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**Strategic Offensive Forces and the
Nuclear Posture Review's "New Triad"**

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Introduction: The Changing Security Environment

To understand where strategic nuclear offensive forces fit into a 21st Century U.S. national defense strategy, one must recognize that the U.S. Government has tried on several occasions to develop a defense posture relevant to post Cold War realities. The 1991 Base Force Review and the 1993 Bottom-Up Review (BUR) were both responses to the perception that a force structure appropriate for 1980 was likely ill-suited to address America's security challenges beyond 2000. However, in execution, these attempts were less than successful; both were rightly criticized as *a priori* attempts to secure a "peace dividend." The 1997 Quadrennial Defense Review (QDR) met with much the same criticism—that it was just another 'budget drill' designed to support planned force structure and protect parochial interests. The 1994 Nuclear Posture Review (NPR) was similarly criticized for doing little more than rationalizing decisions already made in the START II arms control process.¹

The Bush Administration evidently took those criticisms to heart when, in response to Congressional mandate, it undertook a new QDR in 2001.² The Bush team also conducted a new NPR focused on creating a strategic framework that would account for the changing realities of the post-Cold War world.³ This paper will examine the 2002 NPR, among other factors, as a basis of rethinking the role of strategic nuclear forces and the ICBM in U.S. national security strategy.

The NPR and the strategic framework it begins to elucidate, accept the notion that strategic nuclear weapons continue to play vital roles in foreseeable U.S. defense planning. Some of those roles include:

¹ Senate Armed Services Committee, *Briefing on Results of the Nuclear Posture Review*, 103rd Cong., 2d sess. (Washington, DC: GPO, 1994); Stephen A. Cambone and Patrick J. Garrity, "The Future of U.S. Nuclear Policy," *Survival* 36, no. 4 (winter 1994/95), pp. 73-95; and John Schrader, Leslie Lewis, and Roger Allen Brown, *Quadrennial Defense Review (QDR) Analysis: A Retrospective Look at Joint Staff Participation*, Rand Documented Briefing No. DB-236-JS, available at <http://www.rand.org/publications/DB/DB236>.

² DoD, *Quadrennial Defense Review Report* (Washington, DC: DoD, September 30, 2001), available at <http://www.defenselink.mil/pubs/qdr2001.pdf>.

³ See "Nuclear Posture Review Excerpts," January 8, 2002, available at <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm>; J.D. Crouch, Assistant Secretary of Defense for International Security Policy, "Special Briefing on the Nuclear Posture Review," January 9, 2002, available at http://www.defenselink.mil/news/Jan2002/t01092002_t0109npr.html (transcript) and <http://www.defenselink.mil/news/Jan2002/g020109-D-6570C.html> (slides); Donald H. Rumsfeld, Secretary of Defense, unclassified cover letter for Nuclear Posture Review report to Congress, January 9, 2002, available at <http://www.defenselink.mil/news/Jan2002/d20020109npr.pdf>; Office of Public Affairs, Office of the Secretary of Defense, "Pentagon Briefing: 2002 Nuclear Posture Review," fact sheet, January 10, 2002; Douglas J. Feith, Under Secretary of Defense for Policy, John A. Gordon, Administrator of the National Nuclear Security Administration, and Adm. James O. Ellis, USN, Commander in Chief, Strategic Command, prepared statements before the Senate Armed Services Committee, February 14, 2002, available at http://www.senate.gov/~armed_services. All information regarding the content of the NPR is drawn from these and other published government sources.

- Although conflict with Russia is no longer considered an immediate contingency, the mix within the active U.S. nuclear stockpile coupled with a responsive infrastructure will allow the U.S. to maintain a ‘continuity of traditional deterrence’ should relations with Russia, or perhaps China, sour.⁴
- The structure and size of the U.S. nuclear force may dissuade so-called “rogue states” or other adversaries from acquiring, or failing that using, weapons of mass destruction (WMD).
- Nuclear forces, in tandem with a proven reconstitution capability, might deter aspiring peer competitors.
- The reduced U.S. nuclear arsenal will provide a “hedge” of strategic capabilities, allowing investment in an exploration of defenses and conventional alternatives.
- Nuclear forces provide options for striking some WMD facilities and hard and deeply buried targets (HDBT).
- Nuclear weapons also serve as a secure guarantor of American power in the face of asymmetric attacks from small, despotic countries, failed states, non-state actors—all with access to an increasingly lethal toolbox of means.

Instead of simply accepting the above and moving on, it is important to understand the root circumstances that drive the NPR’s assessment. This NPR expresses a new vision of the composition and utility of strategic forces. Thus the way we look at our existing arsenal of strategic capabilities, including nuclear-armed ICBMs must be recast into this new context; the old Cold War arguments and templates do not necessarily apply. Even if a future administration were to reject this NPR’s direction, the changes in the strategic environment that serve as drivers for its conclusions will have to be addressed. Those changes include: the end of the Soviet threat; the rise of new, different challengers using asymmetric means; and the proliferation of weapons of mass destruction and other lethal military technologies.

The Fall of the Soviet Empire

On May 24, 2002 U.S. President George W. Bush and Russian President Vladimir Putin signed the Strategic Offensive Reductions Treaty—the Moscow Treaty—under which both countries committed to reduce operationally deployed strategic offensive warheads to a level between 1,700 and 2,200 by 2012. The agreement was a startling departure from past arms control practice in that it was brief, only about three pages, and

⁴ Douglas J. Feith, Under Secretary of Defense for Policy, prepared statement before the Senate Armed Services Committee, February 14, 2002, p. 6 available at http://www.senate.gov/~armed_services. Also, as Secretary of Defense Rumsfeld noted: “The reality is [that] we live in the world, there is a security environment, Russia exists and has capabilities to be sure, but so does the People's Republic of China, and they are increasing their defense budget. And they are increasing their nuclear capabilities purposefully.” Donald H. Rumsfeld, Secretary of Defense, testimony before the Senate Foreign Relations Committee, July 17, 2002, available at <http://www.defenselink.mil/speeches/2002/s20020717-secdef1.html>.

did not include exhaustive detail.⁵ Moreover, the Bush administration approached the negotiations having publicly stated an intent to reduce to this level with or without parallel Russian reductions or a negotiated treaty.

Some commentators on strategic affairs expressed disappointment that the Bush Administration's NPR and the Moscow Treaty did not make deeper reductions. They asked why the once-rival superpowers failed to seize the historic opportunity to eliminate nuclear forces altogether.⁶ These comments fail to appreciate the fundamental change in U.S. strategic thinking: the Cold War concepts of parity and strategic stability are no longer terribly relevant to the demands we are likely to place on U.S. strategic capabilities. The Soviet Union with its fundamental ideological hostility to the United States has disappeared from the foreseeable strategic landscape. With the end of that conflict came an end to the need for an inherently adversarial arms control process and an end to the use of the Russian strategic force as the near-exclusive relevant metric in U.S. nuclear force sizing. The end of the Soviet Union has left the United States in the unique position of global superpower with no credible peer competitor.⁷

New, Different Challengers

The shock and loss of September 11 should awaken even the most complacent Americans to the notion that threats still exist despite the Soviet Union's passing. The new world of emerging security challenges includes aspiring regional powers. China comes first to mind. While the People's Republic of China does not possess a vast nuclear arsenal at present, Beijing's efforts to modernize its nuclear forces are a growing concern to U.S. defense planners.⁸ China's DF-5 missiles can deliver nuclear weapons up to 7,800 miles, and China is modernizing its intercontinental force with the DF-31 and the DF-32 ICBMs and the JL-2 SLBM. America and our friends and allies in the Pacific must also be concerned about the PRC's steady build-up of short, medium, and intermediate range ballistic missiles, anti-ship missiles, and conventional forces across from Taiwan; this buildup is accompanied by occasional bellicose acts toward the United States and disturbing rhetoric about reunifying the 'renegade province' with the

⁵ To be sure, reference to the START I agreement enables such brevity, but only in part. For example "operationally deployed warheads," the items to be counted, are left undefined.

⁶ See, for example, William M. Arkin, "Numbers Aren't Everything," *Bulletin of the Atomic Scientists* 58, no. 5 (September/October 2002), p. 76; John Isaacs, "Ready, Aim, Fire," *Bulletin of the Atomic Scientists* 58, no. 4 (July/August 2002), pp. 21, 68-69; Rose Gottemoeller, "Arms Control in a New Era," *Washington Quarterly* 25, no. 2 (spring 2002), pp. 45-58; Philipp C. Bleek, "Democrats Criticize Nuclear Posture Review," *Arms Control Today* 32, no. 2 (March 2002), pp. 23-24; and Hans M. Kristensen, "Bomb Deal a Dud, Part One," *Bulletin of the Atomic Scientists* 58, no. 1 (January/February 2002), pp. 25-26.

⁷ See William C. Wohlforth, "The Stability of a Unipolar World," *International Security* 24, no. 1 (summer 1999), pp. 5-41; and Christopher Layne, "The Unipolar Illusion: Why New Great Powers Will Arise," *International Security* 17, no. 4 (spring 1993), pp. 5-51.

⁸ See David J. Smith, "Sun Tzu and the Modern Art of Countering Missile Defense," *Jane's Intelligence Review* 12, no. 1 (January 2001), pp. 35-39; Yihong Zhang, "China's Rising," *Jane's International Defense Review* (August 2002), pp. 36-39; Mark A. Stokes, *China's Strategic Modernization: Implications for the United States* (Carlisle, PA: Strategic Studies Institute, September 1999); and Jim Garamone, "Chinese Military Power Secret, but Growing," American Forces Press Service, July 19, 2002, available at http://www.defenselink.mil/news/Jul2002/n07192002_200207191.html.

mainland.⁹ Chinese nuclear forces, including intercontinental forces, give ‘teeth’ to their diplomacy and vastly complicate U.S. planning to deter a conventional conflict in the Strait of Taiwan.¹⁰

Other regional actors of potential concern include the “axis of evil” countries—North Korea, Iraq, and Iran.¹¹ Their military power and global influence do not approach those of the United States, but their ability to damage regional U.S. interests and perhaps even strike targets in the U.S. should not be underestimated. The conventional military forces of these countries are among the largest in the world and all three are striving to acquire, if they do not have already, some level of nuclear capability.¹² They almost certainly possess chemical and biological weapons. They either have or are building intermediate range and long-range missiles, including hard-to-target mobile systems. For example, Iran’s Shahab-3, a medium-range ballistic missile can threaten U.S. and allied forces in the Persian Gulf, Turkey, or Central Asia.¹³ North Korea has similar weapons, and is one of the principal sources of proliferation to other ‘rogue regimes.’¹⁴ The WMD potential of these countries poses an asymmetric challenge to the overwhelming military power of the United States.

In addition to the relatively traditional concept of aspiring regional powers, America faces a new and different kind of challenge. *Asymmetric* weapons and tactics are

⁹ Bill Gertz, “Missiles Bolstered Opposite Taiwan,” *Washington Times*, April 29, 2002, available at <http://www.taiwandc.org/washt2002-03.htm>. As one American expert on China argued, over the course of the next decade, the balance of power will shift gradually but decisively from Taiwan’s favor to the PRC’s favor, see David Shambaugh, “A Matter of Time: Taiwan’s Eroding Military Advantage,” *Washington Quarterly* 23, no. 2 (spring 2000), pp. 119-133.

¹⁰ One recent report to Congress suggested: “Preparing for a potential conflict in the Taiwan Strait is the primary driver for China’s military modernization.” *Report to Congress Pursuant to the FY2000 National Defense Authorization Act*, p. 56, available at <http://www.defenselink.mil/news/Jul2002/d20020712china.pdf>. See also Thomas J. Christensen, “Posing Problems without Catching Up: China’s Rise and Challenges for U.S. Security Policy,” *International Security* 25, no. 4 (spring 2001), pp. 5-40; and Michael O’Hanlon, “Why China Cannot Conquer Taiwan,” *International Security* 25, no. 2 (fall 2000), pp. 51-86.

¹¹ According to the Nuclear Posture Review, “North Korea, Iraq, Iran, Syria, and Libya are among the countries that could be involved in immediate, potential, or unexpected contingencies...North Korea and Iraq in particular have been chronic military concerns. All sponsor or harbor terrorists, and all have active WMD and missile programs.” “Nuclear Posture Review Excerpts,” January 8, 2002, p. 6. Recently, Senator Bob Graham, chairman of the Intelligence Committee, argued that a narrow focus on Iraq was a distraction from the campaign against terrorism, and suggested that Syria and Iran should be the first targets of any aggressive effort against state sponsors of terrorist activity. Carl Hulse, “Focus on Iran and Syria, Not Iraq, Graham Says,” *New York Times*, September 10, 2002, p. 1.

¹² In the case of Iran, not only is Russia finishing construction of an \$800 million nuclear reactor in Bushehr, where it is feared that Tehran will be able to generate weapons-grade fissionable materials, but also plans already exist for another five reactors for \$10 billion. For more on the implications of Iran going nuclear see, Kori N. Schake and Judith S. Yaphe, *The Strategic Implications of a Nuclear-Armed Iran*, McNair Paper no. 64 (Washington, D.C.: Institute for National Strategic Studies, National Defense University, 2001); and Michael Eisenstadt, “Living with a Nuclear Iran?” *Survival* 41, no. 3 (autumn 1999), pp. 124-48.

¹³ In early September 2002, Iran also successfully tested a new ballistic missile, capable of carrying a nuclear warhead, although the missile’s range is unknown. See “Iran Test-Fires Ballistic Missile,” *Washington Post*, September 7, 2002, p. A14. See also David J. Smith, “Some Ballistic Missile Developments Since the Rumsfeld Commission Reports,” available at <http://www.nipp.org/Adobe/DS%20Docs/BMD%20Developments%20Updated.pdf>.

¹⁴ As Undersecretary of State John R. Bolton stated, “North Korea is the world’s foremost peddler of ballistic missile-related equipment, components, materials, and technical expertise.” Martin Nesirky, “U.S. Official Calls North Korea ‘Peddler’ of Missile Technology,” *Washington Post*, August 30, 2002, p. A17.

increasingly the resort of choice for regional powers; they are also within the grasp of unstable ‘failed’ states and non-state entities like terrorist groups and drug cartels. Mass media, world-wide telecommunications, ease of international travel, and a globalized financial system have enabled the rise and growing power of non-state and trans-national entities.¹⁵ International terrorists like Al Qaeda are only one example of this trend.¹⁶ International crime cartels, *narcotraficantes*, armed ethnic separatist movements, private ‘armies’ of mercenaries, and even a new form of Asian high-seas pirate now pose dangers to international peace and stability.¹⁷ In some cases these groups are wealthier and better armed than the governments in whose regions they operate. In the 18th and 19th Centuries the European powers and the United States took on the responsibility for sweeping the Caribbean, the Atlantic, and the Mediterranean free of pirates, making the oceans safe for international commerce and helping to usher in a new age of Western prosperity. If the threat from today’s equivalent to yesterday’s pirates continues to grow, a similar response from the world’s civilized nations may prove necessary. Historically both state and non-state entities have been fired with extremist ideologies, ethnic or religious hatreds, or a spirit of fanatic self-sacrifice. The difference now is the means with which these actors can reach out with lethal consequences.

Asymmetric threats rely sometimes upon action outside the “normal” bounds of military engagement. They utilize unorthodox, unconventional, or unexpected means.¹⁸ Weak compared to overall U.S. strength, asymmetric threats can still damage us, perhaps by employing niche capabilities, geographic or political advantage, or by exploiting vulnerabilities we have overlooked. For example, the September 11, 2001 terrorist attacks not only caused horrible loss of life and material destruction, they were a source of serious economic shock affecting a range of variables from investor confidence to the airline industry.¹⁹ On a much lesser scale, Chinese missile “tests” in 1996 intended to intimidate Taiwan caused airlines to re-route, threatened shipping at both of Taiwan’s major ports and caused a dip of 4.2% in Taipei’s stock index.²⁰

¹⁵ See Sanjeev Khagram, James V. Riker, and Kathryn Sikkink, ed., *Restructuring World Politics: Transnational Social Movements, Networks, and Norms* (Minneapolis: University of Minnesota Press, 2002); and Thomas Risse-Kappen, ed., *Bringing Transnational Relations Back In: Non-State Actors, Domestic Structures, and International Institutions* (Cambridge: Cambridge University Press, 1995).

¹⁶ Paul J. Smith, “Transnational Terrorism and the al Qaeda Model: Confronting New Realities,” *Parameters* 32, no. 2 (summer 2002), pp. 33-46.

¹⁷ See, for example, P. W. Singer, “Corporate Warriors: The Rise of the Privatized Military Industry and Its Ramifications for International Security,” *International Security* 26, no. 3 (winter 2001/02), pp. 186-220; Alison Jamieson, “Transnational Organized Crime: A European Perspective,” *Studies in Conflict and Terrorism* 24, no. 5 (September/October 2001), pp. 377-88; Paul J. Smith, “Transnational Security Threats and State Survival: A Role for the Military?” *Parameters* 30, no. 3 (autumn 2000), pp. 77-91; John F. Sopko, “The Changing Proliferation Threat,” *Foreign Policy*, no. 105 (winter 1996), pp. 3-21; and Susanne Hoeber Rudolph and James Piscatori, ed., *Transnational Religion and Fading States* (Boulder, CO: Westview Press, 1996).

¹⁸ Steven Lambakis, et. al., *Understanding “Asymmetric” Threats to the United States* (Fairfax, VA: National Institute for Public Policy, September 2002); and Steven Lambakis, James Kiras, and Kristin Kolet, “Understanding ‘Asymmetric’ Threats to the United States,” *Comparative Strategy* 21, no. 4 (2001), forthcoming.

¹⁹ For example, see: Paul O’Neill interview, September 19, 2001 at <http://www.pbs.org/newshour/bb/terrorism/july-dec01/oneill_9-19.html> (December 19, 2002).

²⁰ Willis Stanley, Bernard Victory and Keith Payne, *Layman’s Guide to Ballistic Missile Defense*, at <<http://www.nipp.org/Adobe/laymans%20guide/guide%20adobe/No.%206.pdf>> (December 19, 2002).

China's People's Liberation Army (PLA) ground forces, navy, and air force are no match for the armed forces of the United States and our allies. China's long-range DF-5 and DF-31 missiles do not compare with the U.S. nuclear arsenal, even at Moscow Treaty levels. However, it would be foolish to think China's capabilities pose no danger to the U.S. Indeed, General Xiong Guang Kai, PLA deputy chief of staff and chief of intelligence, and thus not a negligible player, epitomized the asymmetric threat when he remarked to high-level American visitors in 1996 that the U.S. would not defend Taiwan because "you care a lot more about Los Angeles than Taipei."²¹ A very different kind of asymmetric threat was demonstrated by Al Qaeda's use of civilian airliners as missiles to attack highly symbolic targets. Such threats can do more than simply harm Americans. They can impede or temporarily block critical U.S. mission success, especially if an opponent skillfully exploits other factors of asymmetry beyond purely military capabilities, for example, the taking of hostages to forestall attack.

Although an asymmetric threat can prove lethal to Americans, as the tragic loss of September 11, 2001 attests, they are far less lethal than the potential destructiveness we faced during the Cold War. That is, they do not approach the heavy, long-range nuclear striking power equivalent to the Soviets' that could have obliterated our country if ever used *en masse*. Even a small nuclear device smuggled and detonated in or near a city, while a dreadful and shocking potentiality, cannot be compared with an all-out Cold War nuclear exchange. It would be unwise, however, to believe that Cold War style deterrence can simply be projected onto post Cold War challenges.²² Today's threats, while demonstrably less lethal than Cold War nuclear arsenals, are far more difficult to detect, understand, deter, defend against, or defeat—and that makes them more likely.

Proliferation

Both traditional state challengers and non-state opponents are becoming better armed through the worldwide proliferation of both conventional arms and WMD—or their components. Iraq represents a strategic paradox in that its large conventional army, together with some uncertain level of WMD, would make it a difficult military opponent today. On the other hand, as the Bush Administration points out, if we wait until Iraq has a more expansive WMD capability, particularly usable nuclear weapons, then the dangers of confronting Iraq militarily increase significantly. At the same time Saddam Hussein will be more likely to use his WMD to threaten our interests or allies in the region, or supply terrorist groups.

This is one of the dilemmas posed by global proliferation. The production or acquisition of WMD, along with ballistic missiles to deliver them, is relatively easy, despite the obstacles posed by multi-national agreements like the Biological Weapons

²¹ Barton Gellman, "U.S. and China Nearly Came to Blows in 1996," *Washington Post*, June 21, 1996, pp. A1, A20.

²² See Keith B. Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Lexington: University Press of Kentucky, 2001); and Keith B. Payne, *Deterrence in the Second Nuclear Age* (Lexington: University Press of Kentucky, 1996).

Convention, the Chemical Weapons Convention, the Nuclear Non-Proliferation Treaty, and the Missile Technology Control Regime. For an aggressive, anti-American state to produce or acquire WMD and ballistic missiles must be seen as a threat. According to the 'pre-emptive doctrine' propounded by the Bush Administration, at some point those threats may become serious enough to justify war.²³ As J.D. Crouch, Assistant Secretary of Defense for International Security Policy, noted in a January 9, 2002 briefing on the NPR, the proliferation of nuclear, biological, and chemical weapons and ballistic missile delivery systems continues unabated. Currently, 12 nations have nuclear weapons programs; 13 have biological weapons; 16 have chemical weapons; and 28 have ballistic missile technology.²⁴ All of this suggests that while the United States' military preeminence is unlikely to be challenged directly anytime soon, the security of the U.S. homeland, our allies, and our vital interests in critical regions, including U.S. military mission success, of the world is by no means assured.

Moving Beyond Cold War Thinking

These then are the new, dominant factors in today's security environment:

1. The Cold War's bipolar U.S./Soviet contest has been supplanted by a number of regional challengers many of whom are hostile to the United States and U.S. interests;
2. Challengers waging asymmetric warfare may attempt to impede or defeat U.S. military mission success, may engage in 'terroristic' strategic attacks aimed at highly visible or symbolic 'soft' targets or may attempt to satisfy victory conditions which we do not understand—and they may be willing to attack civilians, possibly even densely populated cities, with WMD; and
3. While the potential destructiveness of asymmetric threats is less than that of the Cold War's nuclear arsenals, such threats are also more likely. Proliferation has given small and medium states, sub-national, ethnic, and religious groups, terrorists, and large crime cartels access to unprecedented destructive potential.

Since it is clear these factors differ considerably from the Cold War, it should be equally clear that Cold War concepts, doctrine, and strategy must be adapted to meet these new challenges. This is consistent with the dominant trend in U.S. defense thinking that recognizes the essential need to "transform" the American defense establishment to meet post Cold War requirements. Granted, there could be alternative interpretations of the strategic environment, and the proper role for nuclear forces in our military response to it. However, significant shifts would likely depend on unforeseen events, for example the emergence of a new peer competitor. Perhaps least likely is a return to the Cold War understanding of the role played by strategic nuclear weapons. Therefore, validation of a

²³ "President Bush Delivers Graduation Speech at West Point," June 1, 2002, available at <http://www.whitehouse.gov/news/releases/2002/06/20020601-3.html>.

²⁴ Crouch, "Special Briefing on the NPR," January 9, 2002, briefing slides.

role for today's strategic nuclear forces, including ICBMs, must occur in the context of post Cold War adaptation, rather than through an assumption that our Cold War thinking was a general expression of "truth" with universal applicability.

The QDR and NPR Response to the Changed Security Environment

Understanding today's security environment and the decreasing relevance of Cold War thinking, we can begin to look at the QDR and NPR of September 2001 and January 2002, respectively. How did these major reviews approach overall military force planning and handle the questions of strategic nuclear forces?

U.S. defense policy goals intend nuclear forces to:²⁵

- *'Assure.'* Nuclear forces will continue to provide assurance to the American people and to security partners, especially in the presence of WMD threats, that the United States will not be subject to coercion, and will always be able to project our power to defend our forward bases, friends, and allies. Moreover, this assurance can reduce the incentives for friendly countries to pursue the development of nuclear weapons on their own.
- *'Dissuade.'* Systems capable of striking a wide range of targets may dissuade a potential adversary from pursuing threatening capabilities. Defenses can make it more difficult for an adversary to compete militarily with the United States. The ability of a robust defense infrastructure to upgrade weapons systems, surge production of weapons, or develop and field new weapons for the New Triad can discourage other countries from challenging the United States.
- *'Deter.'* Offensive power projection, active and passive defenses of U.S. territory, and the defense R&D and industrial infrastructure combined, support the ability of the United States to hold at risk a potential enemy's high-value targets and deter his aggression.
- *'Defeat.'* A mix of non-nuclear and nuclear strike elements provide greater flexibility in the design and conduct of military campaigns to defeat opponents decisively. For example, missile defense would defeat a small-scale ballistic missile attack intended to coerce the United States into abandoning an ally. Defense of U.S. territory and protection of forward bases increases the ability of the United States to counteract WMD-backed coercive threats and to use its power projection forces in the defense of allies and friends.

²⁵ These broad objectives of the New Triad are identical to the key defense policy goals outlined in the QDR of September 2001. Crouch, "Special Briefing on the NPR," January 9, 2002; Feith, statement before the Senate Armed Services Committee, February 14, 2002, p. 4; DoD, *Quadrennial Defense Review Report*, pp. iii-iv, 11-13; and "Nuclear Posture Review Excerpts," pp. 4-5.

A New Risk Assessment Framework

One of the key elements of the QDR was the development of a new risk assessment framework designed to ensure that the Defense establishment is sized, shaped, postured, committed, and managed in accordance with the overall defense policy goals outlined in the QDR.

The risk framework is made up of four related dimensions: 1) *force management*; 2) *operational issues*; 3) *future challenges*; and 4) *institutional concerns*.²⁶ The framework enables the Department to consider tradeoffs between fundamental objectives and existing resource constraints, and allows for the more efficient allocation of resources based on new or emerging priorities.

Force management focuses on the ability to recruit, train, retrain, and equip sufficient numbers of qualified personnel to perform the necessary defense tasks and sustain an adequate level of readiness. Emphasis is placed on new strategies for retention and recruitment, since traditional approaches do not guarantee adequate manning of the forces.

The operational dimension of the risk framework recognizes the need to enhance force planning not only for the most demanding near-term warfighting scenarios, but also for other plausible near-term contingencies, such as small-scale regional conflicts. In the past, U.S. forces were designed and evaluated against a limited set of military missions and associated tasks, with an emphasis placed on the ability to wage two major wars, more or less simultaneously, in different parts of the world. However, the expanding nature of threats today suggests the old two-war plan must give way to new priorities: U.S. forces must be able to defend the United States, deter aggressors in critical areas, defeat aggression in overlapping major conflicts, and conduct a limited number of small-scale operations. As evident in the Taliban's harboring of Osama bin Laden, further prominence is given to the ability of U.S. forces to deny enemies or potential adversaries sanctuary within certain areas through persistent surveillance, tracking, and rapid engagement with precision strikes from the land, sea, and air. Unlike past thinking, the new strategy does not equate risk reduction with the acquisition of additional forces; but rather emphasizes the need to implement changes in capabilities, concepts of operations, and organizational designs.

Among operational dimensions is the importance of understanding and preparing for *future challenges*. Future adversaries will attempt to avoid U.S. strengths and attack our vulnerabilities, using terrorism, information operations, and ballistic and cruise missile attacks. Accordingly, aggressive experimentation, robust research and development, and selective procurement are paramount for the long-term transformation of U.S. capabilities to meet emerging threats. Among some of the more advanced technologies highlighted by the QDR are stealth platforms, unmanned aerial vehicles, and smart submunitions.

²⁶ DoD, *Quadrennial Defense Review Report*, pp. 57-63.

The risk assessment's *institutional concerns* emphasize technological innovation. From the Defense Department perspective, this can be addressed by reorienting decision-making from a program-by-program approach, which merely substitutes new weapons for existing ones, to a broader, systemic transformation made possible by examining mission areas. In support of that approach, the QDR stresses more reliance on the private sector to provide the leadership in developing new technologies. Previously, U.S. government programs were a primary impetus for R&D in new technologies, particularly in such areas as computers and data processing. However, in the near-term the private sector will lead this 'quiet revolution' and provide U.S. armed forces with the technological superiority upon which they depend.

The final institutional issue in risk mitigation involves maximizing of human resources on a day-to-day basis. The stress is on transforming DoD operations, its dealings with the military-industrial complex, and its interactions with Congress. Focus on this should help restore vitality in the Defense infrastructure by re-energizing its human component. Improved management and organization will help streamline defense infrastructure by removing bureaucratic layers that no longer add value. Based on this new risk assessment framework and the changing security environment, the QDR provided a foundation for restructuring in the U.S. defense industry. The NPR, and its new approach to force requirements, is an implementation of the QDR's approach to assessing, managing and mitigating risk.

From Threat-Based to Capabilities-Based Planning

The nature of the Cold War led to planning for strategic forces using a 'threat-based' approach. We could, in the relatively simple Cold War world, design our force, doctrine and tactics to meet those of a single identified enemy—and a reasonably predictable one at that. However, that basis for planning is less valid in light of the changes in today's security environment. The United States can no longer plan exclusively to meet the challenges posed by one country with a visible linear acquisition process like the USSR.²⁷ In fact, we can't be sure in advance when, how, or against whom we might have to use conventional military forces—and even more to the point, how we might have to use strategic nuclear forces.

The QDR and NPR moved away from this anachronistic threat-based rationale, adopting one that focused on how a potential adversary or adversaries might fight. Consequently, the Bush Administration adopted a 'capabilities-based' approach.²⁸ Defense Secretary Rumsfeld recently elaborated on the importance of the capabilities-based approach in the context of the military campaign in Afghanistan:

²⁷ Rather, defense officials have said that the United States must be prepared for a "wide spectrum of potential opponents, contingencies, and threatening capabilities, some of which will be surprising." Feith, statement before the Senate Armed Services Committee, February 14, 2002, p. 3.

²⁸ Crouch, "Special Briefing on the NPR," January 9, 2002; DoD, *Quadrennial Defense Review Report*, pp. iv, 13-14.

What won the battle for Mazar-i-Sharif—and set in motion the Taliban’s fall from power—was a combination of the ingenuity of the U.S. special forces; the most advanced, precision-guided munitions in the U.S. arsenal, delivered by U.S. Navy, Air Force, and Marine Corps crews...Coalition forces took existing military capabilities—from the most advanced (such as laser-guided weapons) to the antique (40-year-old B-52s updated with modern electronics) to the most rudimentary (a man with a gun on a horse)—and used them together in unprecedented ways, with devastating effect.²⁹

The QDR and NPR address the uncertainty of the future with a set of military capabilities we presume the U.S. will need and the flexibility to mix and match among them and even create new ones on a timely basis.

Of course the notion of threat cannot be banished and entirely done away with. A logical extension of abandoning a threat-based planning model is to develop a more realistic description of the threat environment that can inform the planning process (as opposed to defining it). The threat picture considered in the NPR is based on the notion of:

- Immediate threats for which the deployed arsenal must be adequate (e.g., a conflict with the PRC over Taiwan);
- Potential threats that are “plausible but not immediate” like the formation of an anti-U.S. international coalition; and
- Unexpected threats like a sudden hostile regime change in a nuclear power.

The NPR’s approach to planning, as described above, does not abandon the notion of threat, rather it uses a more discriminating application of the concept to focus planning on the capabilities required of the arsenal; both currently and in an uncertain future.³⁰

The New Triad

The Cold War’s strategic nuclear Triad was comprised of manned bombers, land-based ICBMs and SLBMs, all designed and acquired with explicit reference to the Soviet threat. The NPR envisions a broader toolbox of capabilities in a ‘New Triad’ with three redefined legs:

1. Strategic offensive forces, nuclear and conventional;
2. Defensive forces;³¹ and
3. A responsive military infrastructure.³²

²⁹ Donald H. Rumsfeld, “Transforming the Military,” *Foreign Affairs* 81, no. 3 (May/June 2002), pp. 21-22.

³⁰ “Nuclear Posture Review Excerpts,” p. 6; and Crouch, “Special Briefing on the NPR,” January 9, 2002.

³¹ In the New Triad offensive and defensive capabilities are assigned an ambitious objective: to “decisively defeat an enemy while defending against attacks on the United States, our friends, and out allies.” Feith, statement before the Senate Armed Services Committee, February 14, 2002, p. 4.

³² “Nuclear Posture Review Excerpts,” pp. 1-3; Crouch, “Special Briefing on the NPR,” January 9, 2002; and Feith, statement before the Senate Armed Services Committee, February 14, 2002, pp. 3-6.

A Capabilities Based Concept: The New Triad

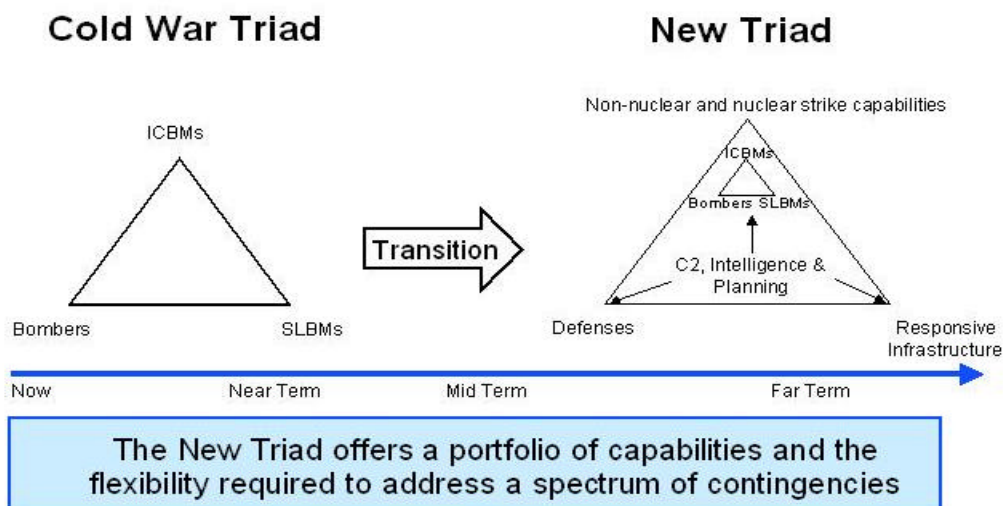


Figure 1. The NPR’s ‘New Triad.’³³

Offensive Forces

The old Triad of bombers, ICBMs, and SLBMs still exists, but is now subsumed in one leg of a reconfigured strategic Triad and reinforced with new non-nuclear strategic strike capabilities.

Strategic Nuclear Forces. In preserving ‘old’ nuclear forces under a new strategic rubric, the NPR recognizes the continued utility of nuclear weapons.³⁴ The Moscow Treaty will reduce strategic nuclear forces from START I levels of around 6,000 Treaty-accountable warheads to between 1,700 and 2,200 operationally deployed warheads over a ten year period.³⁵ According to U.S. plans, by 2007 the number of operationally deployed U.S. warheads will be 3,800.

³³ See Crouch, “Special Briefing on the NPR,” January 9, 2002, and briefing slide available at, <http://www.defenselink.mil/news/Jan2002/020109-D-6570C-010.jpg>.

³⁴ Under current plans, four Trident ballistic missile submarines (SSBNs), 50 Peacekeeper ICBMs, and 18 B-52H bombers will be retired during the next few years. These reductions will leave a force structure of 14 Trident SSBNs (each capable of carrying 24 D-5 SLBMs), 500 silo-based Minuteman III ICBMs, 76 B-52H bombers with cruise missiles or gravity bombs, and 21 B-2 bombers with gravity bombs. Ellis, statement before the Senate Armed Services Committee, February 14, 2002; Ellis, “Basic Terminology of the Nuclear Posture Review,” p. 2; “Nuclear Posture Review Excerpts,” p. 7; and *U.S. Air Force Long-Range Strike Aircraft White Paper* (Washington, DC: Department of the Air Force, November 2001), pp. 2, 20, A-1, available at <http://www.af.mil/lib/bmap01.pdf>.

³⁵ Crouch, “Special Briefing on the NPR,” January 9, 2002, briefing slides; and “Nuclear Posture Review Excerpts,” p. 7. The text of the Moscow Treaty is available at <http://www.whitehouse.gov/news/releases/2002/05/20020524-3.html>.

Again, it is important to note that U.S. planners endorsed this path toward reduction in response to the changed security environment—not as an outcome conditioned on symmetrical Russian reductions via the arms control process. Congruent with these reductions, the capabilities-based approach to force sizing requires the ability to reconstitute U.S. nuclear capabilities in response to changes in the international security environment. This in turn, has led planners to a more finely-grained categorization of the weapons in the U.S. arsenal.

The Moscow Treaty level of 1,700 to 2,200 warheads refers only to “operationally deployed” warheads; those mated to deployed delivery vehicles or in storage areas at bomber bases (not including logistics spares). These operationally deployed weapons, in conjunction with a “responsive force,” comprise the active stockpile.³⁶ The responsive force includes a number of weapons ready to upload on to existing delivery vehicles. The inactive stockpile includes warheads stored with limited life components removed and used for Department of Energy (DOE) quality assurance and reliability replacement. This breakdown demonstrates the Bush Administration’s concern with responding, not simply to immediate threats, but with preparing a capabilities-based approach to nuclear forces that offers decision-makers the flexibility to deal with potential and evolving contingencies.

The need for a responsive force within the active stockpile is also a product of the unique character of the U.S. nuclear infrastructure, most notably the lack of an active warhead production capability and the need to sustain an aging stockpile.³⁷ Should U.S. nuclear force planners need to respond relatively quickly to changes in the international environment, the responsive force should provide an acceptable glide path—particularly at a time in which the U.S. would require 24-36 months before it could conduct a nuclear test, for example in support of a new weapon design. In addition to endorsing a U.S. interest in reconstitution, the NPR, coupled with the Moscow Treaty approach to reductions, allows the United States maximum flexibility in dismantling those warheads no longer necessary for U.S. national security and reconfiguring the strategic posture to meet new threats. The flexibility inherent in a responsive force and a credible nuclear infrastructure allows this, or future, administrations to increase or decrease the size of the force, at whatever pace is deemed appropriate, in response to the international climate.

The planned strategic nuclear offensive force in the New Triad will be a smaller mirror of current capabilities. The Peacekeeper ICBM will be deactivated over a 36-month period beginning in 2003. The single warhead Minuteman III ICBM will be

³⁶ As the NPR notes: “The responsive force is intended to provide a capability to augment the operationally deployed force to meet potential contingencies...The responsive force...retains the option for leadership to increase the number of operationally delayed forces in proportion to the severity of an evolving crisis. A responsive force need not be available in a matter of days, but in weeks, months, or even years.” “Nuclear Posture Review Excerpts,” p. 7. See also Crouch, “Special Briefing on the NPR,” January 9, 2002; and Gordon, statement before the Senate Armed Services Committee, February 14, 2002.

³⁷ According to the NPR, “the responsive force [also] provides a reserve from which replacements can be provided for operationally deployed weapons that evidence reliability problems.” “Nuclear Posture Review Excerpts,” p. 7.

retained. The focus of DoD efforts are to extend the life of the Minuteman III until the year 2020, while beginning the requirements process for the next-generation ICBM.³⁸ The B-2 and B-52 strategic bomber fleet will remain in operation for another 35-40 years, sustained by an aggressive life extension program. Current plans anticipate a next generation SSBN and accompanying SLBM to be deployed around 2029, when the first of the operational Trident SSBNs is scheduled to retire.³⁹ DoD is funding a D-5 SLBM life extension program and continuing the conversion of boats carrying C-4 to D-5.

Strategic Non-Nuclear Forces. The offensive force leg of the New Triad includes conventional strategic capabilities as well as “traditional” nuclear options. Fruits of the Revolution in Military Affairs (RMA), when used in concert, offer the United States an unprecedented ability to wage non-nuclear strategic campaigns like Allied Force (Kosovo). Precision guided munitions (PGMs) can be used to attack strategic targets (some WMD facilities, command and control, etc.) that before would have required nuclear use to achieve a sufficient probability of kill.⁴⁰ The use of PGMs within the context of a networked approach to warfare allows commanders to dynamically allocate resources and maximize the overall strategic impact of the campaign. Improved access to and ability for processing intelligence, surveillance, and reconnaissance (ISR) also improves the potential lethality and effectiveness of conventional strategic missions. This is not to say that conventional strategic capabilities are perfect; we have yet to demonstrate significant improvement in our Gulf War era inability to kill mobile missile launchers. Furthermore there are targets, including some WMD targets and priority area targets, which remain vulnerable only to nuclear attack. However, the ability of conventional forces to perform some strategic missions heretofore reserved for nuclear forces is not in doubt. Other conventional capabilities like electronic attack and computer network attacks can also directly address strategic objectives in some circumstances and enhance conventional effectiveness in others.

³⁸ A study to address alternatives for the follow on ICBM is slated for FY04 and FY05 with an initial operational capability by 2018. “Nuclear Posture Review Excerpts,” pp. 14-15.

³⁹ The Bush administration intends to convert four SSBNs from the current force of 18 submarines to carry Special Operations units as well as non-nuclear cruise missiles (SSGNs). Each of the four converted Trident SSBNs (now becoming SSGNs) will be able to carry 154 nonnuclear cruise missiles or perhaps some number of other nonnuclear weapons (for instance, shorter-range ballistic missiles with variable payloads). Crouch, special briefing on the NPR, January 9, 2002; “SSGN: A Transformational Force for the U.S. Navy,” *Undersea Warfare* (Fall 2001), available at http://www.chinfo.navy.mil/navpalib/cno/n87/usw/issue_13/ssgn.htm; GAO, *Force Structure: Options for Enhancing the Navy’s Attack Submarine Force*, GAO-02-97 (Washington, DC: GPO, November 2001); Andrew Koch, “USN Studies New Payload for Ohio SSGNs,” *Jane’s Defence Weekly*, January 16, 2002, p. 10; and Owen R. Cote, Jr., *The Future of the Trident Force: Enabling Access in Access-Constrained Environments* (Cambridge, MA: MIT Security Studies Program, May 2002).

⁴⁰ Over 35,000 nonnuclear, precision-guided munitions have been expended in diverse U.S. military operations during the last 10 years. *Gulf War Air Power Survey*, vol. V, part I (Washington, DC: GPO, 1993), pp. 553-54; Lt. Col. Richard L. Sargent, USAF, “Weapons Used in Deliberate Force,” in *Deliberate Force: A Case Study in Effective Air Campaigning*, ed. Col. Robert C. Owen, USAF (Maxwell Air Force Base, AL: Air University Press, January 2000), pp. 258, 267, available at <http://www.maxwell.af.mil/au/aul/aupress/Owen/Owen.pdf>; Benjamin S. Lambeth, *NATO’s Air War for Kosovo: A Strategic and Operational Assessment*, MR-1365-AF (Santa Monica, CA: RAND, 2001), p. 88, available at <http://www.rand.org/publications/MR/MR1365>; Gen. Tommy R. Franks, USA, Commander in Chief, Central Command, prepared statement before the House Armed Services Committee, February 27, 2002, available at <http://www.house.gov/hasc/openingstatementsandpressreleases/107thcongress/02-02-27franks.html>; William Arkin, “Weapons Total from Afghanistan Includes Large Amount of Cannon Fire,” *Defense Daily*, March 5, 2002, p. 12; and Eric Schmitt, “Improved U.S. Accuracy Claimed in Afghan Air War,” *New York Times*, April 9, 2002, p. A14.

The emergence of a credible strategic conventional capability has several implications. First, a capacity for conventional strategic attack makes the threat of U.S. preemption or preventive attack significantly more credible. The United States has, in the past, considered military action to disarm emerging threats—particularly WMD-armed emerging threats. However, nuclear use to disarm a threat that is not imminent is quite rightly a difficult threshold to cross. The ability to effectively attack a state’s emerging WMD capabilities and infrastructure with conventional forces makes the threat to do so more credible and the cost of doing so more acceptable. Second, the U.S. ability to “substitute” conventional forces for nuclear attacks in some circumstances may make U.S. escalation control more achievable. For example, the only WMD response available to the United States in retaliation for chemical or biological weapon use is nuclear. If U.S. strategic conventional forces can provide a compelling response should U.S. forces be attacked with chemical or biological weapons, then the U.S. can continue to withhold its nuclear option to deter the opponent’s nuclear first use, maintain coalition support, avoid the operational difficulties of nuclear use, etc. Finally, a non-nuclear strategic capability offers the United States increased ability to tailor its campaigns with an optimal mix of nuclear and non-nuclear forces. Integrating nuclear and non-nuclear capabilities into the New Triad may make any prospective use of strategic forces more effective (e.g., electronic and network attacks on C3 and infrastructure and PGM strikes on defenses coupled with a nuclear attack on a WMD facility).

Defensive Forces

The second leg of the New Triad involves the development and deployment of active and passive defenses. Offensive capabilities alone may be insufficient to deter aggression in the new security environment. Therefore, relying exclusively on the offense could leave the United States susceptible to future acts of aggression or blackmail. By actually stopping limited attacks, or reducing their effectiveness, active and passive defenses may dissuade some potential adversaries from acquiring weapons rendered useless by U.S. defenses. Moreover, by possessing defenses, the United States could free itself to exercise offensive force options against foes that otherwise might be able to deter U.S. action with a handful of missiles. Lastly, defenses can discourage future aggression and provide insurance—actual protection—in case deterrence fails and the United States, its overseas forces, allies, or friends are attacked.

Active defense entails integrated, layered ballistic missile defenses (BMD) that protect U.S. forces abroad, the U.S. homeland, its allies, and friends. A layered BMD system that can intercept ballistic missiles of any range and in all phases of their flight is most desirable, especially in the ‘boost phase,’ when the missile is easiest to detect and most vulnerable, with its warheads still on board.⁴¹ However, a layered defense against long-

⁴¹ Lt. Gen. Ronald T. Kadish, USAF, prepared statement before the Senate Armed Services Committee, March 7, 2002, p. 3, available at http://www.senate.gov/~armed_services/statemnt/2002/March/Kadish3-7.pdf; Kadish, “Special Briefing on Missile Defense,” June 25, 2002 (transcript and briefing slides), available at http://www.defenselink.mil/news/June2002/t06252002_t0625kadish.html and

range missiles does not exist today. As the director of the Defense Department's Missile Defense Agency cautioned, despite progress in moving towards effective missile defense capabilities, "there remains a long road ahead."⁴² Regardless, BMD can be less than 100 percent effective and still make a substantial contribution to the overall defense of the nation should deterrence fail. Missile defenses are capable of complicating the strategic and operational calculations of a potential adversary in that the attacker is deprived of any confidence of success.

Ballistic missiles are not the only threat for which active defense is an appropriate response. The proliferation of air-breathing threats is also a problem for defenses. Indeed, as Secretary Rumsfeld suggested in August 2002, the threat posed by cruise missiles has increased sharply, which merits an intensified government-wide effort to defend against them.⁴³ This threat includes traditional cruise missiles with a range of warhead options (high explosive, WMD, thermobaric, etc.), drones outfitted for dispersing chemical and biological weapons and unmanned surveillance or reconnaissance aircraft that could undermine operational security. The problem stretches beyond the boundaries of traditional air defense and often approaches the complexity of BMD.

The opposition of former and potential challengers (the Soviet Union, China) is an implicit acknowledgement that BMD is important and significant. China knows our defenses will render their small offensive force even less valuable and further widen the strategic disparity.

Passive defenses complement active defenses. Without actively countering the missile threat via intercepts, the United States can adopt tactics or designs to make the success of a missile strike problematic. Examples of passive defenses include:⁴⁴

- mobile basing (to make weapons more difficult to target);
- hardening of the target (to resist blast, radiation, or EMP);
- dispersal, camouflage, and deception;
- civil defense and consequence management.

<http://www.defenselink.mil/news/June2002/g020625-D-6570C.html>; and Deputy Secretary of Defense Paul Wolfowitz, prepared statement before the House Armed Services Committee, June 27, 2002, available at <http://armedservices.house.gov/openingstatementsandpressreleases/107thcongress/02-06-27wolfowitz.html>.

⁴² Kadish, statement before the Senate Armed Services Committee, March 7, 2002, p. 7.

⁴³ While they are not as advanced as U.S. cruise missiles, at least 81 countries are reported to have cruise missiles of some kind, totaling more than 70,000 weapons, although the vast majority are designed to attack ships at distances of less than 60 miles. The U.S. intelligence community predicts that a dozen or two countries will have land-attack cruise missiles by 2015, a capability of greater concern to U.S. officials. Bradley Graham, "Cruise Missile Threat Grows, Rumsfeld Says," *Washington Post*, August 18, 2002, p. A1.

⁴⁴ Active and passive defenses are defined in JCS, *Joint Doctrine for Countering Air and Missile Threats*, Joint Publication 3-01 (Washington, DC: JCS, October 19, 1999), available at http://www.dtic.mil/doctrine/jel/new_pubs/jp3_01.pdf.

A New Defense Infrastructure

The third leg of the New Triad is a revitalized defense infrastructure that will provide new capabilities in a timely fashion to meet emerging threats. Since the end of the Cold War, the U.S. defense infrastructure has contracted, especially the nuclear infrastructure, which includes testing and production. New approaches to development and procurement of capabilities are necessary so that innovations can be more quickly integrated into the force structure.⁴⁵ Shortening the timeline required to design, test, and field modern combat systems is essential if the United States intends to make strategic conventional capabilities a credible contributor to a flexible New Triad.

With new force and strategy planning, new acquisition approaches are also required to develop the required systems and maintain existing capabilities. This suggests that the defense establishment will have to streamline and simplify its procurement methods, and consider new ways to provide the U.S. military forces technologically advanced systems in a timely manner. Without a more responsive research, development, and acquisition infrastructure, the future U.S. military may find itself ill-equipped to confront the variety of new challenges and missions envisioned by the national security strategy and the QDR.

An inherent burden assumed by those who advocate strategic flexibility is the necessity of a revitalized nuclear infrastructure. The NPR addresses this concern. For the National Nuclear Security Administration (NNSA) of the DOE and DoD to make the NPR's focus on flexibility credible, significant long-term investment will be required to: maintain the efficacy of the science-based stockpile stewardship program; improve test readiness should the decision to resume testing be taken; maintain a weapons design capability that is atrophying from lack of use; and continue the certification, refurbishment and dismantlement work necessary to maintain the planned arsenal.

The role of the infrastructure in achieving the NPR's objectives is crucial. For example, the entire nuclear infrastructure will be involved in the effort to extend the life of existing W87, W76, W80 and B61 weapons.⁴⁶ This logic also supports the life extension programs for existing delivery vehicles as described in the NPR.⁴⁷

Command, Control, and Intelligence

The final aspect of the New Triad is one that enables all three legs—command and control, intelligence, and adaptive planning.⁴⁸ With respect to command and control,

⁴⁵ "Nuclear Posture Review Excerpts," pp. 2-3.

⁴⁶ Everet H. Beckner, Deputy Administrator for Defense Programs of the National Nuclear Security Administration, prepared statement before the Senate Armed Services Committee, Strategic Subcommittee, August 1, 2002, p. 2, available at http://www.senate.gov/~armed_services/statemnt/2002/August/Beckner.pdf.

⁴⁷ At present the average age of current systems are: 26 years for the Minuteman III; ten years for SSBNs; nine years for the Trident D-5 SLBMs; 40 years for B-52 bombers; and five years for B-2 bombers. Crouch, "Special Briefing on the NPR," January 9, 2002, briefing slides. See also "Nuclear Posture Review Excerpts," p. 12.

⁴⁸ *Ibid.*, pp. 9-10.

there is now a greater emphasis on the role of joint operations through standing joint task force headquarters, improved joint command and control, joint training, and an expanded joint forces presence policy. This is vital for future operations because of their role in managing crises, forestalling conflict, and conducting combat operations. These forces must be lighter, more lethal and maneuverable, survivable, and more readily deployed in an integrated fashion. Enhanced communications are necessary to ensure the success of future joint operations and battle management. New information and communications technologies hold promise for networking highly dispersed forces and ensuring situational awareness.

Improved intelligence is crucial to the overall effectiveness of the New Triad. Superior intelligence will enhance overall understanding of the intentions and capabilities of adversaries. The Intelligence Community must produce ‘*actionable knowledge*,’ in the words of Secretary Rumsfeld. This level and quality of knowledge about all factors related to the conflict can then be used to make timely adjustments to the force and improve the precision with which it can act. The ability to harness intelligence flexibly and rapidly will provide the United States with a significant advantage in managing international crises, deterring future attacks, and conducting military operations.

It should be stressed that good intelligence means more than mere collection. Vetting and discrimination of reliable versus unreliable data, sound analysis, and experienced insight and discernment are what generate ‘*actionable knowledge*’ for theater commanders and top national decision-makers, including the President. Collection is still the vital first step in the process, and thus is given a high priority in the QDR. In particular, the QDR stresses that information operations, intelligence, and space surveillance assets are not simply enablers of current U.S. forces, but rather *core capabilities* for future forces. The technological advantages the United States enjoys in intelligence and enhanced information are substantial, including:

- multiple intelligence collection assets;
- global surveillance and reconnaissance; and
- rapid exploitation and dissemination.

As seen above, maintaining and improving these and other command, control, and intelligence capabilities are an essential part of the operational transformation called for by the QDR. They will constitute the core of America’s capability to understand current and emerging threats, to anticipate new challenges, to have better warning of an attack, and to respond in a timely and effective manner; whether with diplomacy, with conventional forces, or *in extremis*, with the forces of the NPR’s New Triad.

The Role of Existing Strategic Nuclear Forces Under the NPR

The proceeding section of the study examined the response of the QDR and NPR to changes in the global security environment and the nature of U.S. forces and defense planning needed to meet the challenges of an uncertain and volatile world.

The Journey to Reduction and a New Triad

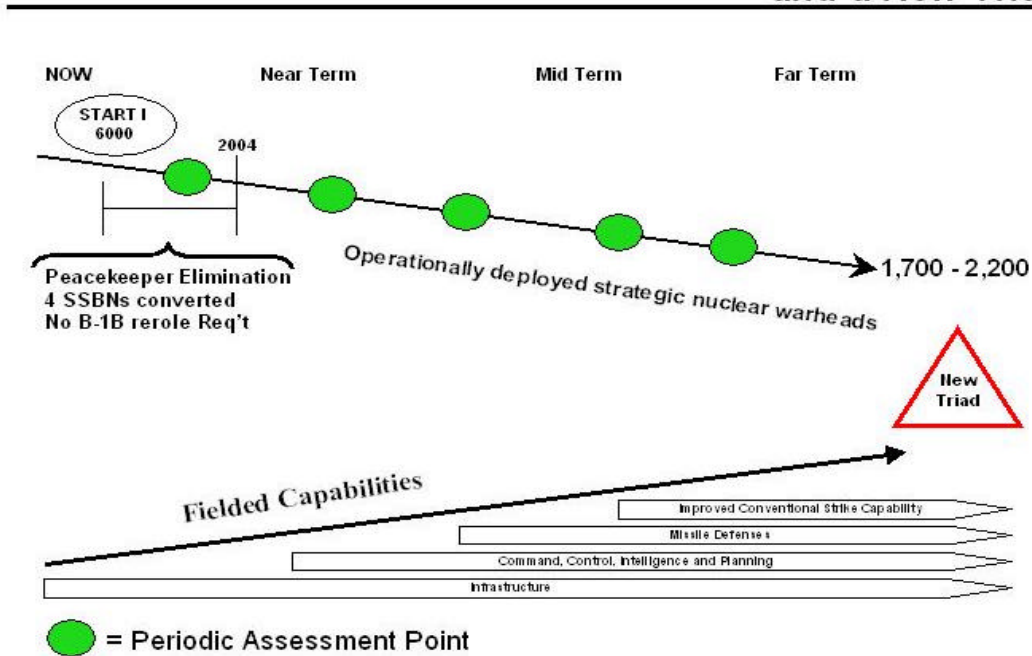


Figure 2. Pathway to the New Triad⁴⁹

The NPR recognizes enduring requirements for U.S. strategic nuclear weapons. It adapts U.S. strategic nuclear forces to the post Cold War environment. At no time, including its target date of 2012, does the NPR disarm the United States of these weapons. Moreover, the downward trend in the size of U.S. strategic nuclear forces between 2002 and 2012 is punctuated with periodic assessment points at which—reflecting world developments—the rate of strategic nuclear force reductions could be accelerated, decelerated, or even reversed. In the near term the administration has preserved the capacity to reverse course in a relatively timely fashion by maintaining a responsive force within the active stockpile. In the mid to far term, the responsive infrastructure would compress the time the United States needs to develop and deploy new, including strategic, nuclear weapons, if necessary. All this is an explicit recognition of the continuing importance of strategic nuclear forces.

However, there is little in the NPR that dictates how this New Triad and its enabling technologies will function operationally. The defensive and conventional strategic capabilities that the United States will ultimately be able to field have yet to be fully defined. For planners used to thinking in terms of “trade offs” between capabilities, for example offensive and defensive forces, this lack of certainty can be disconcerting. In this sort of planning environment, it is perhaps best to focus on those unique and

⁴⁹ See Crouch, “Special Briefing on the NPR,” January 9, 2002, and briefing slide, available at <http://www.defenselink.mil/news/Jan2002/020109-D-6570C-014.jpg>.

enduring capabilities that nuclear forces bring to the fluid mix of strategic assets that will characterize U.S. forces over the coming decades.

There are three enduring aspects of U.S. strategic nuclear forces, albeit reduced in size and complemented by strategic conventional weapons and defenses. First, though perhaps politically incorrect, strategic nuclear forces are the unique hallmark of the world's only superpower. They enable the United States to strike particular targets promptly and effectively, including HDBT, or to inflict any level of damage deemed appropriate by the president of the United States. Although Russia seeks to maintain its strategic nuclear force,⁵⁰ and some other countries seek nuclear weapons for their awesome power, none can even contemplate a force of comparable size and composition complemented by advanced conventional weapons, defenses, modern conventional forces, and C³I. Strategic nuclear forces will continue to bestow upon the United States a unique power and status in the world.

Second, though we can now afford greater attention to other priorities and project reductions in our strategic nuclear forces, there remains a needed continuity of deterrence. This is not the same thing as positing a continuity of the Cold War era's tight linkage between Russian and U.S. force sizing and composition, however. For example, the Bush administration came into office with the implicit assumption that given the foreseeable relationship with Russia, the U.S. could make due with fewer strategic nuclear weapons—without the need for symmetrical Russian reductions. The Moscow Treaty essentially formalized that decoupling. Similarly, the President's reading of the bilateral relationship made withdrawing from the ABM Treaty and deciding to deploy strategic defenses plausible without reference to the impact on the "stability" of the U.S.-Russian balance. The Cold War's offense-defense relationship in essence no longer exists.

How then, does the existing framework account for the continuity of deterrence? The NPR's periodic assessment points are designed to account for world developments such as a resurgent Russia, the emergence of a hostile China, or over time, some other potential challenger. While not sized against any specific threat, the NPR's strategic nuclear force is sized to parry any foreseeable challenge and to adapt flexibly to contingencies that are more remote. Moreover, even the force of 2012 has been sized to dissuade any country from the temptation to pursue a "sprint to parity." Whether continuity of deterrence emerges to be a requirement to bridge the gap between now and a new era beyond 2012 remains to be seen. The NPR designs and sizes the force not to prejudge the unknown. Indeed, the details of how the force transitions from the interim size of 3,800 in 2007 to 1,700-2,200 in 2012 have been explicitly relegated to a process of periodic reviews (beginning in 2003).

Third, strategic nuclear weapons afford a prompt, effective capability against the growing problem of HDBT. Thankfully, nuclear weapons went unused throughout the

⁵⁰ Nikolai Novichkov, "Russia to Retain MIRVs Beyond START II Deadline," *Jane's Defence Weekly*, August 28, 2002, p. 3.

Cold War and, to be sure, the decision to use one would agonize any American president. Still, one must acknowledge that circumstances could emerge in which a president should be able to consider the option of an effective strike on a HDBT. Over time, the NPR projects that this role will be increasingly filled by some combination of improved conventional strike capabilities (and perhaps new, specialized nuclear weapons) complemented by what Secretary Rumsfeld has called “exquisite” intelligence.⁵¹

In this sense, the current U.S. strategic nuclear force plays not only an enduring role but also one of bridging the gap from today’s force to the New Triad. A unique characteristic of the NPR is that it transforms, not just modernizes, the force. The projected drawn down of strategic nuclear forces is complemented by a projected buildup of improved strike capabilities, missile defenses, C³I and planning, and a responsive infrastructure. One hopes that the role of current strategic nuclear forces in defeating HDBT will diminish with the development of new capabilities—conventional if possible, nuclear if necessary.⁵² To the extent this effort is successful, the current strategic nuclear force serves a vital bridge-the-gap function under the NPR. To the extent that some targets still demand a large, traditional nuclear weapon—and we cannot rush to judgment—the current strategic nuclear force plays another enduring role under the NPR.

In sum, the NPR assigns a vital role to U.S. strategic nuclear forces, flexibly integrated with other elements of the New Triad and with all U.S. military forces—all the way to special operations units such as those now teamed with indigenous forces in Afghanistan. Although this represents a degree of continuity, it also entails an unprecedented degree of flexibility and integration that will require serious work on the part of those who manage the strategic nuclear forces.

Nuclear Forces Employment Planning

Under the NPR, pre-planning and risk mitigation are important prerequisites for successfully executing nuclear missions. Pre-planning to address the Soviet threat was complex but fairly straightforward. Even though the current security environment has changed dramatically, there is still a need to engage in pre-planning for immediate and potential contingencies. Also necessary is the ability to plan adaptively for situations that may arise quickly and in unexpected ways.⁵³ Preliminary and deliberate planning provides the foundation for an adaptive response by identifying individual weapon/target combinations that could be executed in times of crisis. As Admiral James O. Ellis, Commander in Chief of the U.S. Strategic Command, suggested in March 20, 2002 Congressional testimony:

⁵¹ “Nuclear Posture Review Excerpts,” p. 3.

⁵² Eric Miller, “Bunker Busting Nuke Expands U.S. Options,” *Defense News*, September 16-22, 2002, p. 21; and David J. Smith, “Missile Defense and Counter-Terrorism After 11th September 2001,” *World Defense Systems* 3, no. 3 (December 2001), p. 44.

⁵³ “Nuclear Posture Review Excerpts,” p. 10.

U.S. Strategic Command has begun development of a planning system that retains the rigor and expertise developed over the last several decades, yet employs modern computing techniques and streamlined processes to significantly improve [U.S.] planning capability. This effort is a critical element in enabling rapid, flexible crisis response that integrates nuclear, conventional, and non-kinetic weapons in [U.S.] war plans.⁵⁴

Pre-planning methods must be developed, but they constantly need to be reassessed and reevaluated. The timeliness of these calculations was less crucial during the Cold War since we knew who the principal enemy was and we knew that in the event of a nuclear exchange the limited amount of time available to respond would require Washington to execute pre-planned options. However, given today's unpredictable international environment, a more flexible planning system is needed that improves upon the current system and moves beyond the concept of a large, Single Integrated Operational Plan (SIOP). Presently 12-48 hours are required to develop a plan to attack a single new target, depending on the weapons system.⁵⁵ Yet, when time is of the essence this can still be too long.

Risk Mitigation

The broader dimension of the New Triad is designed with risk mitigation in mind. Risk mitigation strategies can help the United States adapt to changes in the threat. What can the United States do to provide more options so that, when faced with circumstances our leaders did not foresee, our forces can still be responsive and effective? Even though the United States agreed to reduce significantly the number of operationally deployed nuclear warheads under the Moscow treaty, these weapons will remain as a reserve force if needed.⁵⁶ More rapid, cost effective uploading procedures should be considered a task levied by the NPR.

Transformation and Synergy

Greater synergy between nuclear and non-nuclear strike capabilities, missile defense, and command, control, intelligence, and planning is the foundation of the New Triad. To support these efforts and foster innovation and experimentation, the QDR called for a new office reporting directly to the Secretary and the Deputy Secretary of Defense.⁵⁷ The Director of Force Transformation will examine and evaluate the transformation efforts of the Defense Department and promote synergy by recommending steps to integrate ongoing transformation activities. This synergy has significant implications for:

⁵⁴ Admiral James O. Ellis, statement before the Senate Armed Services Committee, Strategic Subcommittee, March 20, 2002, p. 10, available at http://www.senate.gov/~armed_services/statemnt/2002/March/Ellis.pdf.

⁵⁵ "Nuclear Posture Review Excerpts," p. 10.

⁵⁶ "Nuclear Posture Review Excerpts," pp. 6-7; Crouch, "Special Briefing on the NPR," January 9, 2002; and Gordon, statement before the Senate Armed Services Committee, February 14, 2002.

⁵⁷ DoD, *Quadrennial Defense Review Report*, p. 29.

1. U.S. deterrence posture;
2. the way in which strategic nuclear forces are employed in the future;
3. the different types of platform capabilities; and
4. the conversion of nuclear capabilities to conventional purposes.

As Secretary Rumsfeld suggests, the U.S. force in the future will depend heavily upon the capability resident in forward-deployed combat and expeditionary units, including ‘forcible entry’ forces, and rapidly employable capabilities that the U.S. military possesses at home and around the globe, and the flexibility to bring the right force mix to bear in a timely manner.

Accordingly, greater flexibility is necessary for nuclear forces and their planning than during the Cold War. Future adversaries may covet a variety of assets or resources; and in some instances, U.S. understanding of what an adversary values may change over time. Thus, while the size and composition of nuclear forces needed to hold these assets at risk has changed in recent years, U.S. nuclear forces must still be able to threaten a wide range of target types. This flexibility is critical if strategic forces are to be responsive in today’s security environment. Nuclear attack options that vary in scale, scope, and purpose will supplement other military capabilities. Such a combination can provide pose a credible deterrent to adversaries having different values and risk calculations of gain and loss.

A variety of different platform capabilities contribute to the synergy that helps strengthen deterrence and our ability to act. Relying solely on one platform greatly limits alternatives available to defense planners and can inhibit the attainment of strategic objectives. The United States needs options in a world of uncertainty, whether nuclear or conventional, missiles or manned platforms, deployed on land, at sea, or in the air. Different capabilities provide defense options prior to a full-blown crisis, during that crisis, and in the aftermath.

For maximum synergy, the current and future security situation will require a more flexible and varied force mix than in the Cold War. We will need new conventional capabilities and probably new nuclear ones. Also, we will need an innovative and responsive infrastructure to provide new weapons systems in the event of unforeseen threats, and in a more timely manner than is possible today. In this more flexible and varied force mix, strategic nuclear forces will continue to a pivotal role.

To summarize, the New Triad offers a portfolio of capabilities that:

1. embraces the reduction of our Cold War-era nuclear forces;
2. introduces new elements to help mitigate risks and develop new capabilities;
3. preserves a significant reserve strategic nuclear force; and
4. provides an increased level of flexibility required to address a wider spectrum of contingencies than in the past.

Conclusion: Role of the Existing ICBM Force Under the NPR and the Future of Traditional ICBM

Under the NPR, the New Triad incorporates and expands on the old triad. Consequently, the ICBM remains very much a part of the US strategic nuclear force. Although the old triad now exists in a much wider and more flexible context than it did heretofore, to some extent the arguments that sustained the old triad throughout the Cold War remain valid. CINCPAC Admiral Ellis offered the following testimony to Congress:

Each leg of the Nation's offensive strike forces possesses unique attributes that enhance deterrence and reduce risk. Intercontinental ballistic missiles (ICBM) provide prompt response; strategic submarines (SSBN) provide survivability; and bombers provide flexibility. The diversity of our strategic forces and the synergy created by these attributes are designed to complicate any adversary's offensive and defensive planning calculations while simultaneously providing protection against the failure of a single leg of the triad. Intercontinental ballistic missiles continue to provide a reliable, low cost, prompt response capability with a high readiness rate. They also promote stability by ensuring that a potential adversary takes their geographically dispersed capabilities into account if contemplating a disarming first strike. Without a capable ICBM force, the prospect of destroying a significant percentage of America's strategic infrastructure with a handful of weapons might be tempting to a potential adversary in a crisis.⁵⁸

As it has in years past, maintenance of the old triad guards against failure of any one of its legs and against a technological breakthrough that might put one of the legs at risk. Now it also assures that the United States retains critical strategic capabilities as it transitions to a New Triad force mix.

The NPR takes a conservative approach in providing for a continuity—albeit at reduced levels—of deterrence. To the extent that this remains important, particularly if world events were to refocus our deterrent posture, complicating any potential adversary's attack plan would become more salient. Moreover, if world events warrant a reversal in the reduction of the US strategic nuclear force, the 500 Minuteman III missiles are an important part of our ability to reconstitute a larger strategic nuclear force.

But perhaps the greatest post Cold War characteristics of ICBMs are promptness, short time of flight and relative accuracy. As pointed out above, the decision to use any nuclear weapon will agonize any American president. Worse still would be not to have the option quickly to destroy a particular target, particularly a HDBT, when needed. Unfortunately, it is not difficult to imagine the need to destroy a target before the assets it harbors are employed or dispersed.

⁵⁸ Ellis, statement before the Senate Armed Services Committee, March 20, 2002, p. 5.

Of course, over time, the United States hopes to develop conventional strike, or specialized nuclear strike, capabilities that can perform these missions. Until these become available, however, the ICBM will be the principal weapon to hold such targets at risk. Moreover, the prompt destruction of certain HDBTs may still require a traditional nuclear weapon, providing an enduring requirement for at least some ICBMs. In this vein it is worth noting that the addition of strategic defenses makes the role of ICBMs in a future force structure more credible rather than less so. Without defenses, even a small arsenal of WMD armed missiles might enable a future adversary to deter U.S. strategic attacks. The converse is true as well; a limited and slowly evolving BMD has a better chance to protect homeland targets if the U.S. is able to use prompt counterforce to disarm an opponent with a limited arsenal of ICBMs.

Finally, ICBMs are by far the most cost effective leg of the triad—old or new—a significant factor at a time when funds for the more transformational facets of the NPR will be at a premium. Administration investment in strategic forces reflects an understanding that the previous administration’s level of spending is not capable of funding such a fundamental transformation. Between 1996 and 2001, spending on strategic forces fell an average of 4.21 percent per year. From 2001 to 2007, it is projected to increase 3.62 percent.⁵⁹ However, this is in the context of rising operation and maintenance (O&M) expenditures, a number of expensive programs like F-22, JSF, DD(x), the war on terrorism, potential conflict in Iraq, a soft economy, and a DOD-wide commitment to pursuing a “transformation” of the U.S. defense establishment. Thus, despite the projected increase in strategic spending, cost as a consideration for the future of the ICBM is not something that should be ignored.

Pursuing the New Triad will require serious U.S. investment in missile defenses, conventional strike capabilities, defense infrastructure and enabling C⁴ISR. Given that current plans suggest extending the life of the Minuteman III out to 2020, a future ICBM is beyond the political horizon for many on Capitol Hill. In that context, it is important to recognize that the infrastructure to pursue an ICBM for the years beyond 2020 will not be in place unless the appropriate investment decisions are made in the near term. This is fully consistent with the administration’s interest in a robust, responsive infrastructure and should be posited as such.

Looking to the future, we draw the distinction between traditional ICBMs such as the Minuteman III and new kinds of ICBMs that may be designed and deployed to accomplish new post Cold War missions. We believe there is a future for both.

Assuming world developments continue to permit, the NPR projects a U.S. strategic nuclear force that includes ICBMs in 2012. The reduced old triad will then continue as part of the new triad beyond 2012, providing an essential hedge as we explore the

⁵⁹ Spending is in terms of real dollars. Authors’ calculations based on data from: Office of the Undersecretary of Defense (Comptroller), *National Defense Budget Estimates for FY2003* (Washington DC: Department of Defense, 2002), 81.

capabilities offered by defenses and strategic conventional forces. There will no doubt be calls for further cuts. However, any such discussion today would be devoid of essential information about the world situation over a decade in the future. Consequently, though arguments to maintain the force will be needed continuously, U.S. strategic nuclear forces, including ICBMs have a role under the NPR to 2012 and beyond.

The Minuteman III is cost effective and durable but, like any other weapon system, it has a finite life cycle. Currently planned service life extension programs are intended to extend Minuteman III's life to 2020, well beyond the period considered by the NPR and also well beyond this country's traditional planning cycle—formal or even informal.⁶⁰ Although the Air Force Systems Command plans to conduct analysis of alternatives for a follow on ICBM in 2004 and 2005, political interest in replacement of the aging Minuteman may be difficult to marshal.

When the matter does arise, unless the political landscape has been radically altered, there will surely be opposition to a new “Cold War” strategic nuclear weapon –from allies, Russia, China and the Third world. But the most important opposition will come from inside the U.S. political system; for that reason, it is essential that we continue to build support for the logic of the NPR, particularly for the transitional and enduring values of a reduced but still significant strategic nuclear force.

That support will be needed to overcome what will be the biggest obstacle to a new traditional ICBM, the lack of an infrastructure to develop and test it. Today the United States has no active offensive ballistic missile program and no program to design or build new nuclear weapons. If this situation persists for another decade, our physical and intellectual capabilities will atrophy and be hard to reconstitute in a timely manner.

Similar concerns were raised by Admiral Ellis in March 2002.

In regards to our nuclear weapons, my overall assessment is that our stockpile is reliable and safe. I have concerns, shared by the National Nuclear Security Administration's John Gordon, that the stockpile is showing signs of aging, and manufacturing defects are being discovered which indicate that previous reliability assessments were optimistic. This is due, in part, to the success of the Stockpile Stewardship Program in expanding our knowledge of warhead performance through the development of improved surveillance, modeling, and simulation tools. This greater scientific understanding has enabled us to identify potential problems and uncertainties of which we were previously unaware. The ongoing refurbishment of the W87 warhead has marked an important technical milestone for stockpile stewardship, as it is the first major refurbishment of a nuclear warhead in a non-testing environment. Approval has also been given for several critical warhead life extension

⁶⁰ “Nuclear Posture Review Excerpts,” p. 14; and Crouch, “Special Briefing on the NPR,” January 9, 2002.

programs—the B61, the W76, and the W80. Together these four systems will comprise a significant portion of our country’s enduring nuclear stockpile.⁶¹

The real issue for today, then, is to maintain this country’s missile and nuclear weapon infrastructure. It is unlikely that such an effort could be sustained artificially in competition for resources with the new systems called for in the NPR—conventional strike capabilities, missile defenses and C³I. Consequently, we believe that the best way to maintain the infrastructure that would be needed to produce a new traditional ICBM cost effectively is to build upon our existing capabilities to produce some of the weapons called for in the NPR. In other words, the future of the traditional ICBM is inextricably linked to the future of new kinds of ballistic missiles.

The United States should explore the potential of new ballistic missiles of every range—intercontinental, intermediate, medium—as platforms for both new kinds of nuclear warheads and advanced conventional munitions. Some of the capabilities likely to be demanded of this effort include:

1. greater accuracy,
2. destruction of HDBTs,
3. agent defeat,
4. limitation of collateral damage,
5. finding and destroying mobile or relocatable targets, and
6. in flight retargeting.

Perhaps most significantly, investment in any new ICBM, traditional or otherwise, will have to be justified in reference to its place in a flexible New Triad of capabilities. A new ICBM effort will have to demonstrate that it will remain useful across a changing range of contingencies and in concert with an evolving mix of offensive and defensive assets. Inherent in the NPR’s goal of the New Triad is a decreased dependence on nuclear weapons for addressing the entire spectrum strategic contingencies. Understanding the niches in which nuclear weapons will endure is important, as is understanding the future roles for ballistic missiles. It is also crucial to understand that these will no longer be synonymous.

⁶¹ Ellis, statement before the Senate Armed Services Committee, March 20, 2002, p. 9.