reserve forces, see the Supplement.)

When force structure is changed, the effects on military pay and on the unit operating costs of primary force elements (e.g., divisions, regiments, wings, naval combatants) are usually felt immediately. Changes in force size and composition can also incur significant one-time costs during the transition to the new structure. Moreover, changes in primary force elements can have secondary effects on units and programs that provide direct support to the primary forces. These changes also have impacts on the defense infrastructure, and they affect spending to replace the inventory of defense systems. One result of such adjustments is that the cost of reserve forces goes well beyond the total of the reserve accounts (because system procurement and infrastructure support provided by the active components are not included). Each of these types of potential cost impacts are considered in Total Force Policy deliberations. While it is important to include all relevant costs, it is also important to exclude costs that are not associated with force size or mix. National command and control; foreign intelligence; research, development, test, and evaluation; science and technology; space; and foreign assistance expenditures are not normally considered in estimating the cost of force structure changes.

Table 4 illustrates the importance of considering more than just the pay and operating costs of force structure alternatives. In the 1980s, personnel and operating costs of mission programs accounted for about 25 percent of the budgets of the military departments. Force cost estimates that consider only these expenditures understate the total, long-term cost effects of changes in the size of the Total Force. Investment programs, which provide primarily for the replacement and modernization of military equipment, made up nearly 30 percent of the defense budget in the 1980s. The amount of equipment purchased over the long term is generally related to the size of the Total Force. Exceptions occur where procurement decisions are driven only by the size of the active component. Cost-estimating methodologies must consider the impact of changes in force size on investment decisions. Infrastructure costs accounted for 35 percent of defense spending during the past decade, and the variable portion of these costs is considered in Total Force costing.

Table 4
Composition of Defense Spending in the 1980s
(In percents)

	<u>Pay and Operating Costs</u>	<u>Investment</u>	<u>Infrastructure</u>	<u>Programs Not Related to Force Size or Mix</u>
Army	27	21	44	8
Navy/Marine Corps	26	35	30	9
Air Force	17	29	32	22
All Military Services	23	29	35	13

Because of the variety of cost relationships associated with defense funding, we consider four types of cost-estimating methodologies: direct unit costs, direct support costs, infrastructure costs, and transition costs.

Direct Unit Costs. Force structure decisions generally focus on primary mission elements, such as divisions and battalions, wings and squadrons, and naval combatants. For this reason, Total Force costing begins with the estimation of the costs directly related to those elements. These expenses, referred to as direct unit costs, include the compensation (e.g., pay, allowances, and retirement benefits) of unit personnel, the day-to-day operating costs (e.g., fuel, parts, travel) of units, and the long-term recurring investments required to periodically replace unit equipment and keep it up to date. Direct unit costing is driven by manning, equipping, and operating levels, all of which can explain the major variations in direct unit costs between active and reserve units. These costs also provide a basis for estimating the direct funding impacts of different force sizes.

Unit manpower and operating costs affect the defense budget within one to two years of the time a force structure change is made. Equipment-related cost impacts are not as closely linked in time, but they have a major long-term effect on defense spending. These costs are relevant in decisions related to the affordability of forces of different sizes. This report includes these costs in its consideration of Total Force Policy decisions with the clear understanding that the full impact of equipment-related costs on defense budgets may not be felt in the near term.

Comparisons of active and reserve unit costs recognize that costs are largely determined by a unit's manning, peacetime operating tempo, and equipment. These three factors also are fundamental determinants of unit

readiness and capability, and they provide an important link between cost and capability in Total Force cost-benefit analyses.

Several studies over the past fifteen years have examined the relative unit costs of active and reserve component forces. The Study Group has reexamined the content and conclusions of these studies and added some new evaluations. The most recent results are very similar to those obtained in the past. In almost all cases, reserve units have lower short-term and long-term costs of ownership than do similar active units. Exceptions may occur when reserve component units perform peacetime missions that require high full-time manning and operating tempos.

In many instances, differences in unit costs are accompanied by differences in how soon units would be fully prepared to execute their assigned missions in actual combat situations. Since not all units are required to deploy and fight immediately, the force contains units of high, moderate, and relatively low readiness. The ability to preserve readiness at lower levels of training varies by unit type, and requires a case-by-case evaluation of cost differences relative to risks. In some instances, reserve units can achieve high levels of readiness with relatively low operating tempos because of the higher experience level of their personnel. This, of course, depends on adequate numbers of skilled personnel joining the reserves upon leaving active duty. If changes in the force mix reduce the flow of experienced personnel, reserve components (particularly those requiring highly skilled personnel, such as pilots) may not be able to maintain adequate readiness levels without increases in peacetime training.

The costs of owning and operating forces vary greatly, and depend on the types of units considered. Table 5 summarizes the results of our most recent analyses. The table breaks out cost data into its major components. Personnel costs (column 4) and operating costs (column 5) make up annual recurring unit direct operating and support (O&S) costs (column 6). Equipment-related costs (column 7) are an annualized average of the long-term replacement and other "capital" costs. The total average annual costs of owning and operating the various types of units are shown in the last column of the table. Below each entry for a reserve component unit is the ratio of the reserve cost to the cost of a similarly manned and equipped active unit.

Several lessons can be drawn from the figures in Table 5. First, the cost differences between active and reserve component units vary widely across different types of units. Second, reserve units are generally less costly than active units, but cost differences depend on which categories of costs are included--personnel costs usually show the largest differences between reserve and active component units. Third, cost differences can be a function of policy and operational considerations that are subject to change. Thus, certain reserve units with intensive peacetime missions that require higher operating tempos can be as costly to operate as comparable active units. The increased

Table 5
Summary of Direct Unit Cost Comparisons
(FY 1992 dollars in millions)

<u>Service</u>	<u>Unit Type</u>	<u>Comp</u>	<u>Pers</u>	<u>Op</u>	<u>Unit Recurring Per Yr</u>	<u>Equip Avg/Yr</u>	<u>Long Term Avg/Yr</u>
Army	Armored Division (C1/ALO1)	Active	617	18%	801	175	976
		ARNG	145	66	211	175	386
			(24%)	(36%)	(26%)	(100%)	(40%)
Army	Light Infantry Division (C1/ALO1)	Active	371	29	400	31	431
		ARNG	92	11	103	31	134
			(25%)	(38%)	(26%)	(100%)	(31%)
Army	Non-Division Combat Increment Supporting a LtInfDiv (C1/ALO1)	USAR	83	8	91	31	122
			(22%)	(28%)	(23%)	(100%)	(28%)
		Active	197	15	212	13	225
Army	Tactical Support Increment Supporting a LtInfDiv	ARNG	66	6	72	10	82
			(25%)	(35%)	(25%)	(100%)	(28%)
		USAR	60	5	65	10	75
Navy	FFG-7 (65% full-time manning)	Active	6.8	5.4	12.2	12.4	24.6
		USNR	6.4	4.1	10.5	12.4	22.9
			(84%)	(76%)	(86%)	(100%)	(93%)
Navy	F-14 Squadron (4018 flrs) (12 aircraft) (2203 flrs)	Active	9.1	10.7	19.8	40.0	59.8
		USNR	5.4	6.3	11.7	35.3	47.0
			(59%)	(59%)	(59%)	(88%)	(79%)
USMC	Infantry Battalion	Active	24.9	8.9	33.8	.6	34.4
		USMCR	4.5	5.3	9.8	.6	10.4
			(18%)	(60%)	(29%)	(100%)	(30%)
USMC	Tank Battalion	Active	26.4	7.7	34.1	7.2	41.3
		USMCR	5.2	5.7	10.9	7.2	18.1
			(20%)	(74%)	(32%)	(100%)	(44%)
USMC	CH-46 Squadron (4056 flrs) (12 aircraft) (2041 flrs)	Active	6.7	5.4	12.1	14.4	26.5
		USMCR	4.1	2.1	6.2	12.8	19.0
			(61%)	(39%)	(51%)	(89%)	(72%)
USAF	F-16 Squadron (8134 flrs) (24 aircraft) (5064 flrs) (4682 flrs)	Active	20.2	13.8	34.0	30.8	64.8
		ANG	11.1	8.9	20.0	28.8	48.8
			(55%)	(64%)	(59%)	(94%)	(75%)
USAF	KC-135 Squadron (2840 flrs) (10 aircraft) (3500 flrs) (3801 flrs)	USAFR	14.7	8.3	23.0	28.6	51.6
			(73%)	(60%)	(68%)	(93%)	(80%)
		Active	7.4	5.9	13.3	23.0	36.3
USAF	KC-135 Squadron (2840 flrs) (10 aircraft) (3500 flrs) (3801 flrs)	ANG	12.8	8.0	20.8	23.4	44.2
			(173%)	(136%)	(156%)	(102%)	(122%)
		USAFR	11.5	7.3	18.8	23.3	42.1
USAF	KC-135 Squadron (2840 flrs) (10 aircraft) (3500 flrs) (3801 flrs)		(155%)	(124%)	(141%)	(101%)	(116%)

costs of such reserve units can be attributed to such factors as the relatively greater number of flying hours, and the loss of efficiencies (e.g., tanker-bomber collocation) that lower maintenance, manpower, and staff costs.

The USAF KC-135 unit comparisons shown in Table 5 illustrate these points. In the active force, tanker squadrons normally are supported at the same facility as bomber squadrons. Unit collocation permits efficiencies in unit staff sizes, maintenance manning, and aircraft security personnel in active units that are not achieved in reserve units. Tanker squadrons in reserve components also require more crews per aircraft to meet alert line commitments (two alert lines were used for each unit). The greater number of primary crews and the additional flying required to maintain the qualifications of the larger reserve unit staffs cause the reserve units to fly more total hours (and accomplish more refueling) than similarly equipped active units. In instances where operating tempos and manning are similar between active and reserve units, lower reserve infrastructure support costs could offset some of the higher costs. Moreover, some higher costs of reserve component units could be eliminated if the reserve units were not required to maintain an alert status similar to active units.

Major differences in the direct unit costs of active and reserve component units are directly traceable to differences in manning and operating tempos. Reserve units almost always have lower personnel costs, primarily because total compensation in these units is less than in active units. The manpower cost savings can exceed 80 percent, depending on how many full-time personnel (active-duty service members assigned to reserve units, full-time reservists, civilian technicians) a reserve unit must have to perform its mission. Savings in unit operating costs (e.g., fuel, spares, etc.) can also reach 80 percent, but savings of this magnitude only occur in personnel-intensive support units. Operating rates and the amount of full-time manning are related and are unique to the type of unit involved. When reserve component units have intensive peacetime missions, as in the case of KC-135 squadrons that are maintained in alert status, both personnel and operating costs can be higher than they are in the active component. Equipment costs are generally the same for similarly equipped units, whether they are in the active force or the reserves. However, some long-term differences can arise, owing to the lower peacetime attrition rates in units with lower peacetime operating tempos.

Direct Support Costs. Changes in the size of primary force elements can have secondary effects on programs and units that provide direct support to the primary forces. Examples of these kinds of programs are the specialized training that qualifies service members in the operation of weapon systems; funding for large-scale joint exercises; procurement of war reserve materiel; mission-unique command, control, and intelligence programs; and some theater-wide support activities. Even though total funding for these programs and units is relatively small compared with the total size of the service budgets, impacts on these programs are considered as part of the overall cost-estimation

process. These costs must be examined on a program-by-program basis because their relationship to the Total Force is highly scenario dependent. Often, direct support programs and forces are not linked on a one-for-one basis with primary force elements. Hence, the cost impacts on these programs can be assessed only in the context of the overall change to primary force elements.

Infrastructure Costs. In addition to estimating cost impacts of policy decisions on units and direct support programs, force costing also estimates the effects that force structure changes have on infrastructure funding. Infrastructure programs include activities and services that provide installation support, central logistics, central training, force management and administration, central medical programs, central communications programs, and central personnel programs. Infrastructure cost impacts are important because nearly one-third of the budgets of the military services goes to provide these base-level and centrally managed services to the Total Force.

Active and reserve component units jointly receive essential support from central training, logistics, and other programs that are funded by the active component. Estimates of the cost impacts of force structure changes on infrastructure recognize that reserve components do not fund all of their indirect support. When units are transferred from the active to the reserve component, the impact on joint infrastructure programs is less than would be the case if the units were removed from the force structure altogether. The methods used to estimate infrastructure effects also recognize that there are differences in the kinds of infrastructure support provided to active and reserve units. Reservists do not use family housing, do not have the same medical benefits or access to commissaries as the active force, and do not change assignments like their active-duty counterparts. Each component also funds support functions that benefit only that component. To account for the different ways that infrastructure activities are funded, cost impacts for dedicated active and reserve support functions are considered separately from the joint support activities that are centrally funded. The total effect of a force change on a service's infrastructure is the sum of the component-unique and joint support impacts.

Estimating the relationship between infrastructure costs and the size of the force is not a precise calculus. Infrastructure costs, by their very nature, must be allocated to primary mission units. This process involves some subjectivity. Estimation of infrastructure costs is further complicated when implementation details for prospective force changes are not available. In these conditions, one reasonable approach is to estimate changes in infrastructure costs on the basis of changes in direct unit operating and support costs. (Historically, funding for infrastructure programs has followed O&S funding trends for primary mission forces.)

As details are developed during subsequent phases of the PPBS process, or when a policy alternative being evaluated has sufficiently specific data to

provide more insight into infrastructure impacts, the more specific infrastructure relationships are used in place of aggregate methodologies. Estimates of infrastructure impacts based on factors for specific indirect support activities are preferable to a "macro" approach. Currently, factors for specific infrastructure costs are not available for all types of indirect support in all services. Additional work to improve infrastructure costing is under way within the Department.

Each service differs in its degree of centralized and decentralized support. The methodologies used to estimate infrastructure costs allow for variations in the ways the services provide support to their primary force elements. The Department also recognizes in its programming and budgeting activities that infrastructure costs are only partly variable with the size of the force. As in private industry, there are fixed costs in maintaining the defense establishment. Because Total Force alternatives potentially cover such a broad spectrum of possible scenarios, we use a conservative but reasonable assumption that infrastructure costs are 50 percent fixed and 50 percent variable when using "macro" estimating relationships. (Detailed evaluations and specific funding decisions concerning infrastructure changes are made during the budgeting phase of the PPBS, when detailed implementation data are available.)

Over the past decade, infrastructure costs have been 15 percent higher for active components than for similar types of reserve support, when measured as a fraction of the cost to staff and operate primary mission units. On average throughout the Department, active component infrastructure costs have been estimated to change \$0.65 per \$1.00 change in the O&S costs of active primary mission units. The comparable average for reserve components has been \$0.57 per \$1.00 of reserve unit O&S. (These factors vary somewhat among the services; see the Supplement for more detail.) Even though the total active and reserve component infrastructure costs per dollar of primary mission O&S are fairly close, the Department of Defense often incurs lower total infrastructure costs to support reserve forces than to support similar active units because O&S costs can be substantially lower for reserve component units.

Because of the relatively high cost of aviation training and the fact that this cost is only relevant to decisions involving flying units, special treatment is given to flight training in infrastructure estimates. Examination of one scenario (see the supplemental volume) shows that, on average, converting one Air Force active F-16 squadron to an Air National Guard unit would save \$3.2 million annually in pilot training costs, in addition to the savings associated with direct unit cost reductions and other infrastructure changes. These results, while valid for small changes in force mix, cannot necessarily be extended to larger changes. The assumption that there are enough pilots separating from active units to fill vacancies in reserve component units is critical to this comparison. Increasing the proportion of aviation forces in the

reserves past a critical point will require that more pilots and crews be trained directly for reserve units and may require an increase in reserve unit flying time to provide appropriately experienced crews.

Transition Costs. As a final step in estimating the costs of any significant force change, the one-time costs that arise in implementing changes in force structure need to be identified and estimated. The costs of unit activations, inactivations, and transfers between active and reserve forces can run into the hundreds of millions of dollars, overshadowing the recurring savings. Transition costs fall into three general categories: personnel costs, facility costs, and equipment costs. Force changes can create requirements to recruit and train members of new units, to move more personnel than would normally rotate between assignments, or to compensate personnel who are involuntarily separated. Force changes may or may not affect facilities. Where facility realignments are involved, environmental studies and cleanup programs may be needed. Depending on the nature of the force change, new facilities may be required and there could be one-time costs associated with closing defense installations. Equipment sometimes needs preparation, storage, movement, decommissioning, or disposal. When active units are inactivated and reserve units activated, there may be a need for additional support equipment, especially if multiple reserve units replace one large active unit. If equipment, facilities, or properties that have resale value to the U.S. government are being abandoned, this is considered in the calculation of transition costs.

Some examples of the size of specific transition costs may be instructive. Converting an active Army armor division could require upgrading equipment to meet transfer standards, at an estimated cost of \$36 million. The cost of transporting the personnel and equipment of the division from Europe to CONUS would be approximately \$45 million. Facilities and personnel-related costs would be additive to those expenditures. Converting an Air Force fighter wing based in Europe to a CONUS reserve unit could incur \$16 million to \$25 million in personnel relocation costs. The cost of decommissioning a Navy attack submarine is estimated to run as high as \$30 million. Mothballing a battleship costs at least \$40 million. The formation of a new Marine Corps reserve infantry battalion could require spending \$25 million for interim facilities, construction of permanent armories, recruiting, and initial training.

There are no general techniques, other than ensuring that the full spectrum of potential costs are examined, for estimating transition costs. Each situation is assessed individually to determine the specific effects a force change will have on funding for personnel, facilities, and equipment.

Cost estimation in support of Total Force Policy decisionmaking is complex. The methods and supporting data currently used to estimate the direct unit costs of primary force elements are adequate in most cases for evaluating the cost differences between alternative force sizes and mixes. Infrastructure costing is not as complete as it could be, but progress is being

made. Despite these problems and limitations, the Department is able to make sufficiently accurate cost estimates to support Total Force Policy decisions. The Department fully recognizes the need to continually improve the methodologies and data bases that support force costing and is sponsoring several efforts to improve these tools.

The Study Group's review of the relative costs of active and reserve component units reaffirms its understanding that trade-offs between capabilities and costs vary dramatically for different types of units. Reserve units generally cost less to operate, but in a certain few cases they can be as expensive as active forces when assigned very intensive peacetime missions. Opportunities for cost savings are greatest in the area of unit O&S costs, where savings can run as high as 80 percent. This level of savings applies to only a quarter of defense spending, however; in other areas, savings are not proportionately as large. Large savings can be achieved only when training rates and full-time manning are substantially reduced. Such reductions may be accompanied by reduced capability or readiness, but this varies considerably by type of unit. The potential savings associated with direct support programs (e.g., aircrew transition training) can also affect comparisons of active and reserve units. Because reserve units generally have lower operating tempos and do not benefit from all forms of indirect support provided to active units, infrastructure savings can be nearly as large as unit O&S savings. Finally, elimination of forces or conversion of forces between the active and reserve components typically incurs substantial one-time transition costs that may significantly affect total savings.

In the final analysis, good cost estimates for Total Force policymaking cannot be based on simple rules of thumb. They require a thorough examination of many categories of costs, sensitivity to the types of units affected, and where applicable, realization that large-scale changes in force size or mix can affect historical cost relationships.

Maintaining Early Response Capabilities

The United States must maintain the capability to respond to a wide range of contingencies that require the use of military force. The increased reliance that has been placed on the reserve components in recent years has raised the inevitable question of the proper role of each of the reserve components in crisis situations that require an early response.

Some observers believe that in view of the recent geopolitical developments, reserve forces should generally be limited to reinforcing and sustaining roles in which they would serve only to supplement active forces during protracted contingencies or a general mobilization and subsequent to some initial period of conflict. Such a concept assumes a need to place all rapidly deployable contingency forces in the active component and to generally assign late-deployment responsibilities to reserve units. Others, including

reserve component commanders, argue that many reserve units are fully capable of deploying with active forces in "quick reaction" contingencies. They further contend that reserve units must maintain quick-response capabilities (or at least high states of readiness), or risk becoming a second-class force as highly motivated reservists leave the All-Volunteer Force because of the absence of intense, stimulating training.

In addressing this issue, it is important to avoid broad generalizations about reserve forces and to focus on specific missions. Many National Guard and federal reserve units (with a mix of part-time and full-time personnel) are highly ready and capable of responding rapidly to orders to active duty. Flying units in the Air Reserve Components are obvious examples. In this sense, they are much more than forces held in "reserve." Other reserve units, especially brigade- or division-size ground units, are much more likely to need some post call-up training before deployment.

Reserve Availability. As indicated in Section I, the President has authority under Title 10, U.S. Code, Section 673b to order Selected Reservists to active duty for two successive periods of 90 days whenever they are needed to augment active forces for "operational missions." (This authority was recently expanded to two consecutive periods of 180 days for Desert Shield combat units for FY 1991 only.) The Presidential call-up authority can be used independent of a partial or full mobilization. It is limited, however, to the activation of Selected Reserve units or individual reservists designated as Individual Mobilization Augmentees. The Section 673b call-up authority was invoked for the first time in Operation Desert Shield.

Except for Desert Shield and the other operations described in Section I, U.S. presidents have relied on voluntary participation to secure the reserve capabilities needed to augment the active force in contingency operations. For example, reserve volunteers were used to support Operation Urgent Fury in Grenada in 1983 and Operation Just Cause in Panama in 1989. While the degree and duration of voluntary participation has varied by service and mission, enough reservists generally have volunteered for past operations to meet the active force's augmentation needs in specific mission areas.

While volunteers offer maximum flexibility, cost effectiveness, and responsiveness for the capability attained, concerns remain. First, there will always be some uncertainty regarding the amount and duration of voluntary participation for each crisis. Second, there is often a loss of integral team/unit capability when larger units (e.g., ships, companies) do not volunteer together. Third, and despite statutory reemployment protection for reservists, the reaction of employers during any call-up or crisis cannot be taken for granted, especially the reaction of employers of reservists who volunteer. Finally, a degree of uncertainty regarding benefits (specifically, medical and death gratuities) remains for situations which involve reservists serving on a voluntary basis.

It is difficult to maintain forces for long periods using volunteers, but the Air Reserve Component personnel who have participated on a voluntary basis in Operation Desert Shield have demonstrated that, with crew rotation, augmentation can be sustained for several months. While there is reluctance to plan for voluntary augmentation, experience has demonstrated that certain minimum levels of voluntary support have always been available, albeit for limited periods of time. Involuntary augmentation by the reserve forces can, however, be integrated into the contingency planning process.

For small-scale operations, such as those in Grenada and Panama, sufficient numbers of reserve personnel volunteered for duty. In both instances, relatively small numbers of reservists were needed--primarily pilots and crews for transport aircraft and aerial-refueling aircraft, military police, psychological operations forces, and civil affairs personnel. For larger deployments, such as Operation Desert Shield, Presidential call-ups are almost certainly needed to ensure that adequate numbers of reservists, with the appropriate mix of skills, are available to augment the active force. While reservists employed on short notice perform quite well in missions that emphasize individual skills, greater training is needed where unit cohesiveness or integration of unit capabilities is important.

If it is assumed that the Section 673b call-up authority will be used to meet deployment requirements in major contingencies, it is much easier to make reductions in the size of the active force. On the other hand, excessive or unwise reductions in the active force could leave the President with few options except an involuntary call-up of reservists for even the most minor contingencies.

Current Reliance on Early-Deploying Reserve Forces. As they are structured today, the armed forces rely to widely varying degrees on their reserve components for the performance of missions that require early deployment.

The Army requires substantial reserve augmentation for all major contingency operations. Since the late 1960s, Army force planners typically have assumed that one-half of the nondivisional elements (i.e., combat, combat support, and combat service support units) that normally support an Army division, or about 12,500 to 15,000 personnel, would be needed to sustain that division during the first 60 days of a deployment. Accordingly, in 1968 the Secretary of Defense directed that at least 50 percent of each division's nondivisional support elements should be able to deploy immediately with the division. Deployment of the remaining nondivisional support would have to be completed within 60 days of the division's closure. Thus, the Army has placed about one half of the support elements for its nondeployed active forces in its reserve components. Because these units need not be ready to deploy until lift is available for them, the additional time required to refresh their skills does not reduce their value to the active units. For divisions with roundout units,

an even higher percentage of support is in the reserve components, while for reserve units themselves, essentially all of their support is in the reserve component. While this arrangement has reduced peacetime costs, it substantially constrains the Army's ability to conduct major operations in the absence of a reserve call-up.

As currently structured, the Army requires reserve support if four or more divisions are to be deployed for 60 days or more, or if more than two divisions are deployed for an indefinite period. (As of January 15, 1991, seven Army divisions will be in Saudi Arabia.) In addition, the Army maintains some types of units exclusively in its reserve components. These include heavy helicopter units and TOW light antitank infantry battalions.

The desire to have a major share of the Army's nondivisional support forces for a contingency available for immediate deployment argues for keeping at least some of these units in the active component. On the other hand, some reserve units could deploy with the active force if the decision to use them was made in a timely fashion. Proponents of the use of reserves point out that any military operation large enough to require more than 60 days of support would likely involve mobilization or require use of the Presidential call-up authority.

The Air Force has relied with success upon voluntary participation by its reservists to meet the bulk of strategic and tactical airlift and air-refueling surge requirements for major, short-warning crises. Some 55 percent of the crews that operate strategic airlift aircraft are in the Air Force Reserve or Air National Guard. Almost 60 percent of tactical airlift capability, 57 percent of aerial port units, 67 percent of aeromedical evacuation units, and 46 percent of tactical reconnaissance assets are also in the Air Force reserve components.

Like the Army and Air Force, the Navy maintains certain types of units and capability exclusively in its reserve component. Examples include combat search-and-rescue squadrons and U.S.-based logistic airlift squadrons. Naval Reserve units and individual reservists have also assumed important responsibilities in sealift operations. Naval control of shipping efforts and early support of the Military Sealift Command have been important in recent years. Slightly more than 90 percent of the Navy's cargo-handling battalions are also in the Naval Reserve.

With limited exceptions, however, the Navy and Marine Corps do not plan to use reservists for short-term contingency operations. When minesweeping capability was required in the Persian Gulf in 1987, no recommendation was made to call up the Naval Reserve crews assigned to the minesweepers, despite the fact that nearly all of the vessels were maintained in the Naval Reserve. Instead, a combination of active-duty sailors and reserve volunteers manned the ships. In all, 305 Naval Reservists volunteered for duty. Since that time, the distribution of naval minesweeper forces has been

readjusted so that a portion of the ships are now maintained in the active component.

In its *Report on the Navy's Total Force FY90*, the Navy concluded that the biggest obstacle that must be overcome in using Naval Reserve assets to support contingencies short of full mobilization is what it described as the "limited availability of Selected Reserve personnel" and "reluctance to initiate a reserve call-up." The success to date of the reserve call-up in Operation Desert Shield has, perhaps, removed this perception.

The Marine Corps keeps a larger share of its forces in the active component than do the other services. Although 40 percent of tank battalions, 33 percent of artillery batteries, and 50 percent of force reconnaissance capability is maintained in the Marine Corps Reserve, the Marine force structure is designed to enable two Marine Expeditionary Forces to be formed entirely from the active component. Deployment of a larger force requires significant augmentation by reservists. In addition, the Marines require support from either the Navy or the Army for extended combat operations.

The Coast Guard relies upon its reservists for almost all contingency operations. The Coast Guard uses reservists in all of its missions, but none of the missions are assigned exclusively to the reserves. Most Coast Guard reservists augment the active force in a manner similar to Individual Mobilization Augmentees. Coast Guard involvement in Desert Shield has involved activation of deployable Port Security Units and CONUS port security personnel, and use of many reservists on voluntary recall.

Reserve Readiness. While it is appropriate to monitor the readiness and capability of early-deploying active and reserve forces, it is important to note that readiness neither is--nor should be--consistent for all units. Not all active or reserve units need to maintain a capability for immediate deployment. The range of warning times we now anticipate--short amounts for contingencies of moderate size and much greater amounts for large-scale conflicts--suggests the wisdom of exploring the possible expansion of the concept of differing levels of readiness.

Readiness is a function not only of resource and training levels, but also of various intangible factors, such as motivation, leadership, and experience. Generally, reserve personnel perform well on an individual level, even when the skills required are technical and complex. Individuals who previously served in the active force enter the reserve components with a base of knowledge and military skills. Reserve training programs need only keep those skills current. Examples of reservists who fall into this category are pilots who enter the reserve components with significant amounts of active-duty flying time, and specialists in artillery fire direction.

Even with lower operating tempos, reservists can maintain high levels of readiness if their military jobs require the same or similar skills as their civilian occupations. Commercial airline pilots who fly transport aircraft for the reserve components, for example, use many of the same skills in military missions as they do in their civilian professions. Similarly, engineers, medical personnel, and linguists bring to their military assignments skills that they use daily in their civilian jobs.

Development of unit skills, particularly in large units, is more difficult in the face of limited training time. Large units need to train together, so that commanders and staffs develop the coordination skills essential for effective mission performance.

An additional issue arising from Operation Desert Shield concerns the use of members of the Individual Ready Reserve (IRR). These individuals have skills that are not always present in the active force or the Selected Reserve. Access to the IRR could become critical if, in a crisis, there was inadequate time to recruit and train personnel to a fully qualified level. Utilizing specialized skills which may be available in the IRR would enable the force to be brought to wartime readiness levels much faster than would a total reconstitution of forces. Currently, members of the IRR are not available unless they volunteer or a partial or full mobilization is called.

The IRR and military retirees are generally considered to be "less ready" than the Selected Reserve, where needed skills are maintained through monthly drills and two-week annual tours. While IRR and retiree skills are perishable, and proficiency levels vary a great deal both among and within services, acceptable skill levels generally are retained for three to five years after a member leaves active duty or the Selected Reserve. Appropriate levels of requalification training would need to be planned for these categories of reserve component personnel, and a decision would have to be made as to how they would be assimilated upon recall.

Medical Forces

The Military Health Services System (MHSS) has two distinct missions. The primary mission is the provision of medical care for the armed forces in wartime. The secondary mission is to provide peacetime health benefits to other authorized beneficiaries, including active and retired military personnel, military dependents, and reserve personnel.

In recent years, increasing effort within the Department of Defense has been concentrated on the development of a medical force that is capable of meeting the wartime mission. At the same time, the Department has been faced with the reality of the spiralling costs of peacetime medical care. Peacetime health services have a direct effect on the readiness of warfighting forces. They also represent a form of compensation, influence the quality of life

of all beneficiaries, and are part of a commitment made by the Department of Defense to "take care of its own." The numbers and kinds of medical personnel required in total, and on active duty, are determined by a combination of anticipated wartime needs and the structure of the peacetime health care system.

As the Department seeks to continue the improvement of its capability to meet wartime requirements, the rapidly changing nature and scope of the conflicts for which the armed forces must be prepared, and the severity of budgetary constraints, pose a major challenge. Because of the recent and dramatic geopolitical changes in the world, the determination of wartime medical requirements is necessarily in a state of flux. Wartime medical requirements are based on assumptions about the casualty flows that would result from the types of armed conflicts in which the nation might be engaged in the future. The casualty flows are, in turn, determined by assumptions about the magnitude and lethality of combat in each of the conflicts.

Wartime medical readiness is critical to the ability of combat commanders to sustain their forces. The credibility of combat forces without medical capability is suspect. A wartime theater of operations is divided into two zones. The combat zone (CBTZ) is the land, sea, and airspace required to conduct combat operations. To its rear is the communications zone (COMMZ)--the land, sea, and airspace required to support the combat zone. The borders of these zones are frequently ill-defined.

The theater health services support system represents a continuum of care, beginning in an area of conflict and ending in the CONUS base. It is organized into four levels, or echelons, of care that extend rearward throughout the theater. Each echelon reflects an increase of medical capability and plays a vital part in the progressive treatment, hospitalization, evacuation, and disposition of the sick, injured, and wounded. Because the four military services have different wartime missions, their theater health services support systems vary accordingly. Yet, while differences exist, the application concept and objectives of each of the service systems are compatible, consistent, and designed to sustain supported forces at risk.

The theater health services system is also the single greatest source of trained combat replacements, especially during the early days of a crisis. Casualties who have been exposed to combat prior to their admission to the health services system, and who are returned to duty following treatment, fare better in subsequent combat. Because inexperienced troops are at greater risk, casualties who can be returned to duty are more effective than new troops.

The military services rely heavily on the reserve components to meet wartime medical manpower needs. Approximately 70 percent of the Department's wartime health care force structure is in the reserve components. Ideally, medical manpower should be placed in the active force structure only

to the extent that it will be needed in wartime before reserve personnel become available, or if it provides cost-effective care in peacetime. Several factors, however, affect the determination of the most appropriate active/reserve mix of medical personnel. The speed of availability in wartime, the need to support a contingency without a call-up of reserve personnel, and the need to provide a CONUS rotation base for deployed forces are some of the more obvious factors.

Other factors also must be considered. The need for medical support in CONUS rises as mobilization takes place and forces are deployed to a theater of operations. The increase is not attributable solely to the need to provide care to patients returning from overseas operations. Health care services must also be provided to forces that are mobilizing in CONUS, to forces that are associated with any expanding training base, and to an increasing beneficiary population as dependents of reserve personnel who are called to active duty become eligible for military medical care. As active-duty medical personnel are deployed to a theater of operations, additional medical forces will be mobilized from the reserve components.

The Department of Defense is currently engaged in the difficult task of simultaneously reducing the structure of U.S. forces and deploying to Saudi Arabia the largest number of deployed forces since the Korean War. This turbulence, along with the complex task of developing a new military strategy to meet constantly changing geopolitical and budgetary realities, will continue to make the determination of the most appropriate active/reserve mix of medical personnel very challenging. Energetic efforts must continue to be made by the Department, however, to constantly reassess expected casualty rates from the most likely conflicts in which the nation might be engaged, the medical manpower needs associated with those rates, and the most cost-effective mix of active and reserve manpower to meet those needs.

Integration of Active and Reserve Components

During the 1980s, the active and reserve components maintained high morale and a sense of mission. These traits may be difficult to sustain in the 1990s, when the threat is changing and less clear and when resource levels for later-deploying units may decline.

Maintenance of the integrity of the Total Force will require a deliberate emphasis on manpower and personnel policies that enhance active and reserve component integration as well as short-run cost-effectiveness. The jobs to which active-duty personnel and reservists are assigned, and the ways in which they interact, influence the relative status, resource levels, and capabilities of active and reserve forces. Use of reserve personnel to support active units (and vice versa) should be targeted to key leadership and management positions. Various methods to foster greater integration between the active and reserve components are being developed for further consideration.

Active-Reserve Rotations. Full-time reserve component personnel could serve in positions of responsibility—including command positions—in active units. Also, increased numbers of active component personnel might, in turn, be assigned to rotations with reserve units.

Hybrid Units. Where consistent with readiness goals, Total Force units might be enhanced by placing increased reliance on "hybrid" units containing a mix of active and reserve personnel. For example, the Army's "roundout" concept might be expanded, but applied to smaller units. Reserve roundout companies/batteries might be established for active battalions; roundout platoons could be established for active force companies. Predesignated individual reservists might even be assigned to round out active units to improve their readiness condition. Where unit skills cannot be maintained at acceptable levels in the reserve component, active personnel could be used in greater numbers to fill critical shortages, as well as to provide training and administrative support. This is an approach that would have to be applied cautiously. The risk in combining active and reserve personnel is that the resulting units would have neither the cost advantage or continuity of experience of purely reserve units, nor the rapid deployment capability of standard active units.

Strengthened Active-Reserve Affiliations. Total Force policies could place greater emphasis on the establishment of relationships between active and reserve units that would operate together in wartime, and affiliations between units that are maintained solely for peacetime training purposes. The potential for strengthening linkages between active units and affiliated reserve units through personnel flows warrants further study. Exchange programs for full-time personnel or, where affiliated units are collocated, enlistment terms that combine an initial period of service with the active unit followed by service with the reserve unit might be considered.

Prior Service. Total Force policies in the 1990s should encourage an increased role for prior-service personnel in the reserve components. In ground units, for example, a more flexible manning policy could allow E-4 or E-5 prior-service personnel to occupy reserve billets that would otherwise be filled by non-prior-service E-3 personnel. The Naval Reserve already does this on a selective basis.

As force size is reduced, the transition of active component members to the reserve component requires attention. Given that those involuntarily separated from the service may be trained and experienced in skills required in the reserve component, and that authority exists for the reserve component to absorb some of their talent, the services need to pursue such a transition program. Given the magnitude of the end-strength reductions in both the active and reserve components, there may be significant competition for the remaining reserve component spaces. Thus, the program represents a significant challenge.

Currently, most individuals who leave active duty with more than eight but less than 20 years of service do not join the reserve component. To increase integration of active and reserve components and make better use of trained manpower, a two-year Ready Reserve obligation (which could be satisfied by either Selected Reserve or IRR participation) could become a standard clause in reenlistment contracts for the active force. A revision of the current reserve retirement system, to encourage individuals to leave the Selected Reserve after 20 years of service, or at ages 50 to 55, might also play a role in opening up greater opportunities for Selected Reserve service for individuals with prior military service.

Concluding Note

The management of the Total Force is complex, and in shaping and sizing the force to meet strategic objectives within budgetary, demographic, and policy constraints, force planners welcome stability. In the current strategic and fiscal environment, turbulence is more likely to be the reality. Section III addresses the changing strategic environment.

SECTION III

THE TOTAL FORCE AND THE CHANGING STRATEGIC ENVIRONMENT

Threat Environment

The focus of U.S. national strategy has shifted over the past year in response to the dramatic changes in the Soviet Union and Eastern Europe. As the Warsaw Pact threat in Central Europe has receded, defense planning has begun to focus on the smaller-scale but demanding types of conflicts in which the United States might be involved. In this changed environment, appropriate responses to regional crises or contingencies that affect U.S. interests should loom increasingly large in the military strategy. Such regional conflicts and crises--often erupting with very little warning--are the most likely future threats. Retention of the ability to react to such threats in the uncertain times ahead will require continued dependence by the United States on strong--though smaller--active and reserve forces. Manning levels and readiness can be reduced in some cases. Forward presence will remain a key element of U.S. strategy, but there can be force reductions, particularly in Europe, consistent with the changing threat and the Conventional Armed Forces in Europe (CFE) Treaty.

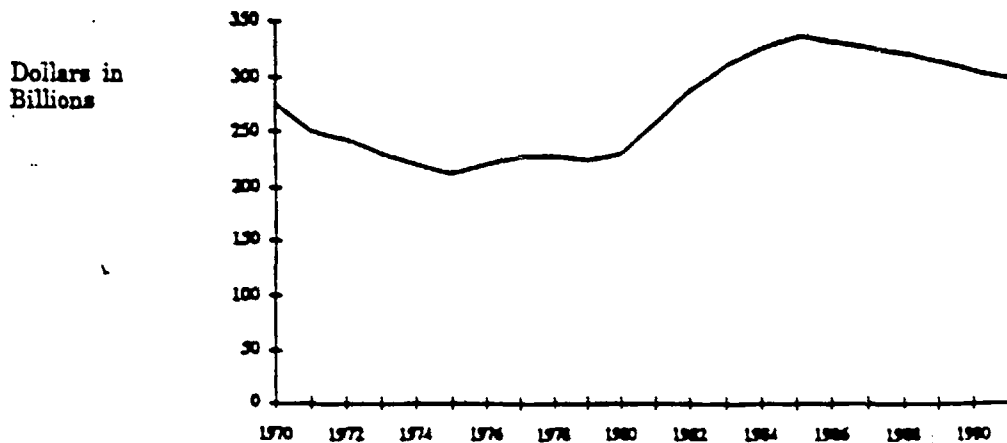
In view of the recent changes in the Soviet Union and Eastern Europe, strategic planners now believe that the Soviet Union would need from one to two years to regain the capability needed to mount a European theater offensive or to engage in a major global conflict. Should the Soviet Union return to a strategy that would increase the threat to U.S. interests in Europe and elsewhere, the United States would have to reconstitute its forces. To retain the ability to reconstitute forces, the United States must preserve, or be prepared to quickly obtain, the long-lead-time elements of the force structure. This includes sophisticated equipment and the invaluable human capital represented by the experience and skills of trained leaders and technicians. Planning for a reconstitution of force structure instead of the permanent retention of that structure would permit the Department to reallocate resources for the long-lead innovations that will guard against future threats.

Resource Environment

The resources available to the Total Force have changed significantly during the past 20 years. The availability or absence of resources continues to have a major impact on Total Force planning and policies. The resource environment includes not only the defense budget, but also the manpower pool available to the Total Force and the equipment and technology that are available.

Defense Budget Trends. As illustrated in Figure 3, the U.S. defense budget has continually declined in real terms over the past five years. As a result of the changed strategic environment, this downward trend is likely to continue over the next five years, although the rate of decline may be greater. Such reductions are likely to result in major changes in DoD programs affecting procurement, manpower, and infrastructure.

Figure 3
Department of Defense Total Obligational Authority, FY 1970-91
(In constant FY 1991 dollars)



Offsetting these trends is an increase in support from countries that host U.S. forces or that otherwise are important to U.S. security interests. Since the 1970s, many of our allies have become increasingly able to support our efforts on their behalf. As the U.S. defense budget decreases, host nation support agreements will become even more important.

Manpower. During the decade of the 1980s, the reserve components grew in relation to the overall level of military manpower. This growth occurred primarily in the Army and the Air Force, although the Navy and Marine Corps transferred some forces to their reserve components. The number of civilians employed directly by DoD or indirectly as contractors also has increased as part of the transition to an all-volunteer military. A primary change since the early 1970s is the growth in reliance on wartime host nation support.

The resources allocated to maintain the All-Volunteer Force have increased in order to keep the armed forces competitive with other careers and to maintain the technical and educational expertise of those making a career in the military. Demographic trends indicate that the number of young people eligible to join the armed forces will decrease over the first part of the next decade but then begin to increase. This factor, plus the impact of Operation Desert Shield, may put additional pressure on manpower budgets and may, in the short run, require more innovative use of other components of the Total

Force-reservists, civilians, contractors, and foreign nationals. In the long run, demographic trends should offset some of these problems.

Strategy

Overview. On September 6, 1990, the Secretary of Defense outlined the basic tenets of the evolving new U.S. military strategy. It involves, as he stated then:

. . . the U.S. commitment to be actively involved in the world. We still depend very much upon forward deployments in Asia and the Pacific, a historic relationship with our friends in Japan and Korea, and the deployment of forces in that part of the world, but at lower levels. It would, obviously, continue to involve significant U.S. deployments in Europe, but again, at significantly lower levels as embodied in the CFE talks and reflective of the fundamental changes under way there as well. Finally, it would involve here at home, in the United States, the development of the kinds of contingency forces that would allow us to back up our strategic capability. So that concept of an Atlantic force and a Pacific force, contingency forces based in the United States, and strategic forces becomes the driver, if you will, of our force structure in the years ahead. And most importantly, in terms of sizing our active force and our reserve forces, would be to maintain those forward deployments and to be able to reinforce in the event of a contingency on a regional basis, keeping in mind the notion that if we ever did have to reconstitute forces to be prepared for global conflict, that we would have adequate warning time to do that.

Conventional Forces for Crisis Response. A variety of factors will affect the size and mix of active and reserve conventional forces that will be required for the Atlantic, Pacific, and contingency forces. Several of those factors were discussed in Section II. In his August 2, 1990, speech in Aspen, Colorado, the President noted that "the United States would be ill-served by forces that represent nothing more than a scaled-back or shrunken-down version of the ones we possess at present. . . . What we need are not merely reductions--but restructuring." Consequently, different--not just smaller--forces will be required. For example, heavy and light ground forces, as well as naval and air forces, will be necessary for deterrence and to provide the flexibility to respond to a variety of types and sizes of crises at various locations. Moreover, when sizable forces are committed to a particular regional contingency, it will still be necessary to retain the ability to deter or counter various other potential regional crises. An overall force that provides the flexibility needed in the Atlantic, Pacific, and contingency forces would also provide such capabilities

for a range of concurrent contingencies of similar or differing types, sizes, and locations.

For the active forces needed to respond immediately to crises, readiness will be the highest priority. Active forces can provide the forward presence, crisis response, and power projection capabilities needed to prevent a potentially major crisis from escalating, or to resolve less demanding conflicts on terms favorable to the United States. Highly ready, instantly deployable crisis-response forces should become relatively more important in the future. The need for forward presence will also require a sufficiently large peacetime rotation base to enable service members to spend adequate time in the United States. Most of the capability that would be required for short-duration, concurrent contingencies should be provided by active forces.

Reserve forces should continue to support and assist the deployment of active forces in regional contingencies, especially larger ones and those of long duration. During extended crises or sustained operations, the reserve components should be capable of providing some combat capability and substantial support capabilities to augment the active force. Their role could include providing a contingency rotation base, to permit recycling of personnel who are deployed for longer-term contingencies or to compensate for forces drawn down from other theaters. Reserve forces should also provide some of the added capability that might be needed to deal with concurrent regional contingencies.

The capabilities of the other elements of the Total Force--civilian DoD and contractor personnel and host nation support--should also be used as appropriate in contingency situations.

Reconstitution of Forces. The increased warning time that the United States could reasonably expect in the event of a return by the Soviet Union to the force levels that existed during the height of the Cold War should allow us to rely not only on existing forces, but to generate new units. The timely generation of such forces would, of course, require early decisions to increase the readiness of reserve units and to generate new units from cadres, the Individual Ready Reserve, and untrained manpower.

The Department should continue to examine ways to retain access to trained personnel who will be exiting the active and reserve components in the coming years. It also will be necessary to retain equipment from units that are disestablished. Cadre units are one way of preserving equipment and the basic structure of a military unit. Some forces could be placed in a cadre status, in which equipment would be retained along with a core of experienced personnel to train new forces, should such units need to be reconstituted. Likewise, the mix of active and reserve naval forces could be modified pursuant to the proposed Innovative Naval Reserve Concept (INRC) force described more fully in Section IV.

Concluding Note

All of the concepts noted above would be prudent management approaches to the adaptation of the Department's investment in personnel and equipment to the changing strategic environment.

SECTION IV

THE EFFECT OF THE EVOLVING MILITARY STRATEGY ON THE TOTAL FORCE

Future Roles for Active and Reserve Forces

As the new military strategy is developed in response to the changing strategic environment, it is not possible to design a force structure or a mix of active and reserve forces that is optimized for all circumstances and all potential conflicts, many of which may not be predictable. The choice of a force structure necessarily involves an attempt to balance the need for forces that can meet predictable national security needs against available resources and acceptable risks.

The force structure described in this section is consistent with the changing strategic environment discussed in Section III, and is illustrative of the kind of force structure that can be achieved within current budgetary constraints. The forces it would provide could carry out the full range of defense missions.

Despite the strategic changes described in Section III, it is clear that the United States must continue to maintain a strong strategic deterrent to counter the nuclear challenge posed by the Soviet Union. Currently, the majority of U.S. strategic deterrent forces are in the active component, although reserve component forces provide support in a number of areas. Units from both the Air Force Reserve and the Air National Guard, for example, provide aerial-refueling support for strategic bombers, while the Air National Guard has major responsibility for the continental air defense mission. Naval Reserve units provide support for ballistic missile submarines, and other units provide command, control, communications, and intelligence support.

The bulk of the support functions for the strategic deterrent forces are assigned to the active force for several reasons. First, land-based strategic weapons tend to be deployed in remote locations, well away from population centers. Such deployment patterns enhance security and protect the general population from nuclear strikes or accidents. Second, notification and recall procedures for reservists are incompatible with the readiness and security requirements of some strategic forces. Finally, for intercontinental ballistic missiles (ICBMs), the relatively junior crew manning requirement leads to lower personnel costs than would be the case if crews were drawn from the generally more senior (and hence more expensive) reserve population. (ICBM crews are composed largely of O-1s to O-3s, while the reserve component has a higher concentration of O-3 to O-6 officer personnel.)

Reserve personnel have, on the other hand, demonstrated the capability to participate in strategic operations in the Army Nike program and the Air Force air defense program. Reserve personnel constitute an older, mature force with continuity that is appropriate for use in some parts of the strategic force.

Conventional forces must be sufficient to retain a U.S. position of world leadership and to prevent potential foes from doubting the credibility of our commitments. While smaller than today's force, the illustrative force described in this section could be expanded should the favorable trends in today's strategic environment reverse.

As the focus of defense planning shifts from a global war scenario to various types of regional contingencies, U.S. force needs change as well. The large standing force that the nation maintained in the Cold War era can now be replaced by a smaller, ready active force supported by smaller reserve forces. Fewer forces are needed in the new structure, and greater reliance can be placed on a reconstitution of forces if a greater military capability is again needed. Thus, a force structure consistent with the new military strategy and with changes in both size of the projected threats and the time it would take the threats to develop can be significantly smaller than the structure in place today. For example, if current trends continue, a reduction of as many as ten Army division flags may be possible. A reduction of that size would have to come from both the active and reserve forces, with the majority of the division reductions taken from the active component, primarily those forces now assigned to the NATO reinforcement mission. Many of these divisions are supported by reserve combat, combat support, and combat service support units, and their inactivation would result in the disestablishment of numerous reserve units.

The illustrative force discussed below assumes different roles for the active and reserve components than is the case today. For contingencies expected to last less than 30 days, a U.S. response should not require a Presidential call-up of individual reservists or reserve units. Continued reliance could be placed on voluntary participation by reservists who possess unique skills and on augmentation from reserve aviation units to support strategic airlift operations during the initial response to such a contingency. While volunteerism can be relied upon to support the needs of the active force, it cannot be assumed that an inexhaustible pool of reserve volunteers exists for operations of indefinite duration. Once a recall under 10 U.S.C. 673b is exercised, use of volunteers for the same contingency should be restricted to short, specific, home-station-based missions.

Reserve combat forces should not be used for contingencies lasting less than 60 days. Reserve forces should continue, however, to provide combat support and combat service support for these types of contingencies. Such support might include strategic mobility augmentation, other support functions generally not in the active components, and back-filling for deployed active

forces. In addition, both active and reserve component forces should utilize cross-service support to enhance their capabilities.

Consistent with the evolving new military strategy, reserve forces should be capable of providing combat as well as support units for contingencies expected to last longer than 60 days, as they are doing now in Operation Desert Shield. Included in these forces would be roundout combat units for later-deploying active forces, as well as forces needed to maintain a rotation base.

In addition, reserve general purpose forces should be retained in the force structure. Some of these forces could be maintained at lower readiness levels than those needed for immediate crisis response. Some of these forces might well have at least a year to reach combat readiness levels. The support for these particular units could also be at lower readiness and strength, and in the case of skills that can be drawn from the civilian work force or from prior-service personnel, some units could even be formed subsequent to mobilization.

The active end strength in such a restructured force would be reduced from the FY 1990 level of about 2.1 million to about 1.7 million by the end of FY 1995. Selected Reserve strength could decrease from 1.15 million to about 910,000 between FY 1990 and FY 1995. Approximate military end strengths by service are shown in Table 6.

Conventional forces for crisis response and major regional contingencies are, as noted in Section III, grouped into three categories: Atlantic, Pacific, and contingency forces.

Atlantic Force

The United States will continue to be the power that underwrites Western security and will continue to have important interests in Europe, Latin America, the Mideast, and the Persian Gulf. While future U.S. force levels in Europe are yet to be decided, the total force maintained there will be smaller than it is today. The force will likely include an Army corps, about three tactical fighter wings and other Air Force elements, worldwide forces such as Defense Communications Agency (DCA) detachments, and units designed to assist in the reintroduction of forces. It will probably be necessary to continue a Persian Gulf maritime presence, and to maintain Navy carrier and Marine forces in the Mediterranean. The Atlantic force would have reinforcements in the United States from all services, including heavy Army forces from both the active and reserve components.

Table 6
U.S. Military End Strength: FY 1990-95
(In thousands)

	<u>FY 1990</u>	<u>FY 1993</u>	<u>FY 1995</u>
		<u>Active Force</u>	
Army	730	620	540
Navy	580	520	510
Air Force	540	460	440
Marine Corps	200	180	170
Coast Guard	<u>37</u>	<u>37</u>	<u>37</u>
Total	2,087	1,817	1,697
		<u>Reserve Force</u>	
Army	750	620	550
Navy	150	120	120
Air Force	200	200	200
Marine Corps	50	40	40
Coast Guard	<u>12</u>	<u>12</u>	<u>12</u>
Total	1,162	992	922

Pacific Force

The continued role of the United States as the guarantor of access in the Pacific region means that we will continue to maintain forces in Japan and Korea, and the facilities to support their presence. We also would have forces in Hawaii and Alaska as part of the Pacific force. All of these forward-deployed forces should be supported by U.S.-based reinforcements.

Contingency Force

A contingency force would be composed of rapidly deployable forces. Except for airlift and certain related missions such as aerial refueling, the forces for minor, short-term contingencies would come from the active component, and would be augmented as necessary by the Atlantic and Pacific forces. Special operations forces would be an integral part of such a contingency force. The force would be structured to counter crises of limited scope and duration, as well as to provide the initial forces for major conflicts. The contingency force would also have the ability to "surge" naval assets, such as carrier groups and Marine expeditionary units, and it would be supported by modernized airlift and sealift forces able to move troops and materiel quickly.

Together, the conventional elements of the force would give the United States the ability to meet enduring defense needs with a military structure that reflects a hopeful, yet realistic, view of the future political-military environment. The global reach of the force would provide overarching strategic assurance, protect U.S. interests in the Atlantic and Pacific, and be capable of projecting U.S. military power worldwide. It would be a force of great utility fashioned from today's force, and would meet the demands of the next decade and beyond with sufficient flexibility.

Force Structure

Army. The Army structure could consist of 12 active and six reserve divisions. Eight of the active divisions in any such structure should be heavy, and four light. The six reserve divisions should include at least four heavy divisions. In addition, the reserve force would have two cadre divisions. The cadre divisions could have all the equipment of a heavy division, but be manned by about 3,000 personnel apiece and, to the extent possible, have only a skeleton support structure.

The divisions in such a contingency force--about two heavy and three light--would have the majority of their forces (combat and support) in the active component. Reserve forces would continue to provide roundout brigades for some active divisions, as well as combat support and combat service support, mainly for the Atlantic force and later-deploying elements of the contingency force. Table 7 provides a breakout of the corps and divisions in this illustrative force. The corps are in the active component; the cadre divisions, in the reserves.

Table 7
Illustrative Force:
Army Corps and Divisions

	FY 1990 (Active/Reserve)	FY 1995 (Active/Reserve/Cadre)
Corps	6	4
Divisions		
Light	8/6	4/2
Heavy	10/4	8/4/2
Total	18/10	12/6/2

Navy. By the end of FY 1995, the Navy would have about 450 ships in its active force and 33 in the Naval Reserve Force (NRF). Included in the naval force would be 13 carriers (including a training carrier), with 11 active and two reserve air wings. The 16 NRF frigates would have active-duty crews

composed of about 70 percent active personnel and full-time support reservists (TARs) and 30 percent part-time Selected Reservists. One possibility for using our Naval Reserve forces better would be to place additional frigates (FF-1052 Knox class) in the reserve component in a way that would allow as many as five ships to be mutually supporting ("nested"). Each group of nested ships would have one complete crew composed of active and TAR sailors who would train nucleus crews assigned to the other ships in the "nest," thus providing an almost instantaneous surge capability. Amphibious shipping would be sufficient for two Marine Expeditionary Brigades (MEBs).

Marines. In this illustrative structure, Marine forces would be reduced by one active Marine Expeditionary Brigade by the end of FY 1995. Fleet Marine Forces, though smaller, would be sufficient to form three Marine Expeditionary Forces (MEFs). As noted above, there would be sufficient amphibious shipping to lift two MEBs simultaneously. The remaining Marine forces could be employed either to reinforce and expand the amphibious brigades into MEF-size forces or to operate independently as airlifted contingency forces, maritime prepositioning ship forces, fleet anti-terrorist security teams, or some combination of the above depending on the tactical situation. Marine sustainability would remain at current levels.

Air Force. The number of tactical fighter wing equivalents could be reduced from a total of 36 in the FY 1990 force to about 26 (approximately 15 active and 11 reserve component) by the end of FY 1995. The tactical fighter wings would be structured identically in both the active and reserve forces, with 72 aircraft per wing. The interceptor force would consist of 180 aircraft by FY 1995, all in the reserve components. Reserve volunteers, supplemented as necessary by involuntary recalls, would continue to provide airlift support for all contingencies, as they did in Grenada and Panama and are doing now in Southwest Asia.

Resources for Reconstitution

In addition to the kind of force structure illustrated above, the future Total Force should accommodate an ability to reconstitute forces. To maintain a relatively rapid reconstitution capability as a near-term hedge, the United States will continue to need access to certain long-lead elements of force structure--specialized personnel with hard-to-regain skills (like maintenance technicians) and weapons platforms with long production or recommissioning times. The Department is now examining innovative ways to retain access to the pool of trained personnel that will be exiting the active and reserve components in coming years.

A parallel, longer-term aspect of such a reconstitution concept could be to use resources freed from current forces to invest now in the longer-lead, longer-term innovative--technological, organizational, and doctrinal--concepts needed to hedge against any future resurgence of a more threatening environment abroad.

This approach would use the current period of reduced tensions and reduced threats to Europe to hedge against the harder-to-predict threats of the distant future.

Unit Structure and Manning Policies for Reconstitution. In the currently projected strategic environment, it is not necessary--and in a fiscally constrained and balanced strategy and Total Force, it is not prudent--to maintain, even in a low-manning or cadre status, all of the units we might possibly foresee a need to reconstitute. Still, some quantity of reconstitution assets within standing units will likely be necessary.

The maritime patrol mission has been successfully performed by Naval Reserve units for some time, and has been fully integrated with the active force's maritime patrol duties. With the lessening of U.S.-Soviet tensions, the tempo of antisubmarine warfare operations can be reduced somewhat. Giving the Naval Reserve additional responsibility for the maritime patrol mission might retain the requisite capability (including equipment and trained personnel) in the Total Force at reduced operating levels and reduced cost. Such a Naval Reserve mission would be analogous to the role that Air Force reserve components already play in augmenting strategic airlift operations.

The proposed INRC--the "nesting" idea discussed earlier in this section--is well suited to a strategic environment in which extended warning times permit the reconstitution of forces. This program would emphasize flexible readiness by using surface units in the NRF in an expanded role to provide trained cadre crews for mobilization. The advantage of the INRC training frigate plan is that the nation would retain, as available resources, ships and trained crews throughout the vessels' useful life. By placing these assets in the NRF, this force structure could be retained at moderate cost. (The Navy estimates the annual cost of a 40-ship program to be \$150 million.) Similarly, the transfer of maritime patrol aircraft to the Naval Reserve would provide an opportunity to retain force structure and operational capability at reduced peacetime costs and operating tempos. Under both of these concepts, trained personnel and modern equipment would be retained in the Total Force, and would be available when needed through the mobilization process.

Given the high percentage of reserve personnel (especially Naval Reserve officers) with previous active-duty experience, and the high quality and the motivation of today's reserve forces, it would likely be very difficult to attract high-quality personnel and to maintain their skills in skeletal units (including the Navy's INRC) with few resources. Thus, there should be no doubt about the leadership challenge that would be involved. There should be considerable planning before any such program is implemented.

An alternative to cadre units which should once again be explored would involve the establishment of a reserve of senior active-duty personnel within existing active and reserve force structures. (This would require changing

current manpower policies, which restrict the number of senior personnel on active and Selected Reserve duty to those needed for the programmed force.) Highly skilled and experienced personnel—for example, technicians—could be permitted to fill currently unauthorized or lower-grade full-time support (FTS) billets in reserve units. These additional FTS personnel could provide training on current doctrine and for technical skills. They would not replace reservists in the management of the reserve units, and they would not mobilize with the reserve units. Rather, they would be preassigned to provide a cadre for new units.

Another way to provide a reserve of senior personnel might be to increase the number of infrastructure rotation base billets. This would represent a change from current policy, under which some DoD infrastructure billets (positions that otherwise would be given to civilians) are filled by military personnel in order to maintain an adequate CONUS rotation base.

Use of Pre-Trained Individual Manpower (PIM). Pre-trained individual manpower includes members of the Individual Ready Reserve (primarily those who have time left on their eight-year military service obligation), military retirees, and the Standby Reserve. Current plans call for the use of PIM after mobilization for: (1) initial fill of active and reserve units; (2) casualty replacement; and (3) backfill in non-deploying units to free active-duty personnel for initial fill or casualty replacement (assuming the appropriate skill levels exist.)

Concern has been expressed in recent years about the ability of the Department's PIM pool to fulfill the replacement needs of the Total Force. Manning levels in the IRR—the principal source of replacements—have dropped from 1.23 million in 1973 to about 490,000 today. As numbers in the IRR follow but lag active-duty and Selected Reserve strengths, the decline in the mid-1970s reflected the post-Vietnam drawdown. In an effort to increase IRR strength, the military service obligation was increased from six to eight years for recruits entering after 1983. This change is expected to increase the size of the IRR by about 50 percent over the next several years. Over the longer term, however, as personnel let go during the current budget cuts complete their obligation, IRR strength will likely decline.

Whether the PIM pool will be adequate depends not only on the number of individuals in it, but also on whether these individuals can be reached in a national emergency, whether they will respond to a call-up, and whether they will be physically fit to serve and have adequate skills. The mix of skills entering the PIM pool does not necessarily match the mix that the Department requires, and even a PIM pool large enough to meet aggregate replacement needs may not allow the Department to meet replacement needs by skill.

SECTION V

CONCLUSION

This study of the Total Force Policy has taken place during a time of rapid and historic change, both around the world and within the United States. When the study commenced, American armed forces were engaged in Operation Just Cause in Panama. As the work progressed, major policy decisions were being reached that will have significant short- and long-term implications for the defense budget. As this report is forwarded, American forces are engaged in one of the most successful deployments of military power in our nation's history. Operation Desert Shield has already involved the call-up of 134,000 members of the Selected Reserve, and has resulted in the deployment of approximately 326,000 personnel to Saudi Arabia.

This report is not intended to answer with finality the many complex issues relating to the determination of the most appropriate size and shape of U.S. armed forces at a time of rapid change in the strategic environment. The study has served, however, as an important tool for the reevaluation of old assumptions, the consideration of lessons that are being learned daily from our experience in Desert Shield, and the building of forces that will meet the nation's future security needs.