The United States has encountered new challenges in its efforts to shape a more stable and secure world in recent years. These include building a safer relationship with an independent but nuclear armed Russia and dealing with the proliferation of weapons of mass destruction as well as regional threats to our national interests. In a radically changed, complex, and volatile world, it is necessary though difficult to define security interests, craft a military strategy, and develop doctrine to organize, equip, and employ our forces.

For U.S. Strategic Command (STRATCOM)—a post-Cold War command responsible for the Nation’s

**Nuclear weapons have proven effective at preventing conflicts. In the wake of the Cold War, however, the role of these weapons and the concept of deterrence are being reexamined. Today deterrence requires a full, diverse set of options which are flexible and effective against a range of threats. Moreover, they must be readily perceptible to a potential enemy. While deterrence may depend more on conventional forces than in the past, the Nation must maintain credible nuclear capabilities into the future. As the United States reduces the size of its nuclear arsenal, care must be taken to guarantee that our capabilities contribute to the credibility and viability of deterrence.**

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strategic nuclear deterrent—this challenge has special meaning. The establishment of STRATCOM in June 1992 consolidated command and control of our strategic nuclear forces under one CINC. The command has also been tasked to support the regional CINCs in nuclear planning and counterproliferation. The STRATCOM mission is basically the same as that of the other combatant commands—to deter military attack against the United States and its allies and, should that fail, to employ forces—although our assigned weapons certainly possess unique characteristics.

Joint doctrine is crucial in defining means—the kinds of forces the Nation requires—and how they should be employed to meet strategic ends. Now more than ever, the Armed Forces must be guided by a “unity of effort” as defined in joint doctrine. We need a clearer understanding of the contributions of all our forces—nuclear and non-nuclear, offensive and defensive—to this joint effort, both for deterrence and warfighting, in support of national rather than parochial interests. Doctrine contributes to this effort not only by adapting to change but by leading it.

Deterrence and Warfighting

Our national security strategy of engagement and enlargement has brought the capabilities of the military into a closer relationship with political and other instruments of national power. To former Secretary of Defense William Perry, this translated into three lines of defense—to prevent, deter, and defeat—which feature cooperative threat reduction, arms control, alliances, peace operations, and humanitarian assistance as complementary elements of defense strategy. Similarly, the Chairman has outlined a national military strategy with three elements: peacetime engagement, deterrence and conflict prevention, and fight and win. Both of these frameworks have established a role for the Armed Forces that is focused on proactive ways to keep the peace.

These ideas remind us that the refrain “to fight and win our Nation’s war” is not the first responsibility of our military. As Joint Vision 2010 states, “the primary task of the Armed Forces will remain to deter conflict—but should deterrence fail, to fight and win our Nation’s war.” This is not to suggest a contradiction between deterrence and warfighting; they complement each other but are not identical. Warfighting requires a capacity to wage war effectively, with options ranging across the conflict spectrum.

Deterrence is more likely to fail. Thus effective deterrence requires a range of credible warfighting capabilities—suited to the circumstances, threat, and interests—with the clearly communicated determination to use them in the event of aggression. As experienced in countless cases, this requirement applies to both nuclear and non-nuclear forces.

If a conflict breaks out despite our best efforts to prevent it, deterrence does not cease to be a strategic objective. We seek to “control escalation and terminate the conflict on terms favorable to the United States and its allies.” Regardless of the nature of the difficulty, the United States seeks to deter an enemy from escalating the intensity or scope of any conflict and, once our objectives are met, to deter it from continuing hostilities at all. In the case of the Persian Gulf War, for example, President Bush told Saddam Hussein that the United States would not tolerate the use of chemical or biological weapons. And though never explicitly threatened, Iraq believed that the United States was prepared to use nuclear weapons if it did not heed America’s warning. This demonstrates that deterrence is inherently strategic, aimed at directly influencing enemy decisions on using force even in the midst of conflict. Warfighting also must not be understood in only operational or tactical terms—vis-à-vis its effect on opposing forces in the battlespace—but in terms of its strategic effect on enemy leaders, where the ultimate decision is made on using force.

In considering military strategy and doctrine, planners legitimately emphasize conventional warfighting. For example, having recognized the contribution of nuclear weapons to deterrence, JV 2010 argues that “we will largely draw upon our conventional warfighting capabilities...to deter, contain conflict, fight and win, or otherwise promote American interests and values.” Such a position is understandable, especially given that developing, training, and sustaining the requisite conventional forces consumes the largest share of the defense budget. It also highlights a desire to reduce reliance on nuclear weapons. But the experience of the past few years confirms that nuclear weapons continue to provide an essential complement to conventional forces. Notwithstanding new technology, the strategic end is the same—to convince an enemy that the result of aggression against the United States or its interests is dangerous.

Nuclear Weapons

From the advent of the atomic age, it has been clear that nuclear weapons changed warfare. As Bernard Brodie recorded in 1946, “Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose.” Yet nuclear weapons proved effective in preventing war.
the first half of this century the world experienced two global conflicts. World War I resulted in an estimated nine million dead, twice the cumulative wartime fatalities of the previous 500 years. World War II took a toll of nearly 55 million dead. While the world has not seen the end of war, there have been no conflicts with any-where near the scale of casualties of those two global contests. Any crisis that punctuated the Cold War could have been many times more devastating, but nuclear weapons appear to have had a restraining effect. As Sir Michael Quinlan recently noted:

The absence of war between advanced states is a key success. We must seek to have preserved the peace. As Sir Michael Quinlan recently noted:

More than any other weapon in America’s arsenal, nuclear arms have remained morally and politically controversial. In the view of the U.S. Government and the International Court of Justice, there is no customary or conventional international law that prohibits nations from employing them in armed conflict. Nonetheless, these weapons have represented a paradox since their inception. On the one hand, their deterrent value derives from their immense destructive nature—the ability to kill more people in a few hours than perished during World War II. On the other hand, that being destructive denies their usefulness, placing into question whether a democratic society would resort to such weapons, especially in defense of others.

Recently the United States has demonstrated its conventional warfighting capability, most notably in the Persian Gulf. Nuclear deterrence, however, cannot depend upon such demonstrated capability—indeed, the promise of nuclear strategy is that victory loses much of its meaning. Yet despite their special character, considerations regarding their employment must conform to the laws of armed conflict, including military necessity, proportionality, and avoidance of collateral damage and unnecessary suffering. Thus, regarding nuclear weapons as instruments of terror rather than purpose is unacceptable to the Nation; we must preserve the capability to hold at risk a range of legitimate targets and the flexibility to employ forces consistent with the circumstances.

New Threats and Challenges

The nuclear genie did not escape from the proverbial bottle because of the Cold War, and the end of superpower confrontation did not put it back. Nuclear weapons certainly dominated the U.S.-Soviet relationship throughout the Cold War, and remain central to the U.S.-Russian strategic relationship. The DOD Nuclear Posture Review acknowledged the reduced role of nuclear weapons in U.S. security but emphasized that as long as they remain on the international scene, deterring attacks on the United States and its allies must be our objective. Moreover, in successive national security strategy statements, Presidents have reaffirmed that the United States will retain a triad of strategic nuclear forces for deterrence.

During the Cold War, defense planners alternated between depending on nuclear weapons to compensate for more expensive conventional military assets and relying on them to less to reduce risks. At the time we were conscious not just of strategic nuclear threats to the American homeland but the overwhelming conventional military power opposing the United States and its allies. Today that latter concern is virtually forgotten. In NATO, the re-construction of the strategy of flexible response reflected reduced reliance on nuclear weapons, even though the Alliance still declares that they “make a unique contribution in rendering the risks of any aggression incalculable and unacceptable.” Since the Cold War ended, likely threats involve use of nuclear, biological, and chemical weapons against the United States, its forces, or its allies by regional powers, rogue states, and non-state actors. Thus, joint doctrine asserts that “the fundamental purpose of U.S. nuclear forces is to deter the use of weapons of mass destruction, particularly nuclear weapons, and to serve as a hedge against the emergence of an overwhelming conventional threat.” This is not to say that the United States will necessarily employ nuclear weapons in response to an attack. As in Desert Storm, declaratory policy on use remains intentionally ambiguous, neither prescribing nor proscribing it.

Current and projected threats to U.S. interests, therefore, mandate a nuclear capability that offers a diverse and flexible set of options rather than the large exchange scenarios that dominated Cold War nuclear planning.

Arms Control and Force Reductions

To meet the demands of this new world, the United States needs fewer nuclear weapons than during the Cold War. In fact, Washington and Moscow will reduce their strategic arsenals by some 50 percent under the START I Treaty which went into effect in December 1991, and the new force levels will be reduced by over 40 percent once Russia ratifies START II. Moreover, since the late 1980s the United States has unilaterally reduced its non-strategic nuclear forces by roughly 90 percent. In addition, bombers and tankers have been off alert since September 1991, and ballistic missiles have been detargeted since May 1994.

We anticipate further reductions. Within the context of the Nuclear Nonproliferation Treaty (NPT), the United States—like the other parties—is committed:

...to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

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But such reductions are not ends in themselves. The ultimate determinant of their utility is the extent to which they serve security and stability. Both NPT and recent appeals for the complete elimination of nuclear weapons acknowledge certain hurdles that must be negotiated before such steps can be taken, including political conflicts which motivate the acquisition of nuclear weapons, as well as questions of verification and various technical issues.

In conjunction with NPT, the United States has affirmed its intent to assist any non-nuclear weapons state that becomes a victim of nuclear aggression or intimidation. In addition, nuclear weapons underpin explicit extended deterrence commitments to alliances like NATO. Precipitous reductions in nuclear deterrent capabilities which undermine the credibility of such assurances may cause states that have foregone such weaponry to reconsider whether they need their own nuclear arms to guarantee security.

Thus, as the United States draws down its nuclear forces to meet treaty obligations, the pace and form of the reductions—as well as the character of remaining forces—are more important than the numbers that dominate the headlines. We must ensure that our remaining forces are effective against the threats and challenges which characterize the post-Cold War world. It is the role of doctrine to outline how this might be done—and the responsibility of the defense establishment to turn that doctrine into real capability.

Credible Options

To preserve a credible, effective deterrent—with or without nuclear weapons—the Nation must maintain the perceived capability to serve a political purpose with military effect, with a range of credible options that can be controlled in their use and tailored to meet the objective. Ultimately, the President alone makes decisions on using nuclear weapons and thus requires the widest possible range of options and clear understanding of their political and military consequences. In doctrinal terms, forces and related command, control, communications, computers, and intelligence must be diverse, flexible, effective, survivable, enduring, and responsive. But the simplicity of such needs can obscure the difficulty of sustaining requisite capabilities. And while the United States downsizes its nuclear infrastructure, certain factors will be critical to the viability of the deterrent.

Strategic Forces

Contrary to conventional wisdom, strategic arms control agreements over the past quarter century did not actually limit nuclear weapons; rather, they eventually restricted delivery vehicles, namely, the triad of land-based intercontinental ballistic missile (ICBM) launchers, ballistic missile submarines (SSBNs), and bombers. Each of these weapons platforms contributes...
unique benefits to overall deterrent posture, but it may become more difficult in time to sustain each leg of the triad as forces are drawn down further. Strategic bombers provide the greatest flexibility. B-52s with cruise missiles have a range of capabilities against both strategic and theater targets, thus offering critical options to the National Command Authorities (NCA). As B-2s replace B-1s in the nuclear force, they will furnish unique capabilities to various contingencies. Bombers are capable of nuclear and conventional operations and accordingly pose special issues. They are not on alert and may be tasked to support regional CINCs in conventional operations in crises. Placing them on nuclear alert may thus necessitate difficult choices between strategic deterrence and operational requirements of CINCs. Moreover, the transition to alert status must be managed carefully to ensure that the action serves deterrence rather than being viewed as provocative.

Ballistic missile submarines remain the most potent weapon system in the force, with each Trident SSBN carrying 24 ballistic missiles, each armed with up to eight warheads. The last of 18 Tridents are now being readied for operational deployment. When START II goes into effect, the Navy will retain 14 Tridents—based on both coasts—able to respond to contingencies anywhere in the world. The most significant attribute of the submarine leg of the triad is its survivability. With eight boats usually at sea, we maintain a powerful assured retaliatory capability. In port, however, a ballistic missile sub is potentially one of the most destabilizing weapons since it is an extremely lucrative target which makes it crucial to preserve a force large enough for two-ocean operations.

Intercontinental ballistic missiles remain on full alert in some 550 silos in the United States. Fifty silos have the Peacekeeper with up to ten warheads that will be eliminated under START II. The balance have the Minuteman III, each with up to three warheads that will be reduced to single warheads under START II. These weapons remain the most responsive in the force. To some, ICBMs are a vestige of the Cold War, the least survivable leg of the triad. They must be on alert to pose a credible threat lest they be seen as certain kills in a preemptive strike. At the same time, they contribute to the stability of the deterrent by forcing an enemy to take them into account when contemplating a strike. Without ICBMs, the Nation has two SSBN bases, three strategic bomber bases, and only a handful of relatively soft command and control and other support nodes. Even though we would still have a potent retaliatory capability at sea, the prospect of destroying the bulk of our nuclear infrastructure with a handful of weapons could be too tempting even for a state with a few dozen weapons, never mind Russia's arsenal.

In short, doctrine prescribes that forces have a combination of attributes represented by the triad. Moreover, as forces are drawn down we must maintain a sufficiently diverse mix as a hedge against the unforeseen loss of a particular platform, weapon, or capability, especially given the lack of nuclear testing and new weapons under development. The ability to preserve and sustain a triad as forces are reduced is increasingly significant for a stable deterrent, independent of warfighting implications of particular weapons ceilings that might be agreed to in arms control negotiations.

**Information**

Though weapons themselves typically draw the most attention, information is increasingly the glue that binds forces and enables them to be employed consistent with their strategic purpose. JV 2010 properly highlights the role of ensuring information superiority. C2 became C3 and then C4 reflecting greater interconnectivity among command, control, communications, and computers. Now we need to integrate information about our own forces and capabilities with information on enemy forces from intelligence, surveillance, and reconnaissance (ISR). The integration of C1 and ISR (CISR) systems ultimately is key to ensuring that CINCs are tied together and to NCA with free-flowing data on threats, targets, forces, and decisions. This effort is focused on offensive capabilities; ultimately, we must integrate defensive capabilities to ensure unity of effort.

An integrated and enduring ISR architecture is increasingly important to STRATCOM, which has always had responsibility for providing NCA with various options regarding the use of nuclear weapons and advice on the consequences. Now with the task of supporting theater CINCs in a crisis,
we will likely find ourselves in a tele-
conference with regional CINC's, other
supporting CINC's, and NCA to con-
sider a full range of options involving
targets, weapons packages, and the im-
pact of each. Critical to this inter-
change is the ability to plan based on
dynamic intelligence and force data
and the capacity to share information
in a timely manner with supported de-
cisionmakers.

Such connectivity must also be
sustainable—and thus survivable—
throughout a conflict to ensure that
force is used consistent with military
necessity. The most critical targets, for
example, may be relocatable, requiring
timely information on their location
and disposition. Forces that are inca-
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