在日米軍の削減可能性を探る研究

Section V

FORCES AND MANPOWER

The QDR force structure follows the broad outlines of Path 3. We will sustain the forces and capabilities needed to meet the demands of our strategy in the near term while at the same time beginning to transform the force for the future. The issue is not whether we will reshape our forces, but how and when. Across the Services, changes in force structure and personnel end strength will be made to reflect improvements in operational concepts and organizational arrangements and to protect the full spectrum of combat capability to the maximum extent possible. In this manner, we seek to attain the long-term benefits of an increased modernization program while minimizing the near-term risk of reducing combat forces.

The principal force and manpower adjustments called for in the QDR are summarized below:

ARMY

The Army will maintain four active corps, 10 active divisions - including six heavy and four light divisions - and two active armored cavalry regiments. Within that force posture, the Army is prepared to restructure parts of its force to reflect increased efficiencies in support activities and in anticipation of further organizational change, including the redesign and downsizing of its heavy divisions as it integrates the results of ongoing warfighting experiments. Given today's regional threats, elements of the Reserve component, the traditional Cold War strategic reserve can be reduced and transitioned into capabilities that have greater utility across the entire spectrum. This transition will increase depth in the Army's support structure to better support combat operations. These actions, together with the infrastructure efficiencies described in Section VIII, will result in the following personnel reductions:

- Active 15,000
- Reserve 45,000
- Civilian 33,700

NAVY

The Navy will maintain 12 aircraft carrier battle groups and 12 amphibious ready groups. The number of carrier wings will remain at 10 active wings and one reserve. Surface combatant ships will be reduced from today's level of 128 to 116 as newer and more capable systems are added to the fleet. Reflecting changes in requirements, the attack submarine force will be reduced from today's 73 to 50. Additionally, some combat logistics force ships will be transferred to the Military Sealift Command. These actions, together with infrastructure efficiencies, will result in the following personnel reductions:

- Active 18,000 • Reserve 4,100 • Civilian 8,400

AIR FORCE

The total fighter inventory will be restructured and modestly reduced from current levels. This will be accomplished by retiring older Air National Guard aircraft and replacing them with approximately 60 fighters from the active component and by converting six continental air defense squadrons to general purpose, training, or other missions. These changes will result in a more modern and flexible force of just over 12 active fighter wing equivalents, eight reserve fighter wing equivalents, and four air defense squadrons (0.8 fighter wing equivalent). The Air Force will consider further reductions in total fighter wing equivalents as additional older generation assets are replaced by next generation aircraft. In addition to its fighter force, the Air Force will maintain a total fleet of 187 bombers, 142 of them assigned to operational units. The QDR made no changes to the tanker and airlift fleets.

The Air Force is consolidating its fighter, bomber, and theater airlift squadrons, increasing the number of aircraft in each squadron while decreasing the number of squadrons. It is also reducing intermediate headquarters to streamline its command structure. These actions, together with infrastructure efficiencies, will result in the following personnel reductions:

- Active 26,900 • Reserve 700 • Civilian 18,300

MARINE CORPS

The Marine Corps will maintain an active force of three Marine Expeditionary Forces (MEFs), each comprising a command element, a division, an aircraft wing, and a service support group. The active force will continue to be supported by one Reserve division/wing/service support group. The Marines will look toward some reconfiguration of forces in the future based on ongoing warfighting experiments. In addition, reductions in Reserve end strength will be undertaken based on a thorough review of Reserve force structure. These actions, together with infrastructure efficiencies, will result in the following personnel reductions:

- Active 1,800 • Reserve 4,200 • Civilian 400

In summary, the major elements of force structure required to carry out the strategy are shown in the table below:

MAJOR ELEMENTS OF FORCE STRUCTURE

	Programmed Force		
	FY 1997	FY 2003	QDR
ARMY Active Divisions	10	10	10
Reserve Personnel (000s)	582	575	530
NAVY Aircraft Carriers (Active/Reserve)	11/1	11/1	11/1
Air Wings (Active/Reserve)	10/1	10/1	10/1
Amphibious Ready Groups	12	12	12
Attack Submarines	73	52	50
Surface Combatants	128	131	116
AIR FORCE Active Fighter Wings	13	13	12+
Reserve Fighter Wings	7	7	8
Reserve Air Defense Squadrons	10	6	4
Bombers (Total)	202	187	187
MARINE CORPS Marine Expeditionary Forces	3	3	3

Across the Department, QDR actions affecting both the military departments and the Defense agencies will reduce active military end strength by 60,000 personnel, Reserve end strength by about 55,000, and civilian personnel by 80,000. These reductions reflect modest changes in the Services' active combat forces. Our aim in taking these manpower reductions is to preserve the critical combat capabilities of our military forces - "the tooth" - while reducing infrastructure and support activities - "the tail" - wherever prudent and possible.

Our changes in defense manpower are shown in the table below:

DEFENSE MANPOWER				
		Programmed Force		
	FY 1989	FY 1997	FY 2003	QDR
Active*	2,130,000	1,450,000	1,420,000	1,360,000
Reserve	1,170,000	900,000	890,000	835,000
Civilian*	1,110,000	800,000	720,000	640,000

* Personnel numbers do not include Navy outsourcing initiatives planned prior to the QDR.

The QDR force provides a robust set of capabilities to shape the international environment and to continue our commitment to global engagement as called for in the President's National Security Strategy. We will maintain roughly 100,000 military personnel both in Europe and in the Asia/Pacific region. Maintaining this level of capability signals our commitment to peace and stability in both regions. In Europe, it

also affirms our leadership in NATO as the alliance prepares to enlarge, reinforces our bilateral relations with key partners, and bolsters U.S. leverage in helping to shape allied defense capabilities. In the Asia/Pacific region, maintaining this level of capability underscores our commitment to remain engaged as a stabilizing influence in the region, alleviates the potential for destabilizing arms races in the region, underwrites deterrence on the Korean peninsula and elsewhere, and strengthens our voice in international forums dealing not only with Asian security matters but also political and economic matters.

We will continue current rotational deployments of naval, air, and ground forces - both active and Reserve component forces as required - to key regions such as Southwest Asia. We will also make planned improvements to our prepositioned stocks of equipment and materiel, both afloat and ashore.

This force structure gives us an effective capability to conduct a wide range of smaller-scale contingency operations, to redeploy from smaller-scale contingency operations to a major theater war, and in concert with regional allies, to deter and, if necessary, defeat, large-scale aggression in two theaters in overlapping time frames. In the event of two nearly simultaneous major theater wars, certain specialized, high-leverage units or unique assets that the United States fields in limited numbers - such as bombers, F-117s, standoff jamming aircraft, AWACS, JSTARS, and other C4ISR platforms, selected special operations forces, and some amphibious assault forces - would very likely "swing" or be redeployed from one theater of conflict to another.

SPECIAL OPERATIONS FORCES

Special Operations Forces (SOF) provide a range of unique capabilities that have important applications across the full spectrum of conflict. Our review of SOF capabilities focused on the major elements of SOF force structure - selected Special Forces groups and battalions, SEAL teams, and Special Operations Squadrons. We concluded that most of our SOF structure is sized appropriately to meet current and anticipated missions. However, based on our assessment, some Reserve component Special Forces battalions may exceed our peacetime and wartime needs. As a consequence, we will reduce our SOF structure by two Reserve component Special Forces battalions.

NUCLEAR FORCES

Our nuclear forces and posture were carefully examined during the review. We are committed to reducing our nuclear forces to START II levels once the treaty is ratified by the Russian Duma and then immediately negotiating further reductions consistent with the START III framework. Until that time, we will maintain the START I force as mandated by Congress, which includes 18 Trident SSBNS, 50 Peacekeeper missiles, 500 Minuteman III missiles, 71 B-52H bombers, and 21 B-2 bombers. Protecting the option to maintain this force through FY 1999 will require adding $64 million in FY 1999 beyond the spending on these forces contained in the FY 1998-2003 President's budget now before Congress.

RESERVE COMPONENT FORCES

Maintaining the integrated capabilities of the Total Force will remain essential for our strategy to succeed. In the post-Cold War era, the Reserve components have become an ever larger percentage of the Total Force and are essential participants in the full spectrum of operations, from the smallest of smaller-scale contingency operations to major theater war. Guard and Reserve forces provide trained units and individuals to fight in wartime and to support the wide range of DoD operations in peacetime. Reserve forces are part of all war plans. No major operation can be successful without them.

In peacetime, reservists provide unique skills in carrying out smaller-scale contingency operations and help relieve active units of some peacetime commitments to decrease active component personnel tempo and allow them to concentrate on higher priority tasks. For example, when President Clinton decided to use U.S. forces to help sustain peace in Bosnia, Army Reserve and Army National Guard units were mobilized and deployed to provide civil affairs, psychological operations, military police, and engineer support. Air Force Reserve component aircrews flew hundreds of missions and other reservists provided critical backfill. Navy Seabees and Marine Reserve civil affairs personnel were also activated.

During the course of the QDR, we made several important decisions regarding our Reserve component forces:

Army. The Bottom-Up Review (BUR) identified a need for Army combat forces beyond the 10 active divisions in case regional conflicts were more difficult than foreseen or unexpected circumstances arose that required additional ground forces. As a result, the BUR directed the creation of 15 National Guard brigades to be maintained at an enhanced level of readiness - known as the enhanced Separate Brigades (eSBs). This enhancement program is now almost complete. The QDR reaffirmed the continuing need for these brigades. They will provide an important hedge against adverse circumstances - such as the use of weapons of mass destruction - in major theater wars by augmenting or reinforcing active combat units.

A major issue in the QDR was determining the appropriate missions and size for our eight Army National Guard divisions. Existing plans do not call for these units to participate in major theater wars. They are assigned instead to missions which include easing Army personnel tempo in peacetime operations, providing rotation forces for extended contingencies, responding to domestic emergencies, and hedging against the emergence of a more threatening international environment.

During the Cold War, the National Guard divisions served as an important "strategic reserve," a role for the Guard reaffirmed in the BUR. At the time of the BUR, there was concern that the failure of democratization in the FSU could produce another major threat in a relatively short period of time. Since the BUR, relations with countries of the Former Soviet Union (FSU) have continued to evolve and trends in the international environment have been favorable. Forecasts see no major power threatening the United States before 2010, and potential threats after that are very uncertain. Therefore, the need for a large strategic reserve has declined, as noted by the Commission on Roles and Missions.

The QDR also reviewed other potential missions for National Guard divisions, taking as

a starting point the QDR strategy and the projected security environment. The review considered the following missions for National Guard divisions:

- Provide Combat Support/Combat Service Support (CS/CSS). Army analysis of support requirements in two major theater wars revealed a large CS/CSS shortfall. Some of these requirements could be filled by redesignating existing CS/CSS units, but a significant shortfall still remained. To fill this gap, the Secretary of the Army determined in 1996 that 12 National Guard brigades would be converted from combat units to CS/CSS units. Because this conversion would not have been completed until FY 2013, the QDR has accelerated the CS/CSS conversion program by using some of the savings from proposed reductions in Guard personnel.

- Protect rear-area security in theater. Although this mission will most likely be filled by eSBs, it could require National Guard divisional units if these are otherwise engaged.

- Backfill in Europe and for ongoing smaller-scale contingency operations. With all active U.S. combat forces sent to major theater wars, National Guard combat units could replace units deployed from Europe or backfill units deployed from ongoing smaller-scale contingency operations.

- Support the rapid deployment of active units and the mobilization of eSBs. National Guard divisional units could help active duty units deploy and support other Reserve units during their post-mobilization training.

- Perform state missions. State missions are an important function for all military forces, but especially for the National Guard. From hurricanes in Florida to floods in the Midwest to civil disturbances in California, National Guard forces have played crucial crisis response roles. This mission will continue, and the Guard will be maintained at sufficient strength to meet these challenges.

Taking these missions into consideration, the QDR determined that the strategy could be supported by a somewhat smaller Army Reserve and National Guard. The analysis indicated that a total Army reserve component reduction of 45,000 personnel is possible. Some of the savings from these reductions will be applied to the combat support/combat service support conversion programs aimed at making the remaining units more effective in carrying out their missions. When these reductions are completed, the Army Reserve components will have been reduced 32 percent from Cold War levels, compared with a 38 percent reduction in the active Army.

Marine Corps. The Marine Corps Reserve provides both peacetime and wartime augmentation to the active duty Marine Corps. In peacetime, Reserve units take on commitments that provide training for wartime tasks and also relieve active duty operating tempo. In wartime, Reserve units augment, reinforce, or backfill active duty units.

Based on experience since 1993, a reduction of about 4,200 Marines in the Marine Corps

Reserve is possible. The current plan is to reduce Reserve infrastructure through a combination of fewer active duty personnel in support of the Reserves, active Reserves, individual mobilization augmentees, and drilling Reserves. The Marine Corps will conduct a study to determine the exact nature of these reductions and/or restructuring.

Navy. The QDR calls for some restructuring of Naval Reserve forces resulting in reductions of 4,100. While some additional Reserve personnel will be required to support the transition of combat logistic force ships to the Military Sealift Command, other Reserve positions will be reduced due to the reduction of surface combatants and submarine tenders as well as the early withdrawal of the SH-2 helicopter from service. In addition, the Navy is recommending some cutbacks in overseas activities that will decrease the requirement for reservists assigned to base support.

Air Force. The Air Force has the most integrated Total Force on a day-to-day basis. This is especially true of its mobility force associate units, where Reserve personnel often work side-by-side with their active counterparts, even sharing the same aircraft. A large percentage of Air Force mobility and support missions, in peacetime and in war, are flown by Reserve personnel.

The Reserve fighter force has also been used extensively in many peacetime missions. However, some efficiencies can be gained. One initiative will consolidate Reserve aircraft into larger units, allowing savings in operations and support costs. All Reserve component fighter units will have 15 aircraft assigned. This will be accomplished by transferring a wing of active aircraft to the Reserve. The Air Force will also convert six air defense squadrons to general purpose, training, or other missions, leaving four squadrons for air defense. Also, older aircraft will be retired and replaced by aircraft transferred from the active force. Including the changes in missions, the net result is little change in total numbers of Reserve component fighters, but a significant increase in Air National Guard and Air Force Reserve capability and flexibility.

* * *

The Department of Defense will develop a legislative package to be submitted with the FY 1999 President's budget seeking drawdown transition authorities to assist our active, Reserve, and civilian personnel as we achieve the manpower reductions described in this section.

MOBILITY FORCES

We examined mobility requirements across a continuum of planning scenarios, from smaller-scale contingency operations to major theater wars and single-theater conflicts against notional regional great power adversaries. In each case, we measured the ability of DoD's long-range investment program for strategic mobility to support potential deployment requirements. The QDR reaffirmed DoD's baseline requirements for intertheater mobility, as outlined in the 1995 Mobility Requirements Study Bottom-Up Review Update.

To meet our force deployment objectives, the mobility update recommended an airlift capability of approximately 50 million ton-miles per day. The study also recommended a

surge sealift capacity of 10 million square feet, made up of fast sealift ships, large medium-speed roll-on/roll-off (LMSR) vessels, and the Ready Reserve Force. It called for an afloat prepositioned cargo capacity of four million square feet for the Army and Marine Corps and a complementary land-based prepositioning program. We plan to have six Army land-based brigade sets of prepositioned equipment (three in Europe, one in Korea, two in Southwest Asia) plus a Marine brigade set in Norway. In addition, we maintain significant stocks of prepositioned equipment afloat - three Marine Corps Maritime Prepositioning Ship squadrons, one heavy brigade set of Army equipment, and selected munitions for the Air Force. Consideration is being given to creating a third heavy brigade set for Southwest Asia. The QDR examined the extent to which these mobility forces could meet DoD's intertheater lift needs in the decades ahead. The review reaffirmed these requirements which, in turn, will guide DoD's long-range planning for strategic mobility forces.

The burdens placed on U.S. strategic mobility forces will not become less demanding in the future. To the contrary, the potential demands of peacetime engagement, reduced infrastructure at overseas bases needed to support airlift en route to a crisis, the likelihood of smaller-scale contingencies worldwide, and the increased possibility of confronting nuclear, biological, and chemical threats all pose challenges for mobility forces that were not accounted for in the mobility update. These and other key issues will be evaluated and will receive increased emphasis as DoD formulates upcoming budget requests for strategic mobility programs.

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Section VI

FORCE READINESS

As the 21st century approaches, the readiness of U.S. military forces to meet the full range of defense strategy demands has never been more important. Ready forces provide the flexibility needed to shape the global environment, deter potential foes and, if required, to rapidly respond to a broad spectrum of threats. In addition, readiness instills the confidence our people need to succeed in a wide variety of challenging situations. In recent years, Department of Defense policy and budget guidance has explicitly made readiness the top priority. Today's challenge is to maintain this readiness edge while seeking efficiencies and improved operating procedures.

SERVICE APPROACHES

Each Service has a different approach to assuring force readiness. These different readiness approaches are driven by a number of factors, including unique force characteristics, major theater war and smaller-scale contingency response requirements, peacetime forward deployment levels, the availability of training infrastructure, perishable skills, and the need for flexibility. Less tangible factors such as morale, leadership development, and team building are also important considerations. The Army manages resources to achieve the highest possible state of readiness in its "first-to-fight" units, while maintaining the ability to deploy later-arriving units within prescribed timelines. The Navy and Marine Corps meet overseas presence and forward engagement responsibilities through cyclical readiness to maintain the high readiness requirements of forward-deployed forces. Forces not deployed are engaged in training, maintenance, resupply, and personnel turnover in preparation for the next rotational deployment. The Air Force maintains a high state of overall readiness due to the rapid response requirements for air assets in the initial phase of a major theater war or smaller-scale contingency.

Although readiness remains a top departmental priority, not all units, active or Reserve, are resourced to the highest levels. Resources are prioritized by each of the Services among major units to sustain different levels of readiness based on missions, response requirements, and force characteristics. This resource prioritization reflects the fact that transportation capacity and equipment maintenance cycles put constraints on our ability to respond. The variability in the levels of readiness that results from this prioritization is closely monitored to ensure we have the capability and flexibility to respond to changing requirements.

The current readiness approach provides a varying degree of resources to units according to the likelihood that the unit will be required to respond to a military conflict and the time in which the unit will be required to respond. Later deploying units receive fewer resources because the response time would allow the unit to get ready before it is required in theater. In fact, each Service uses readiness concepts tailored to its requirements in developing current readiness resource prioritization plans.

ASSESSMENT OF TIERING

During the QDR, an assessment was undertaken as to whether reducing the readiness of selected units would meet strategy requirements and result in significant cost savings. The conclusion of the assessment was that such "tiering" would significantly increase risk at the gain of only modest savings while limiting the flexibility required to execute the current war plans. Constraining factors include the time when units are required to be in theater, the difficulty in regaining the highly perishable skills required to operate sophisticated weapon systems, the capacity of the training infrastructure, the need to optimize match-up of deploying units with transportation assets, and the requirement to adjust plans based on the strategic and tactical situations.

For example, the Army examined reducing the readiness of all but its four Force Package I divisions - including the bulk of its permanently stationed overseas forces - to a less than fully trained status. It found that existing infrastructure and training facilities are not designed to meet the training surge required to bring units up to peak readiness in time of crisis under this posture. In addition, the mobilization system would have difficulty supporting tiered readiness surges as Individual Ready Reserve soldiers are brought in to fill out lower tier units. While lower tier units could maintain a capability to be committed to some shaping and engagement missions, soldiers assigned to those units would be at risk of having their critical warfighting skills deteriorate rapidly. Moreover, employing any of the four Force Package I divisions for peacetime engagement or smaller-scale contingencies would further increase the delay in meeting major theater war timelines, and could put the halt phase at risk. Estimated annual savings of only about $100 million created a force that could not meet major theater war deployment timelines.

FORCE MANAGEMENT

The Chairman of the Joint Chiefs of Staff is pursuing a comprehensive effort to improve force management on a day-to-day basis to ensure that the demands of ongoing operations and exercises are sustainable over the long haul without over-stressing our people. For example, between FY 1996 and FY 1998 the Unified Commands will decrease the number of man-days required for joint exercises by 15 percent. This was achieved by compressing the length of some exercises and slightly decreasing the size of others. Additional reductions are being pursued for both joint and Service exercises.

Another force management initiative is to examine the potential for substituting one unit for another when appropriate. Some units have similar capabilities, such as the RC-135 and EP-3 electronic reconnaissance aircraft, or some Army and Marine infantry units. If the conditions warrant, these similar units can be substituted for each other. Geographical substitution is also important. Peacetime demand is not distributed uniformly around the world, and some theaters have borne a greater brunt of the peacetime burden. Therefore, the Department has implemented a global resourcing program designed to share the burdens of response among the forces deployed in all theaters. The Department is also examining expanding the use of contractors for support functions in some situations, in order to release military support units. In addition, Reserves have been called upon to carry out selected operations. The Department is studying the costs and benefits of each approach and will use substitution if and when it is appropriate and cost-effective.

We have also implemented a Global Military Force Policy to allocate low density/high demand assets across competing priorities. The Global Military Force Policy has dramatically improved management of AWACS deployments, stabilized RC-135 and EP-3 deployments at a steady-state rate, and improved the deployment rate for EA-6Bs. Due to the success of this initiative, the Chairman of the Joint Chiefs of Staff is examining ways to develop a more comprehensive system to monitor the effects of high operating tempo. This effort will complement another planning initiative to assist in the development of theater-specific engagement plans. The scope of these initiatives will include all military activities intended to shape the regional security environment in peacetime. The combination of planning guidance and operational monitoring processes will provide a valuable set of force management tools.

However, U.S. forces will still face myriad challenges in seeking to maintain a sufficient state of readiness into the future. Advanced joint operational concepts and new technologies will increase the complexity of operations and require new and different skills. The number of different skills required will also increase as U.S. forces are asked to be increasingly multi-mission capable, able to transition from peacetime activities and operations, to deterrence, to war. In order to maintain proficiency in the wide variety of required missions and tasks in a joint environment, units will need more effective training and careful time management. Furthermore, as lift capability increases and logistics get leaner, units will be tasked to respond to crises more quickly, and conversely, will have less time to prepare. *Joint Vision 2010* calls for all military organizations to become more responsive to contingencies, with less "startup" time between deployment and employment. Finally, if not adequately managed, the demand for peacetime operations, coupled with a smaller force, could overstress personnel operating tempo and take its toll on the quality of life of military personnel that is the foundation of long-term readiness. Given these challenges, the Department intends to implement new management practices that support the defense strategy, conserve resources, and ensure our versatile forces remain prepared to carry out the multiple missions they may be called upon to perform.

QUALITY OF LIFE

The quality of our forces depends on the quality of our military personnel. The men and women who comprise today's all-volunteer military are of the highest caliber, and we must continue to strive to attract and maintain this effective force. An important element of our policy toward our people must be to provide them with a quality of life commensurate with the sacrifices we ask them to make and with the alternatives available in the private sector.

Throughout the QDR, attention was paid to those issues that affect the quality of life of our military personnel. In areas where changes in policy or practice can be made, such as the impact of high operating tempo on certain forces, we have identified those changes and will implement them. In areas where the issue is the availability of resources, the QDR recommends that adequate resources be provided in key quality of life areas. The Department remains committed to funding pay raises and other compensation. Every effort will be made to continue the Department's long-term commitment to provide adequate funding in areas such as housing, community and family support, transition

assistance as we make further reductions in force, and morale and recreation activities. Educational assistance remains a priority, including off-duty voluntary education. The fighting force of the next century must be an educated, dedicated, motivated force, and programs that keep it that way are an integral part of our force management policy as we move forward from the QDR.

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Section VI

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Another force management initiative is to examine the potential for substituting one unit for another when appropriate. Some units have similar capabilities, such as the RC-135 and EP-3 electronic reconnaissance aircraft, or some Army and Marine infantry units. If the conditions warrant, these similar units can be substituted for each other. Geographical substitution is also important. Peacetime demand is not distributed uniformly around the world, and some theaters have borne a greater brunt of the peacetime burden. Therefore, the Department has implemented a global resourcing program designed to share the burdens of response among the forces deployed in all theaters. The Department is also examining expanding the use of contractors for support functions in some situations, in order to release military support units. In addition, Reserves have been called upon to carry out selected operations. The Department is studying the costs and benefits of each approach and will use substitution if and when it is appropriate and cost-effective.

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However, U.S. forces will still face myriad challenges in seeking to maintain a sufficient state of readiness into the future. Advanced joint operational concepts and new technologies will increase the complexity of operations and require new and different skills. The number of different skills required will also increase as U.S. forces are asked to be increasingly multi-mission capable, able to transition from peacetime activities and operations, to deterrence, to war. In order to maintain proficiency in the wide variety of required missions and tasks in a joint environment, units will need more effective training and careful time management. Furthermore, as lift capability increases and logistics get leaner, units will be tasked to respond to crises more quickly, and conversely, will have less time to prepare. *Joint Vision 2010* calls for all military organizations to become more responsive to contingencies, with less "startup" time between deployment and employment. Finally, if not adequately managed, the demand for peacetime operations, coupled with a smaller force, could overstress personnel operating tempo and take its toll on the quality of life of military personnel that is the foundation of long-term readiness. Given these challenges, the Department intends to implement new management practices that support the defense strategy, conserve resources, and ensure our versatile forces remain prepared to carry out the multiple missions they may be called upon to perform.

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Throughout the QDR, attention was paid to those issues that affect the quality of life of our military personnel. In areas where changes in policy or practice can be made, such as the impact of high operating tempo on certain forces, we have identified those changes and will implement them. In areas where the issue is the availability of resources, the QDR recommends that adequate resources be provided in key quality of life areas. The Department remains committed to funding pay raises and other compensation. Every effort will be made to continue the Department's long-term commitment to provide adequate funding in areas such as housing, community and family support, transition

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Section VII

TRANSFORMING U.S. FORCES FOR THE FUTURE

The fundamental challenge for the Department of Defense is to ensure that we can effectively shape and respond throughout the 1997-2015 period. This means that even as we maintain the ready, versatile forces necessary to meet the challenges of shaping and responding in the near term, we must at the same time be transforming our forces, capabilities, and support structures to be able to shape and respond effectively in the future.

JOINT VISION 2010 AND THE FUTURE OF WARFARE

In an effort to guide this transformation, the Chairman of the Joint Chiefs of Staff developed *Joint Vision 2010,* a conceptual template for how America's armed forces will channel the vitality and innovation of our people and leverage technological opportunities to achieve new levels of effectiveness in joint military operations. *Joint Vision 2010* embraces information superiority and the technological advances that will transform traditional warfighting via new operational concepts, organizational arrangements, and weapons systems. It guides the Department's preparations for the future through its focus on four new operational concepts - dominant maneuver, precision engagement, full-dimension protection, and focused logistics - that together aim at achieving full-spectrum dominance.

Information Superiority: Backbone of Military Innovation. The ongoing transformation of our military capabilities - the so-called Revolution in Military Affairs (RMA) - centers on developing the improved information and command and control capabilities needed to significantly enhance joint operations. With the support of an advanced command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) common backbone, the United States will be able to respond rapidly to any conflict; warfighters will be able to dominate any situation; and day-to-day operations will be optimized with accurate, timely, and secure information. Just as much of the non-defense world has become increasingly interconnected through the growth of internetted communications, the Department of Defense is working to provide a complementary, secure, open C4ISR network architecture.

The five principal components of our evolving C4ISR architecture for 2010 and beyond are:

- A robust multi-sensor information grid providing dominant awareness of the battlespace to our commanders and forces;

- Advanced battle-management capabilities that allow employment of our globally deployed forces faster and more flexibly than those of potential adversaries;

- An information operations capability able to penetrate, manipulate, or deny an adversary's battlespace awareness or unimpeded use of his own forces;

- A joint communications grid with adequate capacity, resilience, and network-management capabilities to support the above capabilities as well as the range of communications requirements among commanders and forces;

- An information defense system to protect our globally distributed communications and processing network from interference or exploitation by an adversary.

In warfare, the information superiority that these capabilities provide will significantly increase the speed of command, enabling forward deployed and early-entry forces to take the initiative away from numerically superior enemy forces and set the conditions for early, favorable termination of the conflict.

Dominant Maneuver. Enabling control of the battlespace through the multidimensional application of information, engagement, and mobility capabilities, dominant maneuver allows U.S. forces to position and employ widely dispersed joint air, land, sea, and space forces. Dominant maneuver will provide U.S. forces with overwhelming and asymmetric advantages to accomplish assigned operational tasks.

The dominant maneuver concept requires several enhanced capabilities. First, U.S. forces need to be lighter and more versatile. Basing logistics at sea and centralizing combat service support functions at higher tactical levels enable units to maneuver more quickly. Increasing the jointness of operations at lower tactical levels increases the forces' versatility in achieving their objectives. Second, mobility and lethality must be increased through greater reliance on netted firepower. Third, dominant maneuver requires more flexible strategic and tactical sea and air lift. Procurements of the Air Force's C-17 Globemaster, the Navy's Large Medium-Speed Roll-on/Roll-off (LMSR) ship, and the Marine Corps' MV-22 and Special Operations Force's CV-22 tiltrotor aircraft are examples of the Department's efforts to improve long- and medium-range lift.

New maneuver concepts are under development to take advantage of dominant maneuver capabilities. The Army's Strategic Meeting Engagement concept, for instance, would require projection of a force capable of achieving operational objectives over strategic distances, so called " CONUS to combat." The Marine Corps' *Operational Maneuver from the Sea* replaces the traditional notion of assaulting the shore from a series of close-in ships and then securing a beachhead prior to moving inland with the concept of an assault launched from ships far out at sea in which the invading force moves immediately to the identified objective located far inland. The MV-22 and the Advanced Amphibious Assault Vehicle are key to achieving this capability for the Marine Corps.

Precision Engagement. Precision engagement enables joint forces to shape the battlespace through near real-time information on the objective or target; a common awareness of the battlespace for responsive command and control; a greater assurance of generating the desired effect against the objective or target due to more precise delivery with increased survivability for all forces, weapons, and attack platforms; and the flexibility to rapidly assess the results of the engagement and to reengage with precision when required.

Precision engagement requires more capable attack platforms and advanced weapons and

munitions in addition to the enabling support of a C4ISR common backbone. The Department will be adding to its arsenal several more capable attack platforms for engaging targets on the ground and in the air, including the F/A-18E/F, F-22, and Joint Strike Fighter tactical aircraft; the Comanche and Apache Longbow helicopters; the Crusader artillery system; and the SC-21 family of new surface combatants and possibly the Maritime Fire Support Demonstrator. The Department is also developing and fielding numerous advanced weapons and munitions including improved stand-off weapons such as the Joint Air-to-Surface Standoff Attack Missile and the Joint Standoff Attack Weapon; bombs that can be accurately delivered from medium altitude, such as the Wind-Corrected Munitions Dispenser and the GPS-aided Joint Direct Attack Munition; and a new generation of anti-armor weapons such as the Brilliant Anti-Tank and Skeet submunitions.

Precision engagement is based on intelligence about enemy forces and expert judgment as to the correct force or weapon needed to generate the desired effects. The Services are working to increase the precision of infantry weapons and improve field equipment to ensure the individual soldier or Marine is fully integrated into the advanced systems that create precision engagement. Precision engagement also extends to the full spectrum of operations in which U.S. forces are likely to participate. Precise, nonlethal weapons are also currently under development for use in smaller-scale contingencies such as noncombatant evacuations and peace operations.

Full-Dimensional Protection. Protection for U.S. forces and facilities must be provided across the spectrum, from peacetime through crisis and war and at all levels of conflict. To achieve this goal, full-dimensional protection requires a joint architecture that is built upon information superiority and employs a full array of active and passive measures at multiple echelons. Full-dimensional protection will enable U.S. forces to maintain freedom of action during deployment, maneuver, and engagement.

U.S. efforts to develop and deploy a multi-tiered theater air and missile defense architecture are a prime example of full-dimensional protection. Missile defenses must range from small area protection for joint and coalition troops, such as that provided by the lower-tier PAC 3 upgrade to the Patriot system and the Navy's Area Defense System, to wide-area defense of civilian populations and larger troop concentrations that will be provided by the upper-tier Aegis-based Navy Theater-Wide System and the Army's Theater High Altitude Area Defense (THAAD) system. The Airborne Laser, currently under development by the Air Force, will greatly improve missile defense layering by providing a boost-phase interception capability.

U.S. forces also need improved protection against chemical and biological weapons threats. New chemical and biological weapons detectors, improved individual protective gear, and a greater emphasis on collective protection are all critical to the Department's efforts to protect its soldiers, sailors, airmen, and Marines from these asymmetric threats. Full-dimensional protection also includes defense against asymmetric attacks on information systems, infrastructure, and other critical areas potentially vulnerable to non-traditional means of interdiction or disruption.

Focused Logistics. Focused logistics integrates information superiority and

technological innovations to develop state-of-the-art logistics practices and doctrine. This will permit us to accurately track and shift assets, even while en route, thus facilitating the delivery of tailored logistics packages and more timely force sustainment at the strategic, operational, and tactical level of operations. Focused logistics will reduce the overall size of logistics support while helping to provide more agile, leaner combat forces that can be rapidly deployed and sustained around the globe.

Initiatives such as Joint Total Asset Visibility and the Global Combat Support System will provide deployable, automated supply and maintenance information systems for leaner, more responsive logistics. These programs, as well as a host of Service initiatives - such as the Marine Corps' Asset Tracking Logistics and Supply System - will be capable of supporting rapid unit deployment and employment and will better support the battlefield commander by eliminating redundant requisitions and reducing delays in the shipment of essential supplies. In addition, the Air Force's Air Expeditionary Force package is being used to test and refine new logistics support concepts. This move toward focused logistics should continue to result in more responsive logistics support at lower cost.

CONCEPTUAL APPROACHES TO EXPLOIT THE REVOLUTION IN MILITARY AFFAIRS

The goals set forth in *Joint Vision 2010* are the foundation for a broader effort to exploit the Revolution in Military Affairs. Indeed, the U.S. military is committed to realizing joint and Service visions of modern warfare and is taking a number of steps to do so, including studies, wargames, R&D, advanced concept technology demonstrations, and simulated warfighting experiments. Through these efforts, which are being pursued vigorously in each Service, the armed forces are identifying, developing, and testing concepts and capabilities that will ensure their ability to transform for the future.

Army. The *Force XXI* and *The Army After Next* processes are identifying new concepts of land warfare that have radical implications for the Army's organization, structure, operations, and support. Lighter, more durable equipment will enhance deployability and sustainability, and advanced information technologies will help the Army conduct decisive operations. The force will be protected by advanced but easy-to-use sensors, processors, and warfighting systems to ensure freedom of strategic and operational maneuver. Overall, the Army will require flexible, highly tailorable organizations - from individuals to small units to echelons above corps - to meet the diverse needs of future operations and to reduce the lift requirements for deployment to a theater.

The Army sustains separate, but complementary, efforts in a continuous process to implement the visions identified in *Force XXI* and *The Army After Next*. Current efforts are aimed at enabling today's soldiers and combat systems with information technology and other enhancements while beginning long-term research and development efforts. The Army's Experimental Force (EXFOR) is the vehicle for testing these innovations. EXFOR is a digitized heavy force used to identify and evaluate new operational concepts, organizational designs, advanced technologies, doctrine, and tactics through the Army's Advanced Warfighting Experiments. *The Army After Next* program is a comprehensive initiative designed to better understand the probable nature of warfare 30

years into the future and provide focus to today's development efforts. Through an annual cycle of wargames, workshops, and conferences, *Army After Next* strives to lay the research foundation necessary for assessing the effects of increased mobility, lethality, and maneuver - leveraging radical advances in information technology, weapons, and platform speeds at both the tactical and operational levels - to ensure land power remains a strategically decisive element of warfighting well into the 21st century.

Air Force. *Global Engagement: A Vision for the 21st Century Air Force*, the Air Force's vision of air and space warfare through 2010, calls for maintaining and improving six core competencies built on a foundation of quality personnel and integrated by global battlespace awareness and advanced command and control. Air and space superiority will allow all U.S. forces freedom *from* attack and freedom *to* attack, while the Air Force's ability to attack rapidly anywhere on the globe will continue to be critical. Rapid global mobility will help ensure the United States can respond quickly and decisively to unexpected challenges to its interests. The Air Force's precision engagement core competency will enable it to reliably apply selective force against specific targets simultaneously to achieve desired effects with minimal risk and collateral damage. Air- and space-based assets will contribute to U.S. forces' information superiority, and agile combat support will allow combat commanders to improve the responsiveness, deployability, and sustainability of their forces.

The Air Force has established six new battle laboratories to implement this vision. The mission of these battle labs is to rapidly identify and validate innovative ideas that improve the ability of the Air Force to execute both its core competencies and joint warfighting. The concepts validated in the labs will be assimilated into Air Force organizational, doctrinal, training, and acquisition efforts. The six labs are concentrating on the following areas: unmanned aerial vehicles; information warfare; air expeditionary forces; space capabilities; battle management command and control; and force protection.

Navy. The Navy's future vision of warfare, delineated in *From the Sea* and *Forward . . . From the Sea*, and further developed in the *Navy Operational Concept*, identifies five fundamental and enduring roles: sea control and maritime supremacy, power projection from sea to land, strategic deterrence, strategic sealift, and forward naval presence. However, in the future the Navy will fulfill these roles with vastly enhanced capabilities. The Navy has embraced an RMA concept called Network-centric Warfare: the ability of widely dispersed but robustly networked sensors, command centers, and forces to have significantly enhanced massed effects. Combining forward presence with network-centric combat power, the Navy will close timelines, decisively alter initial conditions, and seek to head off undesired events before they start. The naval contribution to dominant maneuver will use the sea to gain advantage over the enemy, while naval precision engagements will use sensors, information systems, precisely targeted weapons, and agile, lethal forces to attack key targets. Naval full-dimensional protection will address the full spectrum of threats, providing information superiority, air and maritime superiority, theater air and missile defense, and delivery of naval fires. Finally, naval forces will be increasingly called upon to provide sea-based focused logistics for joint operations in the littorals.

The Navy also uses warfighting experiments to integrate technological advances and

innovative operational concepts with real-world training. The At-Sea Fleet Battle Experiments overseen by the Maritime Battle Center are designed to explore new concepts and emerging systems like the Maritime Fire Support Demonstrator, Cooperative Engagement Capability, and theater ballistic missile defense to evaluate their effects on fleet capabilities and determine future requirements. These intensive experiments are limited in number to maintain their quality and are combined with other fleet exercises to maximize participation. Completed earlier this year, the first of these experiments, Fleet Battle Experiment Alpha (conducted off southern California in March 1997), evaluated C4ISR capabilities, requirements for a Sea-Based Combined Joint Task Force, and other emerging concepts.

Marine Corps. *Marine Corps Operational Maneuver from the Sea* foresees warfare that requires tactically adaptive, technologically agile, opportunistic, and exploitative forces. Individuals and forces must be able to rapidly reorganize and reorient across a broad range of new tasks and missions in fluid operational environments. The Marines will still need to project power ashore for a variety of potential tasks ranging from disaster relief to high-intensity combat.

The focus of Marine Corps RMA efforts is on the enhancement of the individual Marine and his or her ability to win in combat. The Marine Corps Combat Development System focuses on generating the most effective combination of innovative operational concepts, new organizational structures, and emerging technologies. The Commandant's Warfighting Laboratory at Quantico, Virginia, institutionalizes the Marine commitment to innovation. Through the five-year "Sea Dragon" program, the Marines have developed an extensive experimentation plan divided into three phases, each culminating in an Advanced Warfighting Experiment:

- *Hunter Warrior* - designed to examine naval power projection in a dispersed, non-contiguous littoral battlespace, enhanced fires and targeting, and C4I and the "single battle."

- *Urban Warrior* - a two-year effort, begun this year, to explore operations in urban, near urban, and close terrain.

- *Capable Warrior* - combining virtual and live forces comprising operational level deception and maneuver in response to crisis, with the objective of containing or obviating an incipient major theater war.

In the joint world, simulation centers such as the Joint Warfighting Center and the Joint C4ISR Battle Center are developing future *Joint Vision 2010* operational capabilities by evolving and blending innovative concepts and emerging technologies.

EXPLORATION OF THE RMA IN THE LONG TERM

By conducting several research efforts that look out to 2020 and beyond, the Department seeks to ensure it will be prepared for a range of plausible futures. The Army's Dominating Maneuver wargames and workshops explore operational concepts and RMA force characteristics that might be relevant in the 30-year time frame. The Air Force is

now planning its transition from an air and space force to a space and air force through the Chief of Staff's institutionalized long-range planning process, which has identified new operational concepts and the paths to implement those concepts. The Chief of Naval Operations' Strategic Studies Group likewise has concept generation teams that are investigating future naval warfare concepts, from rotational base issues to asymmetric capabilities and responses. In addition, the Marine Corps' Operational Concepts wargames and New Science projects are examining nonlethal and other innovative technologies, as well as the application of algorithms from other disciplines, such as the natural sciences, to military art and science.

OSD's Office of Net Assessment has also developed an Operational Concepts Wargaming Program with support from the Services. This program will explore concepts such as dominant maneuver, Air Force modernization concept alternatives, "future Navy," space war, and information warfare. The Department's science and technology (S&T) efforts are directly linked to *Joint Vision 2010* concepts and are guided by concept-related Defense Technology Objectives (DTOs). Each DTO identifies a specific future technology advancement that will be developed or demonstrated, the anticipated date of technology availability, and the benefits likely to result from the technology advance. For example, the Future Combat System (FCS) offers the potential of executing future dominant maneuver concepts with smaller, lighter, and more mobile ground forces. FCS technology innovation efforts focus on achieving leap-ahead capabilities for a ground-combat vehicle in the areas of mobility, lethality, survivability, deployability, and sustainability. Similarly, the Advanced Ground Vehicle Mobility Systems DTO aims to increase the speed, mobility, employment flexibility, and durability of future ground vehicles.

Additionally, the Defense Advanced Research Projects Agency is investigating a satellite constellation, know as "Starlite," that can provide on-demand radar imagery anywhere and in near real-time to the theater commander, and a "Situational Awareness System" that will link the Internet to the warfighter via an arm-mounted terminal.

These are just a sampling of the long-range planning and experimentation activities ongoing in the Department.

QDR MODERNIZATION DECISIONS: SUPPORTING THE TRANSFORMATION OF U.S. FORCES

The Department's extensive modernization effort, which will reach the aggregate procurement spending objective of $60 billion per year shortly after the turn of the century, directly supports efforts to realize the modern, joint capabilities called for by *Joint Vision 2010* and to exploit the RMA in accordance with the "prepare now" tenet of our defense strategy. The QDR modernization review focused on a number of programs for evaluation and decision, in order to ensure that future U.S. forces have modern, technologically superior equipment, that systems are effectively integrated across platforms and Services, and that programmatic and operational risks were weighed in the context of force requirements. Several of these decisions resulted in programmatic changes, highlighted below.