REORIENTING CAPABILITIES AND FORCES

During the QDR, the senior leadership of the Department considered potential adjustments to capabilities and forces in light of the four focus areas and refined Force Planning Construct. They identified desired future force characteristics prior to developing proposals for the following capability portfolios: joint ground; special operations forces; joint air; joint maritime; tailored deterrence; combating WMD; joint mobility; ISR and space capabilities; net-centricity; and joint command and control. As part of a process of continuous change, the Department's capabilities and forces will be reoriented over time to reflect these desired characteristics.

This reorientation builds upon transformational changes already underway, shifting the joint force: from dependence on large, permanent overseas garrisons toward expeditionary operations utilizing more austere bases abroad; from focusing primarily on traditional combat operations toward greater capability to deal with asymmetric challenges; from deconflicting joint operations to integrated and even interdependent operations – all while massing the cumulative power of joint forces to achieve synergistic effects.

Insights derived from a series of complementary analyses, including the Mobility Capabilities Study and the Joint Staff's Operational Availability (OA) Studies, informed capability portfolio development. The Operational Availability series of studies is a four-year ongoing joint analytical effort to assess force capabilities and capacities to meet the priorities of the *National Defense Strategy*. These analyses helped to identify the Department's progress in each capability portfolio since 2001, gaps in capabilities needed to realize the future force vision, insights about potential excess capacity, and future opportunities for investment. For example, Operational Availability assessed the availability of forces prior to, during and following major combat operations, as well as to meet routine missions and the increased demands of the long war. It revealed shortfalls in capabilities for special operations forces and intelligence, surveillance and reconnaissance, among other capabilities.

Based on the Operational Availability analysis, other related assessments, and extensive senior leader discussions, the Department concluded that the size of today's forces – both the Active and Reserve Components across the Military Departments – is appropriate to meet current and projected operational demands. At the same time, these analyses highlighted the need to continue re-balancing the mix of joint capabilities and forces. This chapter summarizes recommended changes in the mix of capabilities and the Department's resource priorities. The President's Budget for Fiscal Year 2007 reflects the QDR's "leading edge" priorities to change the mix of capabilities in key areas. The full budgetary and programmatic implications of the QDR will be reflected in the upcoming budget cycle.

Joint Ground Forces

Vision. Joint ground forces will continue to take on more of the tasks performed by today's special operations forces. The result will be a new breed of warrior able to move more easily between disparate mission sets while preserving their depth of skill in primary specialties. Future warriors will be as proficient in irregular operations, including counterinsurgency and stabilization operations, as they are today in high-intensity combat. They will be modular in structure at all levels, largely self-sustaining, and capable of operating both in traditional formations as well as disaggregating into smaller, autonomous units. They will be able to sustain long-duration irregular operations, while exploiting reach-back to non-deployed elements of the force. They will understand foreign cultures and societies and possess the ability to train, mentor and advise foreign security forces and conduct counterinsurgency campaigns. They will have increased capabilities to conduct time-sensitive operations, by fusing intelligence and operations at the tactical level and with larger numbers of Joint Tactical Air Controllers to achieve a higher level of joint ground-air integration.

Photo by Staff Sergeant James L. Harper Jr., U.S. Air Force.

U.S. Army soldiers conduct a patrol in Mosul, Iraq, in support of Operation Iraqi Freedom. Their Stryker vehicles enable them to maneuver rapidly in both urban environments and open terrain.

Progress to Date. Consistent with these future force characteristics, the Army is significantly expanding its capabilities and capacity for the full range of military operations, including irregular warfare and support to security, stability and transition operations. It is reorganizing its combat and support forces into modular brigade-based units – including brigade combat teams (BCTs) and the support brigades to sustain them – to increase breadth and depth for the long war. They are increasing their proficiency in irregular warfare, thereby freeing up some special operations forces for more complex tasks. Tactical and operational headquarters have been redesigned to support geographically distributed brigade operations and provide joint command and control. In 2004, the Army terminated the Comanche helicopter program and reallocated funds to reinvigorate its aviation capabilities, including unmanned aerial vehicles. The restructured Future Combat Systems (FCS) program is accelerating "spin-outs" of advanced capabilities into the new Army modular forces, as well as for U.S. SOCOM and the Marine Corps.

The Marine Corps has increased both its capacity and its capability to conduct irregular warfare. Since 2001, the Marines Corps has realigned its force structure to address lessons learned in recent operations, resulting in a 12% increase in infantry capacity and related intelligence support to infantry units, an additional Active Component rotary wing aircraft squadron, a 25% increase in light armor units, a 38% increase in reconnaissance capacity, 50% more Joint Fire Liaison Teams and a 30% increase in reserve intelligence structure. It has also established Foreign Military Training

Units to train indigenous forces worldwide. This rebalancing has increased potential Marine Corps contributions, especially for preventive actions and irregular warfare operations. Additionally, the Marine Corps has increased the capability of the individual Marine to conduct distributed operations, providing the Combatant Commanders an expeditionary force able to conduct "low-end" SOF missions as well as traditional operations.

QDR Decisions. To achieve future joint ground force characteristics and build on progress to date, the Department will:

- Continue to rebalance capabilities by creating modular brigades in all three Army components: 117 in the Regular Army (42 BCTs and 75 support brigades); 106 in the Army National Guard (28 BCTs and 78 support brigades); and 58 support brigades in the U.S. Army Reserve. This equates to a 46 percent increase in readily available combat power and a better balance between combat and support forces.

- Transform Army units and headquarters to modular designs.

- Incorporate FCS improvements into the modular force through a spiral development effort that will introduce new technologies as they are developed.

- Expand the Air Force Joint Tactical Air Control program by jointly training personnel for air/ground operations and use of Unmanned Aerial Vehicles.

Photos by Technical Sergeant Russell E. Cooley IV, U.S. Air Force.

Photos by Technical Sergeant Andy Dunaway, U.S. Air Force.

The small, tactical Raven unmanned aerial vehicle is an example of UAVs being employed by ground forces to provide persistent, remote surveillance and reconnaissance for U.S. forces beyond their line of sight. This Raven pictured at bottom is used to identify and deter the placement of improvised explosive devices on Route Trans-Am, Iraq.

- Stabilize the Army's end strength at 482,400 Active and 533,000 Reserve Component personnel by Fiscal Year 2011.

- Stabilize the Marine Corps' end strength at 175,000 Active and 39,000 Reserve Component personnel by Fiscal Year 2011.

Special Operations Forces (SOF)

Vision. The future special operations force will be rapidly deployable, agile, flexible and tailorable to perform the most demanding

and sensitive missions worldwide. As general purpose joint ground forces take on tasks that Special Operations Forces (SOF) currently perform, SOF will increase their capacity to perform more demanding and specialized tasks, especially long-duration, indirect and clandestine operations in politically sensitive environments and denied areas. For direct action, they will possess an expanded organic ability to locate, tag and track dangerous individuals and other high-value targets globally. SOF will also have greater capacity to detect, locate and render safe WMD. For unconventional warfare and training foreign forces, future SOF will have the capacity to operate in dozens of countries simultaneously. SOF will have increased ability to train and work with partners, employ surrogates, operate clandestinely and sustain a larger posture with lower visibility. SOF will sustain current language and cultural skills while increasing regional proficiency specific to key geographic operational areas: the Middle East, Asia, Africa and Latin America. Longer duration operations will emphasize building personal relationships with foreign military and security forces and other indigenous assets to achieve common objectives.

Progress to Date. There have been impressive gains in SOF capabilities since 2001, supported by an 81% increase in the baseline budget. This increase is consistent with U.S. SOCOM's designation as the lead Combatant Command for planning, synchronizing and executing global operations against terrorist networks as specified in the 2004 Unified Command Plan. Supplemental appropriations of $5.5 billion between Fiscal Years 2002 and 2006 contributed to improvements in dedicated SOF intelligence, surveillance and reconnaissance (ISR), organic human intelligence and technical capabilities. The Army Special Forces (SF) School increased its training throughput from 282 new active duty enlisted Special Forces personnel in 2001 to 617 new personnel in 2005 – the equivalent of an additional SF Battalion each year – with a further goal of increasing to 750 students per year. The demands of Operation Enduring Freedom and Operation Iraqi Freedom have also led to a dramatic improvement in SOF's unconventional warfare capabilities and skills.

DoD Photo

The AC-130 gunship's primary missions are close air support, air interdiction and force protection. The ability to call on direct fire power from the air by joint forces on the ground gives SOF a unique edge in urban and rural environments.

QDR Decisions. To achieve the future force characteristics for SOF and build on progress to date, the Department will:

- Further increase SOF capability and capacity to conduct low-visibility, persistent presence missions and a global unconventional warfare campaign.
- Increase (starting in Fiscal Year 2007) active duty Special Forces Battalions by one-third.

- Expand Psychological Operations and Civil Affairs units by 3,700 personnel (33% increase) to provide increased support for SOF and the Army's modular forces.

- Establish a Marine Corps Special Operations Command (MARSOC) composed of 2,600 Marines and Navy personnel to train foreign military units and conduct direct action and special reconnaissance.

- Increase SEAL Team force levels to conduct direct action missions.

- Establish a SOF unmanned aerial vehicle squadron to provide organic capabilities to locate and target enemy capabilities in denied or contested areas.

- Enhance capabilities to support SOF insertion and extraction into denied areas from strategic distances.

Photo by Chief Photographer's Mate Andrew McKaskle, U.S. Navy.

A member of U.S. Navy Sea, Air, Land (SEAL) Delivery Vehicle Team prepares to launch on a training exercise from the deck of the submarine USS Philadelphia. The vehicles are one method of insertion and extraction of Special Operations Forces.

Joint Air Capabilities

Vision. Joint air capabilities must be reoriented to favor, where appropriate, systems that have far greater range and persistence; larger and more flexible payloads for surveillance or strike; and the ability to penetrate and sustain operations in denied areas. The future force will place a premium on capabilities that are responsive and survivable. It will be able to destroy moving targets in all weather conditions, exploit non-traditional intelligence and conduct next-generation electronic warfare. Joint air forces will be capable of rapidly and simultaneously locating and attacking thousands of fixed and mobile targets at global ranges. The future force will exploit stealth and advanced electronic warfare capabilities when and where they are needed. Maritime aviation will include unmanned aircraft for both surveillance and strike. Joint air capabilities will achieve a greater level of air-ground integration.

Progress to Date. Consistent with these future force characteristics, the Air Expeditionary Forces (AEF) concept has matured over the last four years, increasing personnel available for deployment by 20% (51,000). The Air Force Battlefield Airman concept has improved combat training to increase joint air-ground integration for directing air strikes in support of ground forces during conventional and irregular warfare operations. Since 2001, Air Force Joint Tactical Attack Controllers (JTACs), many attached to SOF units, have directed over 85% of air strikes in Afghanistan. The Air Force is optimizing Reserve Component personnel for new missions that can be performed from the United States, including unmanned aerial vehicle (UAV) operations and ISR reach-back, leveraging the core competencies of the reserves while reducing stress on the force.

Since 2002, the Navy and Marine Corps have integrated their tactical aircraft programs to reduce excess capacity and provide equal or greater combat capability with fewer resources. The Navy and Marine Corps have integrated their tactical aircraft squadrons within a common scheduling process to address their air requirements, achieving greater operational gains. Their integration cut potential costs by approximately $35 billion and reduced future Department of the Navy procurement by nearly 500 tactical aircraft.

The Department is continuing to reconfigure its strategic bomber fleet for enhanced conventional long-range strike missions. Satellite communications now permit the near instantaneous re-targeting of bombers and cruise missiles in flight. The integration of smart standoff weapons keeps older systems like the B-52 relevant in the modern, high-threat battlespace. New weapons provide increased capacity: the new 500-pound Joint Direct Attack Munition (JDAM) gives a single B-2 the ability to strike 80 separate targets, with precision, in all weather. The Air Force has set a goal of increasing its long-range strike capabilities by 50% and the penetrating component of long-range strike by a factor of five by 2025. Approximately 45% of the future long-range strike force will be unmanned. The capacity for joint air forces to conduct global conventional strikes against time-sensitive targets will also be increased.

Photo by Senior Airman Brian Ferguson, U.S. Air Force.

A B-52 Stratofortress drops live ordnance over the Nevada Test and Training Range during a firepower demonstration. In its fifth decade of service, B-52s continue to provide long-range strike capability to the joint force. The B-52 continues to be upgraded to provide new capabilities, including close air support to U.S. and partner ground forces, through the use of precision strike weapons.

QDR Decisions. To achieve the future joint force characteristics and build on progress to date, the Department plans to:

- Develop a new land-based, penetrating long-range strike capability to be fielded by 2018 while modernizing the current bomber force.
- Reduce the B-52 force to 56 aircraft and use savings to fully modernize B-52s, B-1s, and B-2s to support global strike operations.
- Restructure the Joint Unmanned Combat Air System (J-UCAS) program and develop an unmanned longer-range carrier-based aircraft capable of being air-refueled to provide greater standoff capability, to expand payload and launch options, and to increase naval reach and persistence.
- Nearly double UAV coverage capacity by accelerating the acquisition of Predator UAVs and Global Hawk.
- Restructure the F-22A program and extend production through Fiscal Year 2010 with a multi-year acquisition contract, to ensure the Department does not have a gap in 5th generation stealth capabilities.

Photo by Photographer's Mate 3rd Class Jeff Viano, U.S. Navy.

The Predator Unmanned Aerial Vehicle flies down the port side of the USS Carl Vinson. The flight was the Predator's first maritime mission with a carrier battle group and provided near-real-time infrared and color video images of the ship.

- Organize the Air Force around 86 combat wings (e.g., fighter, bomber, ISR/Battle Management/Command and Control, mobility, Air Operations Centers, Battlefield Airmen, other missions and Space/Missile) with emphasis on leveraging reach-back to minimize forward footprints and expedite force deployments, while reducing Air Force end strength by approximately 40,000 full-time equivalent personnel with balanced cuts across the Total Force.

Joint Maritime Capabilities

Vision. Joint maritime forces, including the Coast Guard, will conduct highly distributed operations with a networked fleet that is more capable of projecting power in the "brown and green waters" of coastal areas. They will be capable of projecting force and extending air and missile defenses from far greater ranges. Coast Guard and naval capabilities will be fully integrated. Undersea capabilities, both manned and unmanned, will use stealth, survivability, endurance, payload size and flexibility to complicate potential foes' planning efforts and strengthen deterrence. The future force will have capabilities for conventional global strikes against time-sensitive targets. It will have greater capacity for riverine operations and other irregular operations. The future joint force will exploit the operational flexibility of seabasing to counter political anti-access and irregular warfare challenges. The Maritime Prepositioning Force (Future) family of ships will advance the capability of seabasing to support a wide spectrum of joint force operations. Special Operations Forces will exploit Afloat Forward Staging Bases (AFSB) to provide more flexible and sustainable locations from which to operate globally. The fleet will have greater presence in the Pacific Ocean, consistent with the global shift of trade and transport. Accordingly, the Navy plans to adjust its force posture and basing to provide at least six operationally available and sustainable carriers and 60% of its submarines in the Pacific to support engagement, presence and deterrence.

Progress to Date. Consistent with these future force characteristics, the Navy has developed and implemented several initiatives to increase the operational availability, or "employability," of

Photo by Chief Photographer's Mate Johnny R. Wilson, U.S. Navy.

A Visit, Board, Search and Seizure team, consisting of U.S. Navy and U.S. Coast Guard sailors, approaches the starboard side of an unidentified *dhow* suspected of smuggling oil out of the Iraq Sea.

Navy and Marine Corps fleet forces. Applying distributed operating concepts, the Navy increased the number of available independent strike groups from 19 to 36. The Fleet Response Plan (FRP) modified the Navy's tiered readiness posture to increase the amount of time a ship or other naval unit is fully ready to deploy. The FRP produces adaptable force packages and sustains higher readiness throughout a unit's operational cycle, decreasing the Fleet's down time and enabling immediate deployment of six of the Navy's eleven carrier strike groups, with the addition of two more within 90 days. Rotational crewing has further increased the operational availability of forces by up to 33%.

The Navy is rapidly developing and fielding the Littoral Combat Ship (LCS) to provide an advanced littoral warfare capability. The Coast Guard is recapitalizing its deepwater ships and improving its ability to conduct joint operations with the Navy. In 2003, the Navy began converting four of the oldest nuclear ballistic missile submarines (SSBNs) to guided missile and special operations platforms. The four submarines will re-enter service by September 2007. Modifications will allow embarked Special Operations Force (SOF) personnel to penetrate denied areas to locate high-value individuals, designate targets for precision strike, or conduct direct action missions. Each submarine will also carry more than 150 Tomahawk cruise missiles.

QDR Decisions. To achieve the future joint maritime force characteristics and build on progress to date, the Department will:

Photo by: Journalist Seaman 3rd Class B.L. Keller, U.S. Navy.

The USS Florida is underway in the Atlantic Ocean. A port security Rigid Hull Inflatable Boat (RHIB) is underway off the starboard side. The USS Florida is one of four submarines being converted to a guided missile and special operations platform.

- Build a larger fleet that includes 11 Carrier Strike Groups, balance the need to transform and recapitalize the fleet, improve affordability and provide stability for the shipbuilding industry.

- Accelerate procurement of Littoral Combat Ships to provide power projection capabilities in littoral waters.

- Procure the first eight ships of the Maritime Pre-Position Force (Future) to improve the Department's ability to operate in restricted access environments.

- Provide a Navy riverine capability for river patrol, interdiction and tactical troop movement on inland waterways.

- Build partner capacity to improve global maritime security by reinvigorating the Navy Foreign Area Officer program and procuring Disaster Relief Command and Control fly-away communication support capabilities.

- Return to a steady-state production rate of two attack submarines per year not later than 2012 while achieving an average per-hull procurement cost objective of $2.0 billion.

Tailored Deterrence / New Triad

Vision. The Department is continuing its shift from a "one size fits all" notion of deterrence toward more tailorable approaches appropriate for advanced military competitors, regional WMD states, as well as non-state terrorist networks. The future force will provide a fully balanced, tailored capability to deter both state and non-state threats – including WMD employment, terrorist attacks in the physical and information domains, and opportunistic aggression – while assuring allies and dissuading potential competitors. Consistent with the New Triad priorities developed during the 2001 Nuclear Posture Review, the force will include a wider range of non-kinetic and conventional strike capabilities, while maintaining a robust nuclear deterrent, which remains a keystone of U.S. national power. The force will also include integrated ballistic and cruise missile defenses, and a responsive infrastructure. These capabilities will be supported by a robust and responsive National Command and Control System, advanced intelligence, adaptive planning systems and an ability to maintain access to validated, high-quality information for timely situational awareness. Non-kinetic capabilities will be able to achieve some effects that currently require kinetic weapons. The Department will fight with and against computer networks as it would other weapon systems. For prompt global strike, capabilities will be available to attack fixed, hard and deeply buried, mobile and re-locatable targets with improved accuracy anywhere in the world promptly upon the President's order. Nuclear weapons will be accurate, safe and reliable, and tailored to meet modern deterrence requirements.

Progress to Date. Consistent with these future force characteristics, the Department has retired the Peacekeeper ICBM, removed four ballistic missile submarines from strategic nuclear service, and removed hundreds of warheads from deployed Minuteman III intercontinental ballistic missiles. The Department has fielded and deployed new conventional precision-guided munitions, including the conventionally armed Joint Air to Surface Standoff Missile and improved Tactical Tomahawk cruise missile, which can hold at risk targets that might have required nuclear forces in the past. Ballistic missile defenses have begun limited operations to defend against a range of potential threats as system development, testing, and fielding continue. In late 2004, the Navy began limited defensive operations in the Sea of Japan to identify and track ballistic missile launches aimed at the United States or its allies. U.S. efforts to expand international missile defense cooperation have also seen success. For example, the United States and Japan recently agreed in principle to cooperate in the area of missile defense through the joint development of an advanced SM-3 sea-based interceptor. The Department is working with the Department of Energy to assess the feasibility and cost of the Reliable Replacement Warhead and, if warranted, begin development of that system. This system could enable reductions in the number of older, non-deployed warheads maintained as a hedge against reliability problems in deployed systems, and assist in the evolution to a smaller and more responsive nuclear weapons infrastructure.

The U.S. Strategic Command (U.S. STRATCOM) has been assigned a number of new missions, including global strike; integration of global missile defense; space operations; integration of command, control, communications and intelligence; and combating WMD. In the information domain, the Department assigned U.S. STRATCOM responsibility for global network operations. The Assistant Secretary of Defense for Networks & Information Integration (the Department of Defense's Chief Information Officer) in coordination with U.S. STRATCOM, has developed a defense-in-depth strategy for protecting the Department's computer networks. U.S. Joint Forces Command is developing an information operations evaluation capability to integrate computer network operations into warfighting activities more effectively, consistent with its role as joint force integrator established by the Unified Command Plan of 2004.

DoD photo

A Standard Missile-3 (SM-3) is launched from the Aegis cruiser USS Lake Erie as part of a Ballistic Missile Defense System (BMDS) test to defeat a medium range ballistic missile target.

QDR Decisions. To achieve the characteristics of the future joint force and build on progress to date, the Department will:

- Within two years, deploy an initial capability to deliver precision-guided conventional warheads using long-range Trident Submarine-Launched Ballistic Missiles.
- Reduce the number of deployed Minuteman III ballistic missiles from 500 to 450 beginning in Fiscal Year 2007.
- Retire four E-4B National Airborne Operations Center (NAOC) aircraft and accelerate procurement of two C-32 aircraft with state-of-the-art mission suites as replacement aircraft.
- Upgrade E-6B TACAMO command and control aircraft to sustain a survivable airborne link to strategic nuclear forces and provide an airborne cellular base station for domestic catastrophic events.
- Retire the U.S. STRATCOM Mobile Consolidated Command Center in Fiscal Year 2007, while funding a new distributed ground-based communications system to provide survivable and enduring command and control for nuclear forces starting in Fiscal Year 2007.
- Make additional investments in information assurance capabilities to protect information and the Department's computer networks.

- Strengthen coordination of defensive and offensive cyber missions across the Department.

- Leverage lessons learned from computer network attack and exploitation activities to improve network defense and adopt a defense-in-depth planning approach to protect information.

- Improve the Department's information sharing with other agencies and with international allies and partners by developing information protection policies and exploiting the latest commercial technologies.

Combating WMD

Vision. The future force will be organized, trained, equipped, and resourced to deal with all aspects of the threat posed by weapons of mass destruction. It will have capabilities to: detect WMD, including fissile material at stand-off ranges; locate and characterize threats; interdict WMD and related shipments whether on land, at sea, or in the air; sustain operations under WMD attack; and render safe or otherwise eliminate WMD before, during or after a conflict. The Department will develop new defensive capabilities in anticipation of the continued evolution of WMD threats. Such threats include electro-magnetic pulse, man-portable nuclear devices, genetically engineered biological pathogens, and next generation chemical agents. The Department will be prepared to respond to and help other agencies to mitigate the consequences of WMD attacks.

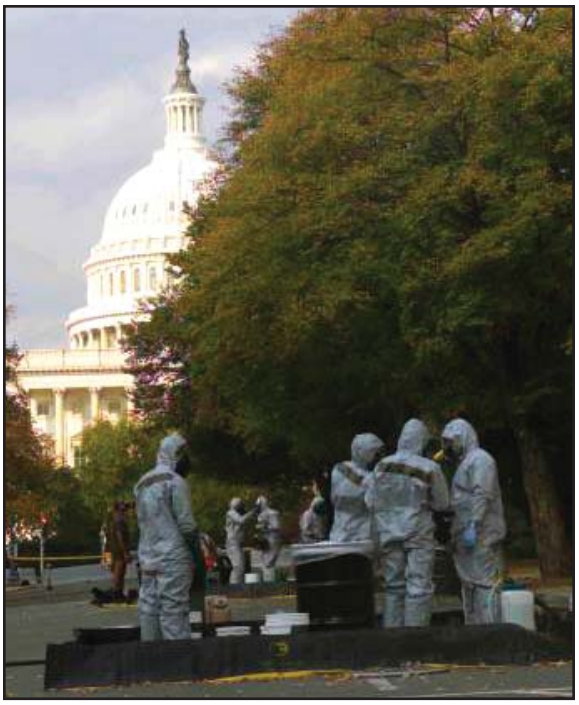

Photo by Corporal Bryant V. Cox, U.S. Marine Corps.

Marines of the Decontamination Team from the Chemical Biological Incident Response Force (CBIRF) responded to anthrax attacks in Washington, D.C. CBIRF teams have also been deployed in support of Operation Iraqi Freedom and are trained to manage a host of contingences.

Progress to Date. Since the 2001 QDR, the Department has nearly doubled its investments in chemical and biological defenses and implemented several important organizational changes to address the challenges posed by WMD more effectively. For the next five years, beginning in Fiscal Year 2006, the Department is further increasing funding for the Chemical Biological Defense Program (CBDP) by an additional $2.1 billion (an increase of approximately 20%), focused primarily on improving its research, development and testing infrastructure as well as expanding efforts to improve defenses against emerging chemical and biological threats. In 2004, the Department led the establishment of a National BioDefense Campus at Fort Detrick, Maryland – with the U.S. Army Medical Research Institute for Infectious Diseases (USAMRIID)

and the Defense Intelligence Agency's Armed Forces Medical Intelligence Center (AFMIC) at its core – to improve cooperation among agencies conducting research and development of medical biological defenses.

In 2002, the United States led a NATO effort to establish the Alliance's multinational CBRN Defense Battalion, a unit that can provide rapidly deployable chemical, biological, radiological and nuclear (CBRN) detection, identification and hazard response support in the event of a WMD attack. This unique multinational unit became operational in July 2004. To date, more than seventeen NATO countries have contributed forces and capabilities to this battalion.

In 2003, the United States launched the Proliferation Security Initiative (PSI) as a multinational effort to interdict WMD proliferation-related shipments. Since then, more than 60 countries have begun participating in the initiative. In the past year, the United States and ten of its PSI partners have quietly cooperated on more than eleven successful WMD interdiction efforts. The Department has played a leading role in efforts to improve the operational capabilities of the United States and other PSI nations, with more than 40 countries having hosted and participated in 19 multinational PSI interdiction training exercises and gaming activities.

In 2005, the Secretary of Defense modified the Unified Command Plan by designating the Commander of U.S. Strategic Command as the lead Combatant Commander for integrating and synchronizing efforts to combat WMD. This designation establishes for the first time a single focal point charged with integrating the Department's efforts for combating WMD in support of the geographic Combatant Commanders' operational requirements.

QDR Decisions. To achieve the characteristics of the future joint force and build on progress to date, the Department will:

- Designate the Defense Threat Reduction Agency as the primary Combat Support Agency for U.S. Strategic Command in its role as lead Combatant Commander for integrating and synchronizing combating WMD efforts.

- Expand the Army's 20th Support Command (CBRNE) capabilities to enable it to serve as a Joint Task Force capable of rapid deployment to command and control WMD elimination and site exploitation missions by 2007.

- Expand the number of U.S. forces with advanced technical render-safe skills and increase their speed of response. The Department will develop further recommendations to improve render-safe capabilities for the Fiscal Year 2008 budget.

- Improve and expand U.S. forces' capabilities to locate, track and tag shipments of WMD, missiles and related materials, including the transportation means used to move such items.

- Reallocate funding within the CBDP to invest more than $1.5 billion over the next five years

to develop broad-spectrum medical countermeasures against advanced bio-terror threats, including genetically engineered intracellular bacterial pathogens and hemorrhagic fevers.

The Department will conduct this last initiative in cooperation with partner agencies utilizing the National Biodefense Campus. After leading the initial effort, the Department will pass responsibility for further research to those agencies best suited to manage medical projects.

Joint Mobility

Vision. Rapid global mobility is central to the effectiveness of the future force. The joint force will balance speed of deployment with desired warfighter effects to deliver the right capabilities at the right time and at the right place. Effectiveness of mobility forces will be measured not only by the quantity of material they move, but also by the operational effects they help to achieve. Mobility capabilities will be fully integrated across geographic theaters and between warfighting components and force providers, with response times measured in hours and days rather than weeks. They will enable the Department's move from a large institutional force to a future force that concentrates more operational capabilities at the front line. They will underpin the transition from a Cold War-era garrisoned force to a future force that is tailored for expeditionary operations. Future joint forces will increasingly use host-nation facilities with only a modest supporting U.S. presence, decreasing the need for traditional overseas main operating bases with large infrastructures and reducing exposure to asymmetric threats. The U.S. overseas posture will include upgraded air support infrastructure, additional forward-deployed expeditionary maritime capabilities, long-range strike and ISR assets, and cutting-edge ground forces such as rotational Stryker units. The effective combination of seabasing, overseas presence, enhanced long-range strike, reach-back, and surge and prepositioned capabilities will reduce the forward footprint of the joint force.

Photo by Technical Sergeant Efrain Gonzalez, U.S. Air Force.

U.S. Navy personnel provide perimeter security for a C-17A Globemaster III aircraft operating in support of Operation Enduring Freedom. The operation marked the first successful airlift operation by C-17 aircraft into an undeveloped dirt landing strip.

Progress to Date. The Department's overseas posture plan and the Integrated Global Presence and Basing Strategy informed QDR assessments of mobility priorities. In addition, the recommendations of the BRAC, now being implemented, will support overseas restructuring and the imperative of rapid power projection, with domestic basing that provides needed training infrastructure. BRAC changes will also promote joint and multi-Service basing in order to achieve economies of scale. Global mobility has made significant advances in the last decade. The Department has procured 140 of 180 contracted C-17 heavy-lift aircraft and 27 lighter

C-130Js. Both are being fielded with defensive countermeasure systems, improving their ability to operate in irregular warfare environments. The Department is also considering the acquisition of a future KC-X aircraft that will have defensive systems and provide significant cargo carrying capacity while supporting its aerial refueling mission. The U.S. Air Force is upgrading its C-5 aircraft with new engines and modernized avionics to improve fleet reliability and mission capability rates. The Department is pursuing the development of Joint High Speed Vessel (JHSV) and inter-theater high-speed sealift while maintaining sealift capabilities to support the needs of the future joint force.

QDR Decisions. In accordance with Section 131 of the Authorization Act for Fiscal Year 2006, the Department provides the following assessment of the inter-theater airlift capabilities:

- Extensive investments in cargo transportability, strategic lift, and prepositioned stocks over the past decade have yielded military forces capable of responding to a broad spectrum of security challenges worldwide.

- To maintain and enhance this capability, the Department must continue to recapitalize and modernize its mobility platforms, complete the C-17 multiyear contract, replenish prepositioned stocks consumed in recent operations, and proceed with C-5 modernization efforts. The Department plans to acquire and modernize a fleet of 292 inter-theater airlifters (180 C-17s and 112 modernized and reliability-enhanced C-5s). C-17 tooling will be moved to offsite storage to preserve the option of procuring additional C-17s.

- In addition, the Department must continue to pursue enabling technologies for transformational logistics and innovative operational concepts such as seabasing.

The Department's Mobility Capabilities Study (MCS) examined the mobility force structure needed to support the *National Defense Strategy*. Study participants included the Military Departments, the Combatant Commands, the Joint Staff and the Office of the Secretary of Defense. The study analyzed the deployment of forces to two overlapping major wars as outlined in the Joint Staff-led Operational Availability (OA) studies. It also examined concurrent demands on the mobility system associated with multiple homeland defense events and contingency operations in other theaters. Included in these latter activities are the demands associated with Special Operations Forces' worldwide operations. Additionally, both the OA studies and the MCS took into account alterations in the deployment of forces associated with the Integrated Global Presence and Basing Strategy.

The MCS and OA studies assessed the capabilities provided by a combination of forward-deployed forces, prepositioned equipment, and forces deploying from the United States. The MCS found that programmed mobility forces were capable of deploying and sustaining combat forces called for in the scenarios. The simulation exploited the air transportability of modular brigade combat teams in support of Combatant Commanders'

needs. The swift employment of larger division-sized units relied upon a combination of airlift, fast sealift and prepositioned materiel. The study demonstrated the mobility system's ability to deploy these units on timelines consistent with the Combatant Commanders' needs, as well as to provide ongoing support to combat forces within the theater of operations.

To achieve the characteristics of the future joint mobility force and build on progress to date, the Department will also:

- Complete the C/KC-130 multi-year contract to procure an additional 18 Air Force C-130Js and 8 Marine Corps KC-130Js.
- Establish a joint program office for a new intra-theater light cargo aircraft for future expeditionary needs.
- Recapitalize the tanker fleet to ensure global mobility and power projection.

Intelligence, Surveillance, Reconnaissance (ISR)

Vision. The ability of the future force to establish an "unblinking eye" over the battle-space through persistent surveillance will be key to conducting effective joint operations. Future capabilities in ISR, including those operating in space, will support operations against any target, day or night, in any weather, and in denied or contested areas. The aim is to integrate global awareness with local precision. Intelligence functions will be fully integrated with operations down to the tactical level, with far greater ability to reach back to intelligence collection systems and analytic capabilities outside the theater. Supporting this vision will require an architecture that moves intelligence data collected in the theater to the users, rather than deploying users to the theater. Future ISR capabilities will be designed to collect information that will help decision-makers mitigate surprise and anticipate potential adversaries' actions. An essential part of the future ISR architecture is a robust missile warning capability.

The future force will define ISR needs by sensor or type of intelligence needed rather than the platforms that carry the sensors or the medium in which they operate. This approach will facilitate the substitution of one capability for another to achieve the same effect, and will allow the suppliers of sensor capability to meet the needs of Combatant Commanders more efficiently. This sensor-centric approach will also improve the ability to integrate data horizontally across sensor inputs, thereby ensuring that information is available on a timely basis to a much wider range of users. Future ISR systems will employ faster and more secure technical solutions to improve the automation, integration, analysis and distribution of information to operational forces.

The United States should continue to enjoy an advantage in space capabilities across all mission areas. This advantage will be maintained by staying at least one technology generation ahead of any foreign or commercial space power. The Department will continue to develop responsive space capabilities in order to keep

access to space unfettered, reliable and secure. Survivability of space capabilities will be assured by improving space situational awareness and protection, and through other space control measures. Penetrating airborne surveillance will complement space–based capabilities in order to focus on areas of interest in or near denied areas.

Progress to Date. Experience from recent operations, supported by the findings and recommendations in the 2001 QDR and a number of studies and commissions chartered by the Congress and the President – including those on national security space management, remote sensing, weapons of mass destruction and terrorism – have underscored the increasingly critical role that intelligence capabilities, including those in space, play in supporting military operations, policy and planning and acquisition decisions in the Department.

The Department has undertaken a number of organizational and operational changes, and has directed new or additional investments to increase intelligence and space capabilities and better manage the ISR resources available to the warfighter. The Department established the Under Secretary of Defense for Intelligence to provide leadership, guidance and oversight of Defense Intelligence, Security and Counterintelligence to meet Combatant Commander requirements. It also created the Executive Agent for Space and implemented steps to meet the demand for space services, including intelligence, from defense and non-defense users.

The Department has implemented measures to strengthen human intelligence (HUMINT) capabilities, including steps to improve cultural and linguistic skills across the joint force. It is improving the integration of intelligence with operations as well as integration across intelligence disciplines (e.g., imagery, signals and human intelligence). In particular, the Department is establishing Joint Intelligence Operations Centers within the Combatant Commands and developing Intelligence Campaign Plans for all theaters. Under U.S. STRATCOM, the Department established a functional command to synchronize strategy and planning and integrate all national, theater and tactical ISR capabilities.

Photo by Specialist Johnny R. Aragon, U.S. Army

A U.S. military intelligence officer (middle) and Afghan military intelligence soldier (right) speak privately with the elder of a village (left) in the Shah Wali Ko District, Afghanistan. Coalition Forces are building capacity of indigenous forces, forging relationships with local leaders and preventing Taliban attempts to reestablish themselves in the area.

To manage more effectively the Department's intelligence resources, the Department has approved the creation of a Military Intelligence Program and is implementing an enhanced Defense Civilian Intelligence Personnel System to better compete for, develop and retain the professional intelligence workforce. The Department has increased the number of intelligence professionals working in collection and analytical disciplines to support growth in homeland defense and war on terror missions.

Combat Support Agencies have also relocated or deployed significant numbers of intelligence analysts, intelligence collectors and collection managers to areas where they can be of greatest value to their customers.

QDR Decisions. To achieve the future joint force characteristics and build on progress to date, the Department will:

- Improve both the capability and capacity of defense human intelligence assets to identify terrorists and characterize and penetrate their networks, in cooperation with other government agencies and international partners.
- Increase measurement and signature intelligence (MASINT) capabilities to identify enemy WMD and their delivery systems, and to support other applications.
- Expand signals intelligence (SIGINT) collection with sufficient revisit rate and geo-location capabilities for military operations. The Aerial Common Sensor (ACS) program will be restructured as the Department explores a new tri-service solution to meet "multi-intelligence" requirements.
- Fund the U.S. contribution to establish a NATO Intelligence Fusion Center.
- Increase investment in unmanned aerial vehicles to provide more flexible capabilities to identify and track moving targets in denied areas.
- Realign capabilities to free up resources for next generation systems and modernize and sustain selected legacy systems (e.g., a new engine for the Joint Surveillance Target Attack Radar System).
- Implement a new imagery intelligence approach focused on achieving persistent collection capabilities in cooperation with the Director of National Intelligence. Investments in moving target indicator and synthetic aperture radar capabilities, including Space Radar, will grow to provide a highly persistent capability to identify and track moving ground targets in denied areas.

The Space Radar program (in development) will provide persistent, all-weather, day and night surveillance and reconnaissance capabilities in denied areas for the Department of Defense and the Intelligence Community. (Artist's conception)

- Balance air- and space-borne ISR capabilities and integrate them with other forces, and investigate the use of high-altitude loitering capabilities.
- Fully fund E-10A technology demonstrator while terminating procurement.
- Improve responsive space access, satellite operations, and other space enabling capabilities

such as the space industrial base, space science and technology efforts, and the space professional cadre.

- Increase Maritime Domain Awareness through improved integration with interagency and international partners, and accelerated investment in multinational information sharing systems such as the Automatic Identification System and the Multinational Information Sharing System.

Achieving Net-Centricity

Vision. Harnessing the power of information connectivity defines net-centricity. By enabling critical relationships between organizations and people, the Department is able to accelerate the speed of business processes, operational decision-making and subsequent actions. Recent operational experiences in Afghanistan and Iraq have demonstrated the value of net-centric operations. Ground forces were able to reach back to remote UAV pilots in Nevada to direct UAVs in support of their operations, achieving a level of air-ground integration that was difficult to imagine just a decade ago. Such connectivity is helping joint forces gain greater situational awareness to attack the enemy.

Achieving the full potential of net-centricity requires viewing information as an enterprise asset to be shared and as a weapon system to be protected. As an enterprise asset, the collection and dissemination of information should be managed by portfolios of capabilities that cut across legacy stove-piped systems. These capability portfolios would include network-based command and control, communications on the move and information fusion. Current and evolving threats highlight the need to design, operate and defend the network to ensure continuity of joint operations.

Progress to Date. The foundation for net-centric operations is the Global Information Grid (GIG), a globally interconnected, end-to-end set of trusted and protected information networks. The GIG optimizes the processes for collecting, processing, storing, disseminating, managing and sharing information within the Department and with other partners. The Department has made steady progress implementing net-centric systems and concepts of operation. It has deployed an enhanced land-based network and new satellite constellation as part of the Transformational Communication Architecture to provide high-bandwidth, survivable internet protocol communications. Together, they will support battle-space awareness, time-sensitive targeting and communications on the move. Deployed

Photo by Photographer's Mate Airman Dominique V. Brown, U.S. Navy.

Air Traffic Controllers stand watch in the Carrier Air Traffic Control Center aboard the USS Nimitz. The collection and sharing of information such as that obtained by the USS Nimitz in support of Maritime Security Operations denies terrorists use of the maritime environment as a venue for attack or to transport personnel, weapons or other material.

terminals – from command and control (Joint Tactical Radio System) to very large bandwidth ISR systems – are extending the communications "backbone" down to the smallest tactical unit in the field. The Department has also implemented a data strategy enabling the fusion of information from any platform or terminal. Pulling all this together, the revised Unified Command Plan has assigned U.S. STRATCOM lead responsibility to operate and protect the Department's Global Information Grid.

QDR Decisions. To move closer toward this vision and build on progress to date, the Department will:

- Strengthen its data strategy – including the development of common data lexicons, standards, organization, and categorization – to improve information sharing and information assurance, and extend it across a multitude of domains, ranging from intelligence to personnel systems.
- Increase investment to implement the GIG, defend and protect information and networks and focus research and development on its protection.
- Develop an information-sharing strategy to guide operations with Federal, state, local and coalition partners.
- Shift from Military Service-focused efforts toward a more Department-wide enterprise net-centric approach, including expansion of the Distributed Common Ground System.
- Restructure the Transformational Satellite (TSAT) program to "spiral develop" its capabilities and re-phase launches accordingly, and add resources to increase space-based relay capacity.
- Develop an integrated approach to ensure alignment in the phasing and pacing of terminals and space vehicles.
- Develop a new bandwidth requirements model to determine optimal network size and capability to best support operational forces.

Photo by Staff Sergeant Todd Lopez, U.S. Air Force.

The master air attack plan (MAAP) toolkit is an example of software tools that will improve accuracy and facilitate planning. The toolkit is designed to make production of the MAAP and subsequent air tasking order quicker and less prone to error.

Joint Command and Control

Vision. The joint force of the future will have more robust and coherent joint command and control capabilities. Rapidly deployable, standing joint task force headquarters will be available to the Combatant Commanders in greater numbers to meet the range of potential contingencies. These headquarters will enable the real-time synthesis of operations and intelligence functions and processes, increasing

joint force adaptability and speed of action. The joint headquarters will have better information, processes and tools to design and conduct network-enabled operations with other agencies and with international partners. Implementation of Adaptive Planning in the Department will further enhance the lethality of both subordinate standing joint task force headquarters and their parent Combatant Commands by enabling them to produce high-quality, relevant plans in as little as six months. Adaptive Planning is the catalyst that will transform the Department's operational planning processes and systems. Furthermore, Global Force Management, the Department's model for force management, reporting and analysis, will provide Commanders with an unprecedented depth of up-to-date and decision-quality information on unit readiness, personnel and equipment availability.

Progress to Date. Since 2001, the Department has made marked progress towards strengthening joint operations as a focus of defense transformation. The activation of standing joint task force headquarters has improved the ability of the force to respond to crises. With a "core element" – a standing command and control team with functional and geographic expertise – these headquarters provide peacetime planning capabilities for contingencies, a departure from past practices of implementing ad hoc approaches after crises occur. The first Standing Joint Force Headquarters (core element) was established in 2004 and has since deployed to Iraq, the Horn of Africa and to relief efforts associated with Hurricane Katrina and the Pakistani earthquake. The implementation of Global Force Management, by integrating data on worldwide availability and readiness, allows the Department's leadership to source forces flexibly for operations, regardless of where they are located or what command they have traditionally supported.

QDR Decisions. To achieve the characteristics of the future joint force and build on progress to date, the Department will:

- Transform designated existing Service operational headquarters to fully functional and scalable Joint Command and Control Joint Task Force-capable Headquarters beginning in Fiscal Year 2007.
- Establish a second operationally ready and immediately deployable Standing Joint Force Headquarters core element at the U.S. Joint Forces Command consistent with its responsibilities as Joint Force Integrator under the 2004 Unified Command Plan.
- Automate and link key planning processes in a networked, virtual environment to enable real-time collaboration and rapid production of high-quality planning products.
- Implement Adaptive Planning across the Department by increasing the number of fully qualified planners, investing in advanced planning toolsets, and organizing planning staffs to exploit the advantages that new technology and highly trained, experienced planners provide.
- Increase resources to develop software, tactics,

techniques, procedures and other initiatives needed to support the Global Force Management System.