

**The 2002 Nuclear Posture Review: The 'New Triad',
Counterproliferation, and U.S. Grand Strategy**

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Abstract

This working paper examines the Bush administration's recently completed Nuclear Posture Review (NPR) Report, which outlines the concept of a "New Triad" consisting of offensive strike systems (nuclear and non-nuclear), defenses (active and passive), and a revitalized defense infrastructure. It argues that the NPR's concept of a New Triad is based on the growing dominance of a counterproliferation that has in turn been used to justify post-Cold War nuclear policy. In addition, this paper offers some preliminary conclusions on the dangers of the New Triad by focusing on the NPR's potential consequences to U.S.-Russian and U.S.-Chinese security relations. Rather than an isolated document that has yet to become official government policy, the NPR should be properly seen in the context of an emerging U.S. grand strategy with significant implications not only to "rogue states" but also to the major powers and the international community as a whole.

Glossary

ABL	Airborne Laser
ABM	Anti-Ballistic Missile
ACA	Arms Control Association
ADW	Agent Defeat Weapons
ASCI	Accelerated Strategic Computing Initiative
ASW	Anit-Satellite Weapons
BASIC	British American Security Information Council
BLU	Bomb Live Unit
BMD	Ballistic Missile Defense
BW	Biological Weapons
BWC	Biological Weapons Convention
C2	Command and Control
C3I	Command, Control, Communications and Intelligence
CAV	Common Aero Vehicle
CB	Chemical and Biological
CCD	Camouflage, Concealment and Deception
CCR	Centre for Counterproliferation Research
CTBT	Comprehensive Test Ban Treaty
CP CONPLAN	Counter-Proliferation Concept Plan
CPI	Counter-Proliferation Initiative
CWC	Chemical Weapons Convention
DPRK	Democratic People's Republic of Korea
DSP	Defense Support Program
EPW	Earth-Penetrating Warheads
FMCT	Fissile Material Cutoff Treaty
GBU	Guided Bomb Unit
GCC	Gulf Cooperation Council
HDBT	Hardened and Deeply Buried Targets
HTSF	Hard Target Smart Fuses
ICBM	Intercontinental Ballistic Missile
JCS	Joint Chiefs of Staff
KP	Kinetic Penetrators
KV	Kill Vehicle
LOW	Launch On Warning
MAD	Mutually Assured Destruction
MIRV	Multiple Independently-Targeting Reentry Vehicle
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological or Chemical
NBR	National Bureau of Asian Research
NIF	National Ignition Facility
NMD	National Missile Defense
NNSA	National Nuclear Security Administration
NNWS	Non-Nuclear Weapon States
NPR	Nuclear Posture Review
NPT	Non-Proliferation Treaty
NSC	National Security Council
NTS	Nevada Test Site
NTW	Navy Theatre Wide
NVWEP	Nuclear Weapons Employment Program
NWS	Nuclear Weapon States
PAC-3	Patriot Advanced Capability - 3
PDD	Presidential Decision Directive
REACT	Rapid Execution and Combat Targeting

RMA	Revolution in Military Affairs
SBIRS	Space-Based Infrared System
SBL	Space-Based Laser
SDI	Strategic Defense Initiative
SIOP	Single Integrated Operation Plan
SLBM	Submarine-Launched Ballistic Missile
SORT	Strategic Offensive Reductions Treaty
SRS	SLBM Retargeting System
SSBN	Nuclear-Powered Ballistic Missile Submarine
STRATCOM	Strategic Command
THAAD	Theatre High Altitude Air Defense
TMD	Theatre Missile Defense
UN	United Nations
UNSCOM	United Nations Special Commission
WMD	Weapons of Mass Destruction
WSLF	Western States Legal Foundation

Introduction¹

In January 2002, the Bush administration completed the Nuclear Posture Review (NPR) Report.² This classified report is a congressionally mandated review of the “policy, strategy, plans, stockpile, and infrastructure for U.S. nuclear forces”.³ The NPR outlines a “New Triad” based on offensive strike systems (nuclear and non-nuclear), defenses (active and passive), and a revitalized defense infrastructure, all of which would be “bound together by enhanced command and control (C2) and intelligence systems”.⁴ Additionally, in a departure from the rules laid out by Washington’s own ‘negative security assurances’ (assurances towards non-nuclear weapon states that they will not be targeted with nuclear weapons), the report recommends new nuclear targeting options against ‘rogue states’ armed with nuclear, biological, or chemical (NBC) weapons. The potential development of smaller yield, more accurate, and in the parlance of nuclear strategy, more ‘credible’ nuclear weapons were also given a priority. These could be used as Agent Defeat Weapons (ADW) against NBC facilities and as Earth-Penetrating Warheads (EPW) against hardened and deeply buried targets (HDBT).

By focusing heavily on rogue states that potentially could be armed with NBC weapons, the NPR intersects with and in many ways subsumes two important and inter-related developments in the post-Cold War period. The first development is the growth of the doctrine of counterproliferation as an integral aspect of American military policy. With the seemingly inevitable ‘horizontal proliferation’ of NBC weapons, which was forcefully communicated to American leaders during the 1990-91 Persian Gulf War and the 1994 nuclear crisis on the Korean Peninsula, the U.S. began focusing less on ways of preventing the spread of NBC weapons, and more on ways of fighting and winning wars in an NBC environment. This development signalled the gradual diminution, or perhaps even rejection, of multilateral solutions as necessary components for preventing and/or containing the threat of NBC weapon proliferation to regional adversaries.⁵ The end result was the growth of the Defense Department’s Counterproliferation Initiative (CPI), which was announced by Secretary of Defense Les Aspin in 1993 and codified under Presidential Decision Directive 18 (PDD-18). According to Aspin, the CPI accepts that proliferation could still occur despite the best efforts of non-proliferation: “At the heart of the Defense Counterproliferation Initiative, therefore, is a drive to develop new military capabilities to deal with this new threat”.⁶

The second development is what Dean Wilkening calls the third American debate on ballistic missile defense (BMD). While the first and second debate took place during the Cold War in the context of the nuclear threat posed by the Soviet Union, the third debate differs from the first two by both the threat of “proliferation of missiles and related technology to so-called ‘rogue’ states, most prominently North Korea, Iran and Iraq” and by the “broad bipartisan consensus ... developed within the US political establishment in support of the basic idea [of missile defense]”.⁷ The end result has been the ongoing development of theatre-

¹ This working paper is a revised version of a paper written for a ‘Directed Readings’ course with Michael D. Wallace. This author would like to thank Brian L. Job, Kevin Warrian and Alana Tiemessen for their helpful comments and remarks on earlier drafts of this paper.

² The NPR remains classified, with the exception of a three-page forward and a set of slides. However, it was originally leaked to the Los Angeles Times. See William Arkin, “Secret Plan Outlines the Unthinkable”, *The Los Angeles Times* (March 10, 2002), at

<http://www.latimes.com/news/opinion/la-op-arkinmar10.story>.

Portions of the NPR have been posted at “Nuclear Posture Review Excerpts”, *GlobalSecurity.org*, at <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm>.

³ Kurt Guthe, “The Nuclear Posture Review: How Is The ‘New Triad’ New?”, *Center for Strategic and Budgetary Assessments* (2002), 1. The NPR became a congressional requirement due to Section 1041 of the National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398), October 30, 2000.

⁴ *Nuclear Posture Review*, 1.

⁵ See Leonard S. Spector, “Neo-nonproliferation”, *Survival*, 37, 1 (Spring 1995). For an argument on the need for multilateral solutions to the problem of ‘horizontal’ NBC weapon proliferation, see Douglas A. Ross, “Canada’s functional isolationism and the future of weapons of mass destruction”, *International Journal*, 54, 1 (Winter 1998-99).

⁶ While no White House factsheet was presented on the CPI or PDD/NSC (National Security Council) 18, Les Aspin’s remarks has been posted on the Federation of American Scientists’ website, at <http://www.fas.org/irp/olfdocs/pdd18.htm>.

⁷ Dean Wilkening, *Ballistic-Missile Defence and Strategic Stability*, Adelphi Paper 334 (Oxford; New York: Oxford University Press for the International Institute for Strategic Studies, 2000), 6.

missile defense (TMD) and national missile defense (NMD) systems, the latter of which was codified in the 1999 National Missile Defense Act. According to Section 2 of that Act, "It is the policy of the United States to deploy as soon as is technologically possible an effective National Missile Defense system capable of defending the territory of the United States against limited ballistic missile attack (whether accidental, unauthorized, or deliberate)".⁸

This paper is concerned with the implications of the NPR. The New Triad seems to be explicitly directed at rogue states armed with NBC weapons and ballistic missiles; in that regard, questions certainly linger as to the potential impact of the NPR, if it indeed becomes official government policy, on the actions of those states. However, the NPR also carries with it wider implications. The growing emphasis on counterproliferation as a doctrine against rogue states indicates a foreign policy shift that could potentially displace other national security goals. In many ways, this bears an exaggerated similarity to instances of American fixation on non-proliferation goals to the detriment of its wider regional security interests.⁹ This is related to the issue, commonplace through the 1990's, that a multi-tiered BMD system would impact the threat perceptions and nuclear policies of countries such as Russia and China, with profound consequences for U.S. relations with these nuclear weapon states (NWS).¹⁰ The NPR's simultaneous emphasis on the modernization of nuclear weapons could only increase the potential consequences.

This paper will argue that the 2002 NPR represents the culmination of an American counterproliferation doctrine that incorporates nuclear elements, and that this posture will have potentially destabilizing consequences on international security. While attention has increasingly focused on the (to be sure legitimate) dangers of horizontal NBC weapon proliferation, little attention has been paid to the dangers of 'vertical proliferation' in the post-Cold War period. In fact, the Bush administration seems to have reached a consensus on the role of nuclear weapons as a means of deterring and, perhaps worrisome, defeating rogue states armed with NBC weapons. Unfortunately, the 'vertical proliferation' of nuclear weapons as advocated by the NPR should also be viewed as a proliferation danger independent of but related to 'horizontal proliferation'.

The argument on the dangerous implications of the 2002 NPR will be developed in four separate sections. The first section will outline and clarify the known content of the NPR. Specific attention will be paid to the concept of a 'New Triad', which consists of (i) offensive nuclear and conventional strike options; (ii) active and passive defenses; and (iii) a revitalized defense infrastructure. The second section will examine the doctrinal impetus behind American nuclear strategy. In particular, this section will examine the development of American counterproliferation doctrine in the 1990's, and show how this doctrine created the conditions necessary for the current nuclear strategy. The third section will sequentially examine the negative consequences of the NPR on Russia and China, two key countries in any U.S. grand strategy.

I. The 'New Triad' of the NPR

Perhaps the most interesting aspect of the NPR is the concept of a New Triad. The original nuclear Triad was a doctrine based on the Cold War development of three separate strategic offensive systems for the delivery of its nuclear arsenal: intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and bombers. The concept of a triad of nuclear forces directed at the Soviet Union became an official part of the U.S. defense doctrine in the 1960's. As Richard Smoke explains, under the Triad doctrine:

...each of the three should be able *independently* to impose unacceptable damage on the Soviet Union. The United States would have hedges against any Soviet surprise attack. If one or even two legs of the triad were somehow

⁸ Section 2, National Missile Defense Act (1999). The text of the Act has been posted on the Center for Defense Information website, at <http://www.cdi.org/hotspots/missiledefense/act.html>.

⁹ One noticeable example is during the 1994 nuclear crisis on the Korean peninsula, where non-proliferation as a policy temporarily and dangerously displaced regional security and U.S. relations with China and Japan. See Michael Mazarr, "Going Just a Little Nuclear: Nonproliferation Lessons from North Korea", *International Security*, 20, 2 (Fall 1995), 92-122 and C. S. Eliot Kang, "North Korea and the U.S. Grand Security Strategy," *Comparative Strategy*, 20, 1 (January-March 2001), 25-44. Another more recent case of this problem can be seen with the Bush administration's focus on Iraq and the impact this policy has had on Russia, China, key NATO allies, and the UN.

¹⁰ See Charles L. Glaser and Steve Fetter, "National Missile Defense and the Future of U.S. Nuclear Weapons Policy", *International Security*, 26, 1 (Summer 2001), 40-92.

destroyed in such an attack, the third could still retaliate. Knowing this, the Soviets would be completely vulnerable.¹¹

The Cold War-era Triad was therefore a doctrine directed at the Soviet Union based on the idea of a secure and survivable second strike capability, or "the ability to absorb the other side's strike and retain enough operating forces to strike back effectively".¹² This is commonly associated with Mutual Assured Destruction (MAD): if one side decides to initiate a pre-emptive or preventive attack, the other side would still maintain enough forces to effectively destroy the initiator. To be sure, the U.S. has periodically attempted to replace this doctrine of mutual deterrence with one based on war-fighting, often by moving away from the countervalue targeting of civilian population centres and towards attempts at achieving victory or "damage limitation" by the countervalue targeting of enemy missile silos or command and control (C2) systems.¹³ However, despite the best efforts of some Cold War nuclear hawks, a rough consensus seems to have been made regarding the fundamentally new and unusable character of nuclear weapons outside of mutual assured deterrence.¹⁴

The New Triad is meant to be a new doctrine for the post-Cold War period, where the threats are diverse and often unexpected. As the NPR points out, a new mix of nuclear, non-nuclear, and defensive capabilities "is required for the diverse set of potential adversaries and unexpected threats the United States may confront in the coming decade".¹⁵ The threats commonly cited include: the plethora of states labelled by the U.S. as 'rogue states' 'states of concern,' or 'backlash states'¹⁶; the potential challenge posed by a rising China or perhaps a resurgent and aggressive Russia; and, non-state actors (i.e. international terrorist groups). For that reason, the Report outlines a New Triad composed of:

- Offensive strike systems (both nuclear and non-nuclear);
- Defenses (both active and passive); and
- A revitalized defense infrastructure that will provide new capabilities in a timely fashion to meet emerging threats.¹⁷

This New Triad would be bound together by an enhanced command, control, communications and intelligence (C3I) system. In effect, the NPR is merely the latest manifestation of the current U.S. desire to exploit the ongoing 'Revolution in Military Affairs' (RMA) in order to achieve what Pentagon planning documents today call "full spectrum dominance," the ability to place overwhelming military force anywhere on the planet in short order and to defend them once they are there.¹⁸ But rather than simply accepting the

¹¹ Richard Smoke, National Security and the Nuclear Dilemma: An Introduction to the American Experience in the Cold War, 3rd Edition (New York: McGraw-Hill, 1993), 109. To be sure, the United States did contemplate eliminating aspects of the Triad. For instance, there is evidence that the U.S. Strategic Command (STRATCOM) contemplated switching to a two-legged Triad based on ICBMs and SLBMs in the post-Cold War period. See Hans Kristensen, "The Matrix of Deterrence: U.S. Strategic Command Force Structure Studies," The Nautilus Institute (May 2001), 1-23.

¹² Ibid., 91.

¹³ For a nuanced argument on the need for victory, see Colin Gray, "Nuclear Strategy: A Case for a Theory of Victory", International Security, 4, 1 (1979), 54-87. A good example of this movement towards a war-fighting posture can be found in the Carter administration's "Countervailing Force" and the Reagan administration's focus on the Strategic Defense Initiative (SDI). See Warner R. Schilling, "U.S. Strategic Nuclear Concepts in the 1970's: The Search for a Sufficiently Equivalent Countervailing Parity", International Security, 6, 2 (Fall 1981), 49-79 and Douglas A. Ross, Coping with Star Wars: Issues for Canada and the Alliance (Ottawa: Canadian Centre for Arms Control and Disarmament, 1985).

¹⁴ For this argument, see Bernard Brodie, "The Development of Nuclear Strategy", International Security, 2, 4 (Spring 1977), 66. This view on the fundamental change caused by nuclear weapons on deterrence and war comes from a 1945 Occasional Paper for the Yale Institute for International Studies that was later made into part of an edited volume entitled The Absolute Weapon.

¹⁵ Nuclear Posture Review, 7.

¹⁶ While the U.S. has commonly used the term 'rogue states', this was changed during the second term of the Clinton administration, which began calling these states 'states of concern'. The term 'backlash states' was used by Anthony Lake in his article: "Confronting Backlash States", Foreign Affairs (March-April 1994), 45-56. For a good overview of this 'rogue state' doctrine, see Michael Klare, Rogue States and Nuclear Outlaws: America's Search for a New Foreign Policy (New York: Hill and Wang, 1995).

¹⁷ Ibid., 1.

¹⁸ Western States Legal Foundation (WSLF), "Looking for New Ways to Use Nuclear Weapons: U.S. Counterproliferation Programs, Weapons Effects Research, and 'Mini-Nuke' Development", WSLF Information Bulletin (Winter 2001), 9.

RMA as a conventional revolution, the U.S. seems fixed on expanding the revolution with new nuclear capabilities and BMD systems. This section will outline and comment on the major characteristics of the New Triad.

Offensive Strike Systems

Offensive strike systems are one of the key components of the New Triad, and perhaps one of the most controversial. The Cold War saw the development of a strategic nuclear arsenal as an asymmetrical means to counter the superiority of the Soviet Union's conventional forces.¹⁹ However, the post-Cold War period saw the advent of American conventional dominance and the rise of potential asymmetrical threats against the United States. In this new and admittedly uncertain security environment, offensive strike systems (or the strike element of the New Triad) are meant to provide:

greater flexibility in the design and conduct of military campaigns to defeat opponents decisively. Non-nuclear strike capabilities may be particularly useful to limit collateral damage and conflict escalation. Nuclear weapons could be employed against targets able to withstand non-nuclear attack (for example, deep underground bunkers or bio-weapon facilities).²⁰

One can discern three separate but inter-related aspects to this leg of the New Triad: (i) the current nuclear force and its planned reduction of force-size for the near future; (ii) the conventional strike options as an alternate option to nuclear weapons use; and (iii) the potential development of new nuclear weapons. The rest of this subsection will examine each of these three distinct aspects of the New Triad's offensive strike systems.

According to the NPR, the current nuclear forces of the United States should focus on a capabilities-based approach rather than a threat-based approach. The U.S. will "no longer plan, size or sustain its forces as though Russia presented merely a smaller version of the threat posed by the former Soviet Union".²¹ Therefore, the NPR calls for a planned force structure of 1700-2200 deployed strategic warheads by 2012, which will be based on 14 Trident ballistic missile submarines (SSBNs), 500 Minuteman III ICBMs, 76 B-52H bombers, and 21 B-2 bombers. This would eliminate the Reagan-era MX Peacekeeper ICBM, remove 4 Trident SSBNs from strategic service, and download weapons from other delivery platforms.²²

At first glance, this amount of warheads seems laudable enough. After all, the amount of warheads is similar to the May 1997 Helsinki Framework Agreement between Russia and the U.S., which planned a reduction of between 2,000-2,500 warheads by 2007.²³ But the Clinton administration also began a policy of maintaining a "hedge" against the prospect of unexpected threats in the near future. Currently, the Bulletin of the Atomic Scientists estimates that there are 10,600 nuclear warheads in the U.S. stockpile, of which 2,700 are inactive.²⁴ The Bush administration's NPR has simply refined the maintenance system of and the terminology for a large nuclear inventory. The NPR divides the U.S. nuclear arsenal into three parts. First, there is the "operationally deployed nuclear forces". This is the commonly cited force structure of 1700-2200 warheads, and would include warheads operationally deployed and warheads associated with weapon systems under overhaul. If one is to add the 800 non-strategic warheads and the additional 200 warheads from two Trident SSBNs expected to be in port for repairs, the total amount of deployed nuclear forces would be 3,200.²⁵ Secondly, there is the "responsive nuclear forces". This force, which is simply a renamed "hedge" force, would be intended to "provide a capability to augment the operationally deployed force to meet

¹⁹ This asymmetrical policy was most evident under the Eisenhower's New Look strategy. Of course, this is not to say that the U.S. did not attempt to counter Soviet conventional superiority. Periodic attempts to increase U.S. conventional military capabilities occurred during the Truman Doctrine (and the NSC-68 policy document) and Kennedy's Flexible Response. However, it was always assumed that the Soviet Union maintained conventional superiority. See John Lewis Gaddis, *Strategies of Containment: A Critical Appraisal of Postwar American National Security Policy* (New York: Oxford University Press, 1983). More recently, the U.S. moved to a more high-tech, qualitative solution in the 1980's that formed the basis of the current RMA.

²⁰ *Nuclear Posture Review*, 12-13.

²¹ *Ibid.*, 2.

²² *Ibid.*, 19. The proposed reductions are to occur in two phases. By 2007, the operationally deployed strategic warheads are to be reduced to 3,800. By 2012, this amount should be reduced to 1,700-2,200 warheads.

²³ Richard Sokolsky, "Demystifying the US Nuclear Posture Review", *Survival*, 44, 3 (Autumn, 2002), 141.

²⁴ Robert S. Norris, William Arkin, Hans M. Kristensen, and Joshua Handler, "NRDC Nuclear Notebook: U.S. Nuclear Forces", *Bulletin of the Atomic Scientists* (May-June 2002), 70.

²⁵ Robert L. Civiak, "More Work for the Weapons Labs, Less Security for the Nation: An Analysis of the Bush Administration's Nuclear Weapons Policy", *Communities against a Radioactive Environment (CAREs) Report* (May 28, 2002).

potential contingencies".²⁶ Both components would be considered part of the "active stockpile". The third part would be the "inactive stockpile" of about 5,000 warheads, which do not have limited life components like tritium installed and "may not have the latest warhead modifications".²⁷ This plan for nuclear reductions, or lack thereof, has been codified with the U.S.-Russia Strategic Offensive Reductions Treaty (SORT, commonly referred to as the Treaty of Moscow). Under Article 1 of SORT, the parties agree that by December 31, 2012, the "aggregate number of ... [strategic nuclear warheads] does not exceed 1,700-2,200 for each party".²⁸

By incorporating non-nuclear capabilities, the second component of the New Triad is a sharp departure from the old nuclear Triad and, in many ways, is based on the realization that modern conventional weapons can have a strategic impact.²⁹ To be sure, much of the conventional offensive strike systems have been under development as an integral part of the RMA, which has increasingly focused on long-range precision-guided weapons, a modernized C3I infrastructure, and informational offensive operations. For example, over the last ten years, "over 35,000 nonnuclear, precision-guided munitions have been expended in diverse US military operations".³⁰ The U.S. military also has plans to reduce their dependence on forward bases by developing global strike systems that can deliver weapons through or from space. Such weapons include EPW, supersonic cruise missiles, and a "common aero vehicle" (CAV) – a "manoeuvrable re-entry vehicle that can travel through space aboard a variety of delivery systems".³¹

The combat missions associated with conventional strike options of the New Triad, much like the missions associated with the development of new nuclear weapons, are based on two inter-related security developments. The first development is the growth of what has been termed HDBTs. According to the Report to Congress on the Defeat of Hard and Deeply Buried Targets, a HDBT refers to an adversary's threatening and protected assets in "structures ranging from hardened surface bunker complexes to deep tunnels".³² The intelligence community suspects that "there are over 10,000 potential HDBTs worldwide and their numbers will increase over the next 10 years".³³ To neutralize these targets, the Pentagon has been developing and deploying numerous conventional weapon systems.³⁴

²⁶ The NPR does not specify how large the responsive force will be. According to one analyst, the amount of warheads in the responsive force should total 2,400 warheads. See Sokolsky, "Demystifying the US Nuclear Posture Review", 141.

²⁷ Nuclear Posture Review, 31-32. The figure of 5,000 warheads in the inactive stockpile comes from Civiak, "More Work for the Weapons Labs", 15.

²⁸ Article 1, U.S.-Russia Strategic Offensive Reductions Treaty (May 24, 2002), at <http://www.state.gov/t/ac/trty/10527.htm>.

²⁹ For an example of conventional strategic threats, see Richard Sokolsky "Non-apocalyptic Proliferation: A New Strategic Threat?", The Washington Quarterly, 17, 2 (Spring 1994) and Brad Robert "From Nonproliferation to Antiproliferation", International Security, 18, 1 (Summer 1993), 139-173.

³⁰ Guthe, "The Nuclear Posture Review", 8. Much of the C3I infrastructure is intimately connected to the development of TMD and NMD systems and the modernization of the strategic nuclear weapons infrastructure.

³¹ Western States Legal Foundation (WSLF), "The Shape of Things to Come: The Nuclear Posture Review, Missile Defense, and the Dangers of a New Arms Race", WSLF Report (April 2002), 12. Other conventional strike systems include the non-nuclear role of the B-2 Stealth bomber and the current plans for conventional intercontinental ballistic missiles (CICMB). On the latter, see Eric Schmitt, "U.S. Considers Conventional Warheads on Nuclear Missiles", The New York Times (February 24, 2003), at <http://www.nytimes.com/2003/02/24/national/24MISS.html?intemail>.

³² Report to Congress on the Defeat of Hardened and Deeply Buried Targets, Department of Energy and Defense, (July 2001), 8 (hereinafter entitled Report to Congress). The Report identifies two types of facilities. There is the shallow "cut and cover" design, which would have a concrete structural overburden of less than 10 feet of thickness to protect tactical facilities, and the much harder facilities with strategic functions, which could have a concrete overburden equivalent to 70 to 300 feet, redundant ventilation, power, and communications systems, and sophisticated camouflage, concealment, and deception (CCD) techniques. See Ibid., 8-9.

³³ Ibid., 8. While the exact location of these HDBTs are still not known, there is evidence of such hard to destroy targets in both Iraq and North Korea. For examples of Iraq, see Avigdor Haselkorn, The Continuing Storm: Iraq, Poisonous Weapons, and Deterrence (New Haven and London: Yale University Press, 1999), 64-65. For examples of North Korea, see Philip C. Saunders, "Military Options for Dealing with North Korea's Nuclear Program", Center for Nonproliferation Studies (January 27, 2003), at <http://cns.miis.edu/research/korea/dprkml.htm>.

³⁴ This includes kinetic penetrators (KP), small diameter bombs (SDB), active kinetic penetrators, hard target smart fuses (HTSF), precision-guided munitions (i.e. JDAM), and microwave weapons. These complement weapons like the GBU and BLU series of bombs. For an excellent analysis of these concepts, see Michael A. Levi, "Fire in the Hole: Nuclear and Non-Nuclear Options for Counter-Proliferation", Carnegie Endowment for International Peace Working Paper, 31 (November 2002), 17-21. Also see Charles D. Ferguson, "Mini-Nuclear Weapons and the U.S. Nuclear Posture Review," Center for Nonproliferation Studies Research Story (April 8, 2002), at <http://www.cns.miis.edu/pubs/week/020408.htm> and Mark

The second development is closely related to HDBTs: the threat posed by chemical and biological (CB) weapons, and the need to destroy their facilities and neutralize the agents in order to reduce collateral damage. While these facilities are housed in HDBTs, especially those protecting important strategic functions, it should also be noted that the physical destruction of a HDBT is not enough if the CB weapons "remains viable or is released into the environment".³⁵ For that reason, the U.S. Air Force has a ADW Program that focuses on the "capability to destroy, neutralize, immobilize, or deny an adversary's access to" CB agents.³⁶ Other weapon systems and concepts are also under development.³⁷

Some final points are in order. First, the incorporation of conventional weapons in the New Triad's strategic framework will have a potential impact on the future development of the Single Integrated Operation Plan (SIOP), a nuclear targeting document known for its resistance to change.³⁸ While this could have important consequences on the development of an increasingly sophisticated and integrated Battle Management/C3I system, it remains to be seen whether the SIOP can indeed incorporate non-nuclear capabilities. Secondly, it should be noted that there may be potential benefits from this incorporation. As Donald Rumsfeld optimistically pointed out, "The addition of non-nuclear strike options ... means that the U.S. will be less dependent than it has been in the past on nuclear forces to provide its offensive deterrent capability".³⁹ This view is reiterated even among those critical of the NPR: "It is nevertheless notable that this is the first statement of nuclear policy that acknowledges that conventional weapons could take the place of nuclear missions".⁴⁰

While it can be argued that the increased role of conventional weapons in the New Triad promotes non-nuclear strategic strike options, the prominence of nuclear weapons in the NPR limits this argument. Problems exist in using conventional weapons for the defeat of both HDBTs and CB agents. According to the NPR, current conventional weapons can only "deny" or "disrupt" the functioning of HDBTs, and "are not effective for the long term physical destruction of deep, underground facilities".⁴¹ One can also note the utility of nuclear weapons: "Nuclear weapons have a unique ability to destroy both agent containers and CBW agents".⁴² However, it has been noted that the current U.S. arsenal "will still not be able to hold all known or suspected HDBTs at risk for destruction, especially the deep underground facilities".⁴³ To be sure, the Clinton administration did develop and deploy the B61-modification 11, an EPW based on an already-existing weapon. However, as the NPR points out, the B61-11 is a non-precision weapon that "cannot survive penetration into many types of terrain in which hardened underground facilities are located".⁴⁴ For that reason, the NPR advocates the development of a more effective EPW that could neutralize HDBTs. This could be either a lower yield warhead in order to produce less fallout or penetrating large yield warheads for the "defeat of very deep or larger underground facilities".⁴⁵

While the NPR has yet to become official policy, the development of nuclear EPWs has already begun with the establishment of advanced concept teams at the three U.S. nuclear weapons laboratories by the

Bromley, David Grahame, and Christine Kucia, "Bunker Busters: Washington's Drive for New Nuclear Weapons", British American Security Information Council (BASIC) Research Report (July 2002), 20-21.

³⁵ Report to Congress, 9.

³⁶ Ibid., 19.

³⁷ These include chemical neutralization (i.e. bleach), high-temperature incendiary weapons (i.e. fuel-air explosives and thermobaric weapons), and low-blast high-fragmentation weapons. See Levi, "Fire in the Hole," 24-25 and Report to Congress, 24.

³⁸ For a good early Cold War example of problems of modifying the nuclear targeting plan, see David Alan Rosenberg, "The Origins of Overkill: Nuclear Weapons and Nuclear Strategy, 1945-1960," International Security, 7, 4 (Spring 1983), 3-71.

³⁹ Nuclear Posture Review, 1.

⁴⁰ Janne Nolan, "Parsing the Nuclear Posture Review: An Arms Control Association (ACA) Panel Discussion", Arms Control Today (March 2002). Other analysts who agree with this aspect of the 2002 NPR include Richard Sokolsky and Kurt Guthe. See Sokolsky, "Demystifying the U.S. Nuclear Posture Review", 133-148 and Guthe, "The Nuclear Posture Review", 1-37.

⁴¹ Nuclear Posture Review, 47.

⁴² Report to Congress, 19.

⁴³ Ibid., 6. The report goes on to note that the current nuclear weapons stockpile was not developed for earth-penetration or agent-defeat missions in mind. See Ibid., 19.

⁴⁴ Nuclear Posture Review, 47. For more on this weapon, see Los Alamos Study Group, "B61-11 Concerns and Background", (February 10, 1997), at <http://www.brook.edu/dybdocroot/FP/PROJECTS/NUCWOST/lasg.htm> and Robert W. Nelson, "Low-Yield Earth-Penetrating Nuclear Weapons", Federation of the American Scientists (FAS) Public Interest Report, 54, 1 (January-February 2001).

⁴⁵ Ibid.

National Nuclear Security Administration (NNSA).⁴⁶ It is noteworthy that the EPW concepts are not considered new nuclear weapons. While EPWs do certainly carry out new missions, they are based on the modification of an existing warhead or the design of a new warhead. This allows the administration to skirt around the 1993 Furse-Spratt amendment to the 1994 Defense Authorization Act, which "banned any research and development that would lead to a new nuclear weapon with a yield of less than 5 kilotons".⁴⁷ The same cannot be said for the potential development of a 'mini-nuke,' which would have a yield of five kilotons or less, have a completely new warhead design, and would require the U.S. to conduct nuclear tests.⁴⁸ While the NPR does not explicitly mention the need for mini-nukes, current developments regarding nuclear infrastructure under the third-leg of the New Triad points to the potential development of these smaller, more useable nuclear weapons.

⁴⁶ Bromley and al., "Bunker Busters," 20. For more on these developments, see Civiak, "More Work for the Weapons Labs", 7-10, "The Robust Nuclear Earth Penetrator: A More Useable Nuclear Weapon?", Nuclear Watch, New Mexico (July 17, 2002), at <http://www.ananuclear.org/RNEFactSheetLowRes.pdf> and Lisbeth and David Wright, "Earth-Penetrating Weapons", Union of Concerned Scientists Backgrounder (June 2002), at <http://www.ucsusa.org/publication.cfm?publicationID=401>.

⁴⁷ Levi, "Fire in the Hole", 5. While the amendment is still in place, "a conference committee on the 2003 Defense Authorization Act is debating whether to partially repeal this ban" (5). This is only the most recent attempt to eliminate or mitigate this ban. For instance, in the spring of 2000, nuclear weapons advocates in the Senate attempted to add a provision to the Defense Authorization Bill aimed at loosening these restrictions. The provision that eventually passed called for a study on the defeat of HDBTs, with the Defense and Energy Departments authorized to conduct research and development necessary for the study. WSLF, "Looking for New Ways to Use Nuclear Weapons", 6.

⁴⁸ Bromley and al., "Bunker Busters", 25.

Defenses (Passive and Active)

The New Triad differs sharply from the nuclear Triad by incorporating defenses as an integral part of the Triad. According to Donald Rumsfeld, this signifies "a recognition that offensive capabilities alone may not deter aggression in the new security environment of the 21st century".⁴⁹ Defenses are divided into both passive and active defenses. Passive defenses "protect against missile and air attack by means of concealment, hardening, redundancy, warning, dispersal, mobility, and other measures".⁵⁰ Civil defense preparations could be instituted in order to protect civilians against NBC attacks. The wisdom of such passive measures is reiterated by Richard K. Betts, who states that minor measures can increase protection or recovery from NBC attacks. Examples of such measures include:

... stockpiling or distribution of protective masks; equipment and training for decontamination; standby programs for mass vaccinations and emergency treatment with antibiotics; wider and deeper planning of emergency response procedures; and public education about hasty sheltering and emergency actions to reduce individual vulnerability.⁵¹

The cost effectiveness of such measures stands in sharp contrast to the Cold War. This should come as no surprise. During the Cold War, civil defenses were impossible due to the massive amount of damage that could be caused by even a limited nuclear attack from the Soviet Union.⁵² In contrast, the post-Cold War threat of rogue states and (as clearly demonstrated in 9/11) terrorist organizations, with their limited though growing offensive capabilities, makes damage limitation using passive defense measures both more cost-effective and less controversial.

The same cannot be said of active defenses, perhaps one of the most controversial ideas during the Cold War, and the defense system that is given the most weight in the NPR.⁵³ According to the NPR, the mission of missile defense is to "protect all 50 states, our deployed forces, and our friends and allies against ballistic missile attacks".⁵⁴ It goes on to mention that, aside from the Patriot Advanced Capability-3 (PAC-3), no other BMD system is scheduled for immediate deployment. However, it does mention three options that are currently under consideration:

- A single Airborne Laser for boost-phase intercepts ... against ballistic missile of all ranges;
- A rudimentary ground based midcourse system, consisting of a small number of interceptors taken from the test program and an upgraded Cobra Dane radar in Alaska against longer-range threats; and
- A sea-based Aegis system ... to provide rudimentary midcourse capability against short to medium-range threats.⁵⁵

The proposed system would be a multi-layered one designed to use a "hit-to-kill" interceptor vehicle to attack the missile in all stages of its trajectory. This trajectory is normally divided into three parts.⁵⁶ During a boost-phase interception, the kill vehicle (KV) would intercept the missile five minutes after launch and

⁴⁹ Nuclear Posture Review, 2. In that regard, the Bush administration seems to have followed Keith Payne's argument on the uncertainty of deterrence and dangers of undeterrable enemies. See Keith Payne, The Fallacies of Cold War Deterrence and a New Direction (Lexington: University Press of Kentucky, 2001).

⁵⁰ This is according to a definition in the Joint Chiefs of Staff, Joint Doctrine for Countering Air and Missile Threats, Joint Publication 3-01 (Washington, DC: JCS, October 19, 1999). Quoted in Guthe, "The Nuclear Posture Review", 3.

⁵¹ Richard K. Betts, "The New Threat of Mass Destruction", Foreign Affairs, 77,1 (January-February 1998), 37.

⁵² Despite the view of some nuclear hawks, it seems probable that damage limitation through passive defenses, a BMD system, and the capability of a "splendid first strike" against either its nuclear forces or the "decapitation" of its command and control of its forces was impossible. See Ross, Coping with Star Wars, Chp. 1-2 and John Steinbruner, "Nuclear Decapitation", Foreign Policy, 45 (Winter 1981-81), 16-28.

⁵³ The difference in emphasis between passive and active defenses is striking. Passive defenses are mentioned briefly, but in no detail. In contrast, the NPR does go into specific details as to its BMD plans. It also should be noted that, while the NPR only mentions BMD systems, other defenses currently contemplated by the U.S. include cruise missile defense, space defense, and cyber-defense. See Donald Rumsfeld, "Transforming the Military", Foreign Affairs, 81, 3 (May-June 2002), 29.

⁵⁴ Nuclear Posture Review, 25.

⁵⁵ Ibid., 26.

⁵⁶ This three-part division is summarized from Helen Caldicott, The New Nuclear Danger: George W. Bush's Military-Industrial Complex (New York: The New Press, 2002), 82.

before the missile leaves the atmosphere. This is normally considered the easiest phase for an attack due to the heat of the engine and the lack of decoys and countermeasures.⁵⁷ During the midcourse-phase interception, the KV would hit the missile in space during its "transit". This is considered the most difficult phase for interception due to the speed of the missile and the amount of possible countermeasures that can be released.⁵⁸ Lastly, a terminal-phase system would hit the warhead as its reenters the atmosphere. While there would be little room for error, this interception does have advantages by lessening the amount of potential countermeasures and decoys by exploiting the filtering affect of the atmosphere.

The NPR's plans for BMD are also noteworthy by combining two separate but inter-related aspects of BMD: a TMD system and a NMD system. A TMD system would use a KV interceptor to "protect a smaller area from far fewer incoming missiles from 'rogue states' rather than from great powers, (such as Russia), with larger arsenals".⁵⁹ This could protect both American troop deployments and its allies in theatres like the Middle East or in Northeast Asia.⁶⁰ In contrast, a limited NMD system would be designed to protect "the US against small accidental or unauthorized attacks by Russia, or accidental, unauthorized or international attacks by other states to which intercontinental ballistic missiles (ICBMs) might proliferate".⁶¹ It should be noted that this division was used to allow for the continued development of BMD despite the 1972 Anti-Ballistic Missile Treaty (ABM Treaty). For instance, a TMD system would be compatible with the ABM Treaty⁶² while an NMD system would violate Article 1(2) of that Treaty, which states: "Each party undertakes not to deploy ABM systems for a defense of the territory of its country and not to provide a base for such a defense".⁶³ However, this remains a mute point due to the U.S. decision to withdrawal from the Treaty using the "supreme interests" clause under Article 15(2).

In the end, the NPR envisions a BMD system in the 2006-2009 period to include 2-3 Airborne Laser (ABL) aircraft, additional ground-based midcourse sites, 4 sea-based midcourse ships, and terminal systems like the PAC-3 (deployment in 2001) and the Theatre High Altitude Air Defense (THAAD) (deployment in 2008).⁶⁴ The current Defense Support Program (DSP) space-based launch detection system will be changed to a Space-Based Infrared System (SBIRS).⁶⁵ While the exact architecture of the Bush administration's planned BMD system is not currently known, it does seem likely that it will consist of more interceptors and interceptor sites than either of Clinton's two deployment plans.⁶⁶ However, one large caveat is in order. While the development of missile defense has certainly advanced quite dramatically since the Sentinel and Safeguard programs and Reagan's Strategic Defense Initiative (SDI), it must be noted that the technical hurdles facing this leg of the Triad are significant. This assessment is based on the exorbitant costs of the

⁵⁷ Some scholars have stated that this interception would be the least alarming to Chinese and Russian nuclear forces. See Glaser and Fetter, "National Missile Defense", 40-92.

⁵⁸ For more on countermeasures, see Wilkening, *Ballistic Missile Defence*, Chp. 1.

⁵⁹ Marc Lanteigne, "Tipping the Balance: Theatre Missile Defence and the Evolving Security Relations in Northeast Asia", Working Paper 34, UBC Institute of International Relations (January 2001), 5.

⁶⁰ For an excellent overview of the impact of this kind of BMD in the Asia-Pacific, see Thomas J. Christensen, "China, the U.S.-Japan Alliance, and the Security Dilemma in East Asia," *International Security*, 23, 4 (Spring 1999), 49-80.

⁶¹ Wilkening, *Ballistic Missile Defence*, 7. However, as Glaser and Fetter correctly note, it seems unlikely that any limited BMD system could protect the U.S. against launches from Russian nuclear forces. See "National Missile Defense", 61-65.

⁶² However, it must be noted that some TMD systems did have a potential NMD role. Examples of such dual systems include the Army's Theatre High Altitude Air Defense (THAAD) system and the (now cancelled) Navy Theatre Wide (NTW) system. See Dan Richard Wilson, *Addressing the Ballistic Missile Threat: The New American Debate on Missile Defence* (Burnaby: Simon Fraser University, M.A. Thesis, 2001), 11. In addition, the division can be seen as inherently artificial given the continued research and testing of NMD systems after the U.S. signed the ABM Treaty.

⁶³ The text of the ABM Treaty can be found at James Wirtz and Jeffrey Larsen, eds., *Rockets' Red Glare: Missile Defenses and the Future of World Politics* (Boulder, CO: Westview Press, 2001), 297-302. However, Article 3 of the Treaty does stipulate that the US is allowed to deploy an ABM system centered on the Party's capital and an area containing ICBM silo launchers. This was later changed to one site with the 1974 Protocol to the ABM Treaty, which can be found at *Ibid.*, 312-314.

⁶⁴ *Nuclear Posture Review*, 26.

⁶⁵ Two types of SBIRS will be deployed: SBIRS-High and SBIRS-Low. For that different functions, see Dennis M. Ward, "The Changing Technological Environment", in *Rockets' Red Glare: Missile Defenses and the Future of World Politics*, eds. James Wirtz and Jeffrey Larsen (Boulder, CO: Westview Press, 2001), 88. It should be noted that the NPR only notes the SBIRS-Low satellites. See *Nuclear Posture Review*, 28.

⁶⁶ The C1 plan calls for 100 interceptor, new X-band radars, and upgrades of various early-warning radars around the world (namely in the U.S., Greenland, South Korea, and the United Kingdom). The C2 plan would add 3 more X-band radars, interceptor missile upgrades, an expanded communications infrastructure, and the SBIRS-Low stellite constellation. It seems likely that the Bush administration might have more than one interceptor site, which is commonly called the C3 option.

program, the lack of adequate testing, and the potential for far more cost-effective countermeasures.⁶⁷ For that reason, Kurt Guthe labels it "the most uncertain part of the New Triad".⁶⁸

Revitalized Defense Infrastructure

The NPR makes clear that a revitalized defense infrastructure is a necessary component of the New Triad. And given the fact that the New Triad consists of both nuclear and non-nuclear elements, it seems likely that this leg should be viewed as consisting of the entire defense infrastructure (rather than simply the nuclear component). In effect, one of the purposes of the New Triad is to maintain the U.S. military's overwhelming advantage in the RMA.⁶⁹ However, the NPR does pay particular attention to the infrastructure of its nuclear platforms. Numerous problems with the current infrastructure are identified:

... solid rocket motor design, development and testing; technology for current and future strategic systems; improved surveillance and assessment capabilities; command and control platforms and systems; and design, development, and production of radiation-hardened parts.⁷⁰

Perhaps most controversially, the NPR sees the need for the nuclear infrastructure to have a revitalized capability to manufacture and test new warheads. As the NPR states, there is the need for a nuclear weapons complex that will be able to "design, develop, manufacture and certify new warheads in response to new national requirements; and maintain readiness to resume underground nuclear testing if required".⁷¹ This leg of the new Triad is therefore strongly connected to the first-leg, specifically the potential development of miniature nuclear weapons that are less than 5 kiloton in size. While the NPR does not explicitly condone the development of such "mini-nukes," the revitalization of U.S. nuclear infrastructure under the NPR does seem indicative of a decision to develop such weapons or, at least, to have the potential to develop such weapons on short notice. As John Gordon, the Under Secretary for Nuclear Security and Administrator for the NNSA points out, "it may be appropriate to design, develop and produce a small build of prototype weapons both to exercise key capabilities and to serve as a 'hedge,' to be produce in quantity when deemed necessary".⁷² For these purposes, work on advanced nuclear weapons research and production facilities have already begun.⁷³

While it is difficult to assess the changes underway in the U.S. nuclear infrastructure, the Bush administration's 2003 spending request for the Stockpile Stewardship Program calls for \$5.9 billion, which is twice that of 1995 (\$2.9 billion), and nearly one and one-half times the \$4.1 billion (in 2003 dollars) spent on average during the Cold War.⁷⁴ The NNSA seems to have plans to refurbish all 8 types of nuclear warheads, and to make "substantial modifications to every nuclear weapon in the enduring stockpile"⁷⁵. While the NPR states that it supports the continued nuclear testing moratorium, and only seeks to move the readiness time down to a year or less, the Report's emphasis on new nuclear capabilities indicates a strong potential for renewed nuclear testing. This view has been supported by comments by Dr. Dale Klein, the assistant to Donald Rumsfeld for nuclear, chemical, and biological defense programs: "As time goes on there will likely have to be some tests preformed beyond the small scale".⁷⁶ This emphasis on nuclear testing is reiterated in a

⁶⁷ See David Mosher, "Understanding the Extraordinary Costs of Missile Defense", *Arms Control Today*, 30, 10 (December 2000).

⁶⁸ Guthe, "The Nuclear Posture Review", 6.

⁶⁹ This view can be found in Rumsfeld, "Transforming the Military", 20-32. For example, Rumsfeld states: "the United States must work to build up its own areas of advantage, such as our ability to project military power over a long distance, our precision-strike weapons, and our space, intelligence, and undersea warfare capabilities (25).

⁷⁰ *Nuclear Posture Review*, 30.

⁷¹ *Ibid.*

⁷² John A. Gordon, Statement to the Senate Committee on Armed Services (February 14, 2002), in "Documentation" *Comparative Strategy*, 21 (2002), 149-160.

⁷³ Facilities under development include the National Ignition Facility (NIF), the Dual Axis Radiographic Hydrotest Facility, and pulsed power technology facilities. This data, alongside data from subcritical tests, are planned to be integrated through the Accelerated Strategic Computing Initiative (ASCI), a multi-billion dollar supercomputing program incorporating the U.S.'s leading universities. See WSLF, "The Shape of Things to Come," 6.

⁷⁴ Civiak, "More Work for the Weapons Labs", 6-7.

⁷⁵ *Ibid.*, 13.

⁷⁶ Quoted in Jace Radke, "Defense Official: Nuke Tests at NTS Are Likely", *Las Vegas Times* (August 14, 2002), at

two-page memorandum circulated to the Nuclear Weapons Council, which "urges the U.S. nuclear weapons laboratories to assess the technical risks associated with maintaining the U.S. nuclear arsenal without nuclear testing".⁷⁷

II. The Role of the Counter-Proliferation Doctrine

The U.S. nuclear doctrine during the Cold War was initially directed at the threat posed by the Soviet Union, based on both its conventional and nuclear capabilities.⁷⁸ The threat in the post-Cold War period is more diverse and uncertain. The proliferation of NBC weapons and their delivery systems to rogue states has taken an increasingly prominent place in the threat perception of the United States. As Gilles Andreani points out, while the Pentagon went through numerous scenarios against which to devise their strategies, ranging from peacekeeping to large-scale regional conflicts, "only those involving nuclear, biological and chemical weapons (NBC) could conceivably pose a direct threat to the United States and its population".⁷⁹ To be sure, the 9/11 attacks have certainly complicated this consensus by displaying the dangerous capabilities of transnational terrorist organizations. However, the Bush administration has created a new security paradigm that subsumes the threat of NBC weapons and rogue states under terrorism.⁸⁰ In the end, it seems probable that the U.S. has decided to follow Paul Wolfowitz's advice: "that the time is ripe to deal with all of the United States' enemies and problems ... and to further consolidate an already dominant U.S. power position".⁸¹

Not surprisingly, the NPR places a heavy emphasis on NBC-armed states. After all, the offensive strike systems leg of the New Triad has been justified by the need to neutralize HDBTs and NBC weapons and facilities associated with rogue states. One can also see the same association with the New Triad's focus on mobile and relocatable targets, a problem that was especially problematic during the Gulf War against Iraq's mobile Scud missiles.⁸² In addition, it should be noted that the third debate on BMD differs from past debates by its focus on the threat posed by ballistic missiles in the hands of NBC-armed rogue states. The incorporation of BMD in the New Triad has simply reinforced this trend. As the NPR states,

North Korea, Iraq, Iran, Syria, and Libya are among the countries that could be involved in immediate, potential, or unexpected contingencies. All have longstanding hostility toward the United States and its security partners; North Korea and Iraq in particular have been chronic military concerns. All sponsor or harbor terrorists, and all have active WMD and missile programs.⁸³

While the NPR does certainly focus on this threat, it would be a mistake to consider this recent development in U.S. nuclear policy a fundamental change. Throughout the 1990's, the U.S. has slowly re-focused its foreign and military policy on states armed with NBC weapons. Specifically, the doctrine of

http://www.nukewatch.org/media/more_media/08-00-02/08-12-02/nukeTests.html. The article refers specifically to possible underground nuclear tests at the Nevada Test Site (NTS) in the next decade.

⁷⁷ Dan Stober and Jonathan Landay, "U.S. Ponders Resumption of Nuclear Weapons Tests", *The Mercury News* (November 16, 2002), at <http://www.bayarea.com/mld/mercurynews/news/4534514.html>.

⁷⁸ The nuclear threat became increasingly important in the 1970's, with the mutually reinforcing development of Multiple Independently-targeting Reentry Vehicle (MIRV) technology and larger Soviet missiles (the SS-17, SS-18, and SS-19). For instance, MIRV technology allowed for a missile to carry more than one warhead (i.e. the MIRVed Minuteman III could carry 3 warheads). However, the larger Soviet ICBMs would be able to carry even more MIRVed warheads. For instance, the SS-18 could carry eight warheads. This led to fears of a Soviet pre-emptive counterforce or decapitating strike against the US, which in turn led the Reagan administration to focus on the large MX Peacekeeper missile and the SDI program. See Smoke, *National Security and the Nuclear Dilemma*, Chp. 11.

⁷⁹ Gilles Andreani, "The Disarray of US Non-Proliferation Policy", *Survival*, 41, 4 (Winter 1999-2000), 43.

⁸⁰ One can see this in the Axis of Evil speech in the President's 2002 State of the Union Address, at

<http://www.whitehouse.gov/news/releases/2002/01/20020129-11.html>. While the Bush administration has certainly moved away from the rhetoric of an 'Axis of Evil,' its growing focus on regime change in Iraq seems to indicate the movement away from immediately dealing with Al-Qaeda and towards dealing with rogue states armed with NBC weapons.

⁸¹ Barry R. Posen, "The Struggle Against Terrorism: Grand Strategy, Strategy, and Tactics", *International Security*, 26, 3 (Winter 2001-2002), 54.

⁸² The Airforce and Navy flew 1,460 sorties against mobile Scud missiles and failed to destroy a single launcher; See Vernon Loch, "U.S. Gains in Attacking Mobile Arms", *Washington Post* (July 5, 2002), A14. The NPR's focus on mobile and relocatable targets can be found on *Nuclear Posture Review*, 24-25.

⁸³ *Nuclear Posture Review*, 16.

counterproliferation seems to have had a large role in forming the context in which the NPR was written. While this doctrine is officially based on conventional weapons, it also provided the doctrinal impetus behind not only the 2002 NPR but also nuclear policy development throughout the 1990's. This section will clarify this doctrinal impetus by examining: (i) the threat of NBC-armed states; and (ii) the counterproliferation doctrine (both conventional and nuclear).

The Threat of NBC-Armed Rogue States

The U.S. currently maintains a growing lead in conventional military capabilities. In effect, it not only follows but indeed defines what constitutes the revolution in military affairs. Rather than try to compete directly with the United States, many states have instead sought asymmetrical strategies to defeat U.S. forces. Such asymmetrical strategies are neither limited to NBC weapons and delivery systems nor limited to rogue states. For instance, Kristen Kolet lists asymmetrical strategies ranging from taking casualties at American hands or inflicting mass casualties on American troops to cyber attacks and urban warfare.⁸⁴ China provides a good example of a state that both carefully analyzes U.S. military operations and seeks a "counterrevolution in military affairs" in its modernization program.⁸⁵ However, NBC weapons are considered the primary means of any asymmetrical threat against the United States:

NBC weapons are now widely viewed as integral to the larger concept of asymmetric threats by which less capable adversaries will seek to counter U.S. advantages. This means NBC weapons are intended not only to counter U.S. nuclear capabilities as a 'poor man's atomic bomb' but also to exploit perceived vulnerabilities in U.S. and allied conventional operations.⁸⁶

In addition, the use of ballistic missiles as a delivery system carries with it certain advantages. They deliver payloads faster than aircraft, are largely assured of penetrating airspace, and are "less hampered by poor weather and darkness than pilots and aircraft and, in many respects, are less technologically demanding to maintain and support than modern combat aircraft".⁸⁷ The threat posed by these NBC-armed rogue states is especially acute in the Middle East and Northeast Asia. Both regions are highly important to U.S. interests and contain U.S. troops and basing areas in the vicinity. The rest of this subsection will briefly outline the central NBC-armed rogue states in these two regions.

In the Middle East, three states are seen to pose particular danger to U.S. interest. First, the prototypical NBC-armed rogue of the post-Cold War period has been and remains Saddam Hussein's Iraq. The Iran-Iraq War first demonstrated Iraq's capabilities. During that war, it was able to field over 50 army divisions, mount a sustained defense, develop an experienced air force (including mid-air refuelling and long-distance bombing), and accelerate its NBC weapons programs.⁸⁸ Just prior to the Gulf War, Iraq had the fourth largest army with 800,000 men in early 1990, which was extremely well-equipped by Third World standards.⁸⁹ While the Gulf War certainly changed the conventional balance of power, Iraq's current and potential capabilities remains an important factor. It is the only Arab state with "a reasonably diversified (military, economic, demographic) powerbase" posing a potential conventional challenge to other Arab states, especially the much weaker Gulf States.⁹⁰

⁸⁴ See Kristen S. Kolet, "Asymmetric Threats to the United States", *Comparative Strategy*, 20 (2001), 277-292.

⁸⁵ See Thomas J. Christensen, "Posing Problems without Catching Up: China's Rise and Challenges for American Security Policy", *International Security*, 25, 4 (Spring 2001), 5-40 and David Shambaugh, "China's Military Views the World: Ambivalent Security", *International Security*, 24, 3 (Winter 1999-2000), 52-79.

⁸⁶ Center for Counterproliferation Research (CCR), *The Counterproliferation Imperative: Meeting Tomorrow's Challenges*, CCR Report (Washington, D.C.: National Defense University, November 2001), 4.

⁸⁷ Richard L. Russell, "Swords and Shields: Ballistic Missiles and Defenses in the Middle East and South Asia", *Orbis* (Summer 2002), 485-486.

⁸⁸ See Laurie A. Mylroie, "After the Guns Fell Silent: Iraq in the Middle East", *Middle East Journal*, 43, 1 (Winter 1989), 51-67.

⁸⁹ This included between 5,700 to 6,700 tanks, 7,000 other armoured vehicles, numerous anti-tank weapons, and an integrated air defense system. See Anthony Cordesman, *Iran and Iraq: The Threat from the Northern Gulf* (Boulder, Colorado: Westview Press, 1994), 187-189.

⁹⁰ Rex Brynen and Paul Noble, "The Gulf Conflict and the Arab State System: A New Regional Order?" *Arab Studies Quarterly*, 13, 1 (Winter/Spring 1991), 123. For an excellent recent analysis of the threat posed by Iraq, see Kenneth Pollack, *The Threatening Storm: The Case for Invading Iraq* (New York: Random House, 2002). While Iraq certainly has the capability to harm the Gulf States (specifically Kuwait), it is likely that Iraq's power projection capability has decreased significantly since

Iraq has also played a pioneering role in the development of NBC weapons. With regard to ballistic missiles, Iraq has a proven record of 'missile diplomacy' in the Gulf War and the Iran-Iraq 'War of the Cities', and has previously invested up to \$3 billion in missile development.⁹¹ While some believe that Iraq only has 50 Al Hussein missiles (600 km range), its ambition in this field can be seen in its early development of long-range missiles like the Tammuz-1 (2,000 range) and the Al-Abid space-launch vehicle (3,000 range).⁹² In terms of chemical weapons, while United Nations Special Commission (UNSCOM) has destroyed 3000 tons of agents and precursor chemicals, and 30,000 chemical munitions by 1994, the "quality and quantity of chemical weapons that remain in Iraq is a mystery".⁹³ What is known is Iraq's proven ability to produce both WWI generation chemical-agents, such as phosgene and mustard agent, and more sophisticated nerve agents like tabun, sarin, and VX.⁹⁴ While the existence of nuclear weapons in Iraq remains an unknown possibility, there is evidence based on documents obtained during Kamil Hassan's defection that Iraq had developed (and perhaps still maintains) a massive Biological Weapons (BW) program.⁹⁵

Secondly, Iran is a state with a large population, a relatively strong military, and a keen interest in NBC weapons. According to the U.S., Iran is a state that has a long-term nuclear weapons program, an unknown amount of biological weapons, and most developed of all, a capacity "to conduct a chemical war near its borders, to launch limited long-range air raids using chemical bombs, and to use chemical weapons in unconventional warfare".⁹⁶ Iran's primary delivery systems consist of 200-300 Scud B (300 kilometre range) and Scud C (500 kilometre range) missiles on 15 mobile launchers. The government has also signed a contract with China for 200 CSS-8 missiles (modified SA-2 surface-to-air missiles), and a contract with North Korea for Scud C missile kits.⁹⁷ One can also note that Iran has four indigenous long-range missile systems under development -- the Shahab-3, Shahab-4, Shahab-5, and Shahab-6, altogether ranging from a 1300 kilometres missile to a 10,000 kilometres ICBM.⁹⁸

Thirdly, Syria, while not identified as part of the 'Axis of Evil', remains a potential threat to both U.S. and (more acutely) Israeli forces in the region. While Syria has spent approximately \$2 billion to purchase "hundreds of T-72 and T-60 tanks, as well as advanced Russian aircraft and other weapons,"⁹⁹ it does seem likely that Syria's poor financial situation increases the attraction of NBC weapons as a cheaper means of balancing Israeli forces. According to Avigdor Haselkorn, Syria has built -- with the erosion of Iraq -- "the most advanced and extensive chemical arms program in the Arab world".¹⁰⁰ This view is reiterated by Richard

the Gulf War. One can also note the military modernization programs and security cooperation among members of the Gulf Cooperation Council. See Jacquelyn K. Davis, Charles M. Perry and Jamal S. Al-Suwaidi, eds, Air/Missile Defense, Counterproliferation and Security Policy Planning: Implications for Collaboration Between the United States and the Gulf Co-operation Council Countries, (Abu Dhabi, United Arab Emirates: The Emirates Center for Strategic Studies and Research, 1999).

⁹¹ Cordesman, Iraq and Iraq, 236. Also see Thomas L. McNaughter, "Ballistic Missiles and Chemical Weapons: The Legacy of the Iran-Iraq War", International Security, 15, 2 (Fall 1980), 5-34.

⁹² Information from the Federation of Atomic Scientists (FAS) missile factsheet, at <http://www.fas.org/nuke/guide/iraq/missile/index.htm>

⁹³ Peter R. Lavoy, "Cooperative Defense Against Weapons of Mass Destruction in the Arabian Gulf," in Air/Missile Defense, Counterproliferation and Security Policy Planning: Implications for Collaboration Between the United States and the Gulf Co-operation Council Countries, Jacquelyn K. Davis, Charles M. Perry, and Jamal S. Al-Suwaidi, eds. (Abu Dhabi, United Arab Emirates: The Emirates Center for Strategic Studies and Research, 1999), 53.

⁹⁴ The sophistication of this program can also be seen in the massive stockpile of chemical warfare-agents, including possible binary chemical weapons, and its probably capability to begin production even after 10 years of sanctions. See Stockholm International Peace Research Institute (SIPRI), "Factsheet: Iraq: The UNSCOM Experience," (October 1998), on <http://editors.sipri.se/pubs/Factsheet/unscom.htm>. For a skeptical view of Iraq's capability for binary weapons, see Haselkorn, The Continuing Storm, Chp. 3.

⁹⁵ See Haselkorn, The Continuing Storm, 109. For example, "Iraq may have produced up to 10 billion doses of anthrax, botulinum toxin and aflatoxin". See SIPRI, "Iraq: The UNSCOM Experience".

⁹⁶ Cordesman, Iraq and Iraq, 99. For more on Iran's long-term nuclear program, see Andrew Koch and Jeanette Wolf, "Iran's Nuclear Procurement Program: How Close to the Bomb?" Nonproliferation Review, 5, 1 (Fall 1997), 123-135.

⁹⁷ Russell, "Swords and Shields", 490.

⁹⁸ David R. Tanks, "Key Proliferation Trends and Their Likely Impact on the Balance of Power in the Gulf: A Focused Evaluation", in Air/Missile Defense, Counterproliferation and Security Policy Planning: Implications for Collaboration Between the United States and the Gulf Co-operation Council Countries, Jacquelyn K. Davis, Charles M. Perry and Jamal S. Al-Suwaidi, eds. (Abu Dhabi, United Arab Emirates: The Emirates Center for Strategic Studies and Research, 1999), 34-35.

⁹⁹ Louis Rene Beres, "Limits of Nuclear Deterrence: The Strategic Risks and Dangers to Israel of False Hope", Armed Forces & Society, 23, 4 (Summer 1997), 547.

¹⁰⁰ Haselkorn, The Continuing Storm, 189.

Russell: "Syria may possess dozens of warheads filled with the nerve agent Sarin".¹⁰¹ Delivery systems include the Soviet SS-21 missile (120 km range), the Scud-C missile (600 km range), and the Mig-29 and Su-24 fighter/bomber aircraft.¹⁰² While Syria has so far concentrated primarily on chemical weapons, it has allegedly maintained a nuclear weapons program since 1979.¹⁰³

In Northeast Asia, the only NBC-armed rogue state that could potentially threaten either U.S. interests or its forces stationed in Japan and South Korea is the Democratic People's Republic of Korea (DPRK).¹⁰⁴ Aside from having a massive if outdated military force, North Korea has also maintained an active interest in nuclear weapons. This was most clearly seen with its plutonium-based program that gave Pyongyang enough weapons-grade plutonium for one or two nuclear devices; this program was only capped under the 1994 Agreed Framework after the U.S. agreed to supply the North with two light-water reactors and a shipment of heavy oil.¹⁰⁵ In addition, the DPRK has recently announced that it has had a clandestine uranium-based nuclear weapons program. While the exact nature of the program and Pyongyang's reasons for admitting its existence remain unknown, these facts do indicate a strong desire to build nuclear weapons, even if only as a bargaining chip.¹⁰⁶ While it is likely that the DPRK does have a CB weapons program, very little is known about the extent of its capabilities in that area.¹⁰⁷ In terms of delivery systems, North Korea has 500 Scuds (both B and C) alongside 30 launchers, and potentially up to 100 Nodong 1 missiles (1,000 kilometre range). It also maintains programs on the Nodong-2 (1,500 kilometre range), Taepodong-1 (up to 2,200 kilometres), and Taepodong-2 (up to 6,000 kilometres) missiles.¹⁰⁸

The Counter-Proliferation Doctrine

To combat the threat posed by these NBC-armed rogue states, the U.S. has to date relied on non-proliferation or denial strategies. Perhaps the high point of non-proliferation was in 1995, when the U.S. convinced the non-nuclear weapon states (NNWS) to indefinitely extend the Non-Proliferation Treaty (NPT) in the 1995 Review Conference. According to Leonard Spector, non-proliferation has had numerous successes in the early 1990s:

For the first time in history ... a nuclear state - South Africa - has eliminated its nuclear weapons. Belarus, Kazakhstan and Ukraine have agreed to transfer the Soviet nuclear weapons that were on their territory to Russia and have formally renounced the future development of such arms by joining the NPT. Argentina and Brazil, after years of resisting comprehensive nuclear controls, have accepted them ... Romania has similarly halted an apparent nuclear-weapons effort that was revealed in 1992. Algeria, after secretly building a suspicious large research reactor in the 1980s ... joined the NPT in January 1995. North Korea, too, may well emerge as a successful case of prevention.¹⁰⁹

Regarding biological and chemical weapons, there is the existing Biological Weapons Convention (BWC) and the successful completion of the Chemical Weapons Convention (CWC). Movement on a Comprehensive Test Ban Treaty (CTBT) and a Fissile Material Cutoff Treaty (FMCT) were also integral parts to the development of non-proliferation norms in the 1990's. As Angus McColl points out, "Under US

¹⁰¹ Russell, "Swords and Shields", 489.

¹⁰² Gerald M. Steinberg, "Israel's Response to the Threat of Chemical Warfare", *Armed Forces & Society*, 20, 1 (Fall 1993), 96-98.

¹⁰³ It should be noted that Syria's financial situation prevents it from expanding or accelerating its NW program. Information on Syria's nuclear program can be found at <http://www.fas.org/nuke/guide/syria/>.

¹⁰⁴ Of course, some hardline Republican hawks might declare China to be a future 'rogue state,' or a current one based on its export of nuclear technology and delivery systems to states like Pakistan and Iran.

¹⁰⁵ For an excellent study of this crisis, see Michael Mazarr, *North Korea and the Bomb: A Case Study in Nonproliferation* (New York: St. Martin's Press, 1995).

¹⁰⁶ For a good article of recent developments, see Andrew Mack "A rogue state with a sting", *Globe and Mail* (October 21, 2002), at http://www.ligi.ubc.ca/_media/_oped/021021sting.htm

¹⁰⁷ This ambiguous view is offered by Andrew Mack, "Proliferation in Northeast Asia", Occasional Paper 28, The Henry L. Stimson Center (July 1996), 36-38.

¹⁰⁸ See Michael D. Swaine and Loren H. Runyon, *Ballistic Missiles and Missile Defense in Asia*, The National Bureau of Asian Research (NBR) Analysis, 13, 3 (June 2002), 27-30.

¹⁰⁹ Leonard S. Spector, "Neo-nonproliferation", *Survival*, 37, 1 (Spring 1995), 69.

leadership, classical diplomatic approaches to WMD nonproliferation are enjoying broader international support than ever before".¹¹⁰

However, there has also been a simultaneous movement towards norms of counterproliferation, which can be defined as the Defense Department's "new effort to apply US military resources to address the threat posed by emerging nuclear, chemical and biological-weapon capabilities and their accompanying missile-delivery systems".¹¹¹ The possibility that the U.S. would have to undertake combat activity in an NBC environment was first raised by the 1990-1991 Gulf War due to the NBC programs of Iraq. This led the U.S. not only to undertake active and passive defenses for its troops, but also to use military instruments to preempt possible Iraqi use of NBC weapons.¹¹² Another key incident was the 1994 Korean nuclear crisis, also regarded as a successful case of non-proliferation. However, reports indicate that the U.S. briefly considered pre-emptive military action against the DPRK between 1993 and 1994.¹¹³

In this context, the counterproliferation doctrine was first unveiled in Secretary of Defense Les Aspin's speech to the National Academy of Sciences on December 7, 1993. He outlined a Defense CPI as a supplement to traditional non-proliferation initiatives. A key part of this program was the preparation for combating NBC weapons in future battlefields, through: changes in contingency planning, doctrine, equipment, training, and "tighter coordination of U.S. defense and intelligence operations directed against emerging programs and arsenals".¹¹⁴ Other institutional developments include the creation of a Department of Defense Counterproliferation Council and the development of a Counterproliferation Concept Plan (CP CONPLAN 0400).¹¹⁵

The New Triad subsumes and expands upon two components of the Clinton administration's counterproliferation doctrine. The first component is the BMD system that has been undergoing research and development throughout the 1990's. With defenses like TMD and NMD in place, the U.S. would be able to "provide deterrence and protection against attack, preserve U.S. freedom of action, and strengthen the credibility of U.S. alliance commitments".¹¹⁶ In effect, the U.S. would be able to more freely undertake counterproliferation missions against NBC-armed rogue states while reducing the probability of successful NBC retaliation.¹¹⁷ TMD systems would do this by protecting U.S. forces, forward bases, and the allies that host these forward bases. Examples include the U.S. forces stationed in South Korea, Japan, Turkey, and the members of the Gulf Cooperation Council (GCC). NMD systems "may also become necessary as regional threats like Iraq and North Korea develop and deploy missiles capable of reaching U.S. territory".¹¹⁸ As the Western States Legal Foundation argues, "Missile defenses, working together with overwhelming U.S. air power, global surveillance and communications networks, and long-range precision conventional weapons, are designed in to make military action abroad more politically feasible".¹¹⁹

¹¹⁰ Angus McColl, "Is Counterproliferation Compatible with Nonproliferation: Rethinking the Defense Counterproliferation Initiative", *Airpower Journal* (Spring 1997), 100.

¹¹¹ Spector, "Neo-nonproliferation", 67. Of course, while the definition was the original idea behind counterproliferation, this was later modified in subsequent statements by U.S. officials. See Thomas G. Mahnken, "A Critical Appraisal of the Defense Counterproliferation Initiative", *National Security Studies Quarterly* (Summer 1999), 93.

¹¹² During the Gulf War, the U.S. mounted 970 air strikes against NBC targets and 1,500 air strikes against Iraqi ballistic missile capabilities. However, these strikes were of little effectiveness. See Barry R. Schneider, *Radical Responses to Radical Regimes: Evaluating Preemptive Counter-Proliferation*, McNair Paper 41, (Washington D.C.: Institute for National Strategic Studies, National Defense University, May 1995), 17. For a full outline of Schneider's analysis of counterproliferation, see Barry R. Schneider *Future war and counterproliferation: US military responses to NBC proliferation threats* (Westport, Conn.; London: Praeger, 1999).

¹¹³ Mazarr, "Going Just a Little Nuclear", 113-114. Any strikes on Korea's nuclear facilities, or even sanctions, could have resulted in a second Korean war with horrific casualties. For Mazarr's full argument, see Mazarr, *North Korea and the Bomb*.

¹¹⁴ Schneider, *Radical Responses to Radical Regimes*, 1.

¹¹⁵ It should be noted that the combined Department of Defense and Energy's investment on counterproliferation for fiscal year 2003 is \$12.5 billion. See *Report on Activities and Programs for Countering Proliferation and NBC Terrorism*, Executive Summary, Counterproliferation Program Review Committee (May 2002), 4.

¹¹⁶ *Nuclear Posture Review*, 7.

¹¹⁷ Of course, this does not take into account alternate means of NBC delivery, the ineffectiveness of defenses (as indicated by unsuccessful use of Patriot batteries in the Gulf War), and the potential for holding third countries not part of a TMD system hostage.

¹¹⁸ Ashton B. Carter and L. Celeste Johnson, "Beyond the Counterproliferation Initiative to a 'Revolution in Counterproliferation Affairs'", *National Security Studies Quarterly* (Summer 1999), 86.

¹¹⁹ WSLF, "The Shape of Things to Come", 14.

The second component is the conventional strike systems that have been under development by the U.S. military. The focus of conventional strike systems in the NPR bears a remarkable similarity to those advocated by the CPI. For instance, both the CPI and the NPR focus on shallow buried targets, advanced energetic materials (i.e. extreme heat, chemical reaction or thermobaric effects), HDBTs, special operations forces, and capabilities against mobile missiles.¹²⁰ Of course, the CPI was a doctrine based explicitly on the use of conventional weapons as a means of substitution for nuclear weapons; this has created a tension between the doctrinal desire to use conventional counterforce attacks against NBC targets and the functional utility of using nuclear counterforce attacks against the same targets.

At first glance, the NPR has certainly expanded on the Clinton administration's counterproliferation program by incorporating nuclear and non-nuclear strike options in the New Triad. But unbeknownst to the general public, U.S. nuclear policy has increasingly focused on counterproliferation missions throughout the 1990's – a fact noticeably absent from most current discussions on the counterproliferation doctrine.¹²¹ With the near collapse of the Soviet Union, the Joint Chiefs of Staff (JCS) published a Military Net Assessment in March 1990 that cited Third World threats as a new justification for maintaining nuclear weapons. This was reiterated in Secretary of Defense Cheney's Nuclear Weapons Employment Policy (NUWEP), which led to SIOP-93, "the first overall nuclear war plan formally to incorporate Third World WMD targets".¹²² In addition, counterproliferation roles for nuclear weapons was noted in the JCS's April 1993 Doctrine for Joint Nuclear Operations.¹²³

To be sure, the Clinton administration did attempt to undergo a major nuclear policy review in the 1994 NPR. Unfortunately, despite the best efforts of Ashton Carter, the 1994 NPR effectively codified the earlier views of the Strategic Command (STRATCOM): "When the results were briefed to Congress in September 1994, nuclear weapons featured prominently in counter-proliferation roles such as to 'deter WMD acquisition or use'".¹²⁴ Buoyed by its success, STRATCOM attempted to further reinforce this new counterproliferation role with what has been termed the Silver Books, classified documents with "plans for military strikes against WMD facilities in a number of 'rogue' nations".¹²⁵ While this project was terminated, STRATCOM's increasing focus on Third World targets was formally enshrined in the Clinton administration's PDD-60 and the JCS's 1996 Doctrine for Joint Theater Nuclear Operations. In addition, the military also began focusing on changing its weapon systems. For example, the Navy began installing the SLBM Retargeting System (SRS) and the Airforce began installing its Rapid Execution and Combat Targeting (REACT) system.¹²⁶ These systems were part of the revolutionary "Living SIOP" concept, where the goal is for "SIOP generation in less than 24 hours and re-targeting of up to 1000 relocatable targets per day".¹²⁷ This concept has been reiterated in the 2002 NPR with its focus on adaptive and deliberative planning.

This section has attempted to situate the 2002 NPR in the broader context of evolving U.S. doctrine towards NBC-armed rogue states. Initially, U.S. policy was guided by norms of non-proliferation or the denial of NBC-weapons and technology to these rogue states. While there were certainly problems associated with this policy, an international consensus did seem to emerge on the necessity of non-proliferation. However, the U.S. has slowly moved in the direction of unilaterally countering such proliferation through the research and development of active defenses and offensive weapon systems (conventional and nuclear). The NPR has simply incorporated and codified these elements of the Clinton administration's counterproliferation

¹²⁰ See *The Counterproliferation Imperative*, Chp. 5.

¹²¹ A noticeable exception is Hans M. Kristensen and Joshua Handler, "The USA and Counter-Proliferation: A New and Dubious Role for US Nuclear Weapons", *Security Dialogue*, 27, 4 (1996), 387-399.

¹²² British American Security Information Council (BASIC), "Nuclear Futures: Proliferation of Weapons of Mass Destruction and US Nuclear Strategy", BASIC Research Report (February 1998), 10.

¹²³ This Doctrine saw the need for nuclear weapons (including low-yield and precision-guided) for possible retaliation in regional wars. See Kristensen, "The USA and Counter-Proliferation", 390.

¹²⁴ BASIC, "Nuclear Futures", 14. For more on the disproportionate role and influence of STRATCOM in the formulation of U.S. nuclear forces, see Hans M. Kristensen, "The Matrix of Deterrence: U.S. Strategic Command Force Structure Studies", The Nautilus Institute (May 2001), 1-23. This report details numerous STRATCOM studies that heavily influenced government policies throughout the 1990's.

¹²⁵ *Ibid.*, 15. Silver Books stands for Silver or Strategic Installation List of Vulnerability Effects and Results.

¹²⁶ Kristensen and Handler, "The USA and Counterproliferation", 392.

¹²⁷ BASIC, "Nuclear Futures", 12. It should be noted that a very rigid, pre-planned SIOP has been the mainstay of U.S. strategic forces throughout the Cold War. For more on this fact, see Bruce Blair, *The Logic of Accidental Nuclear War* (Washington D.C.: Brookings Institution, 1993).

doctrine into the New Triad. The Bush administration has also expanded the counterproliferation doctrine by clarifying what has always been left unstated: "whether these options were confined to wartime measures ... or whether they also included the pre-emptive use of force".¹²⁸ As the 2002 National Security Strategy of the United States and the accompanying National Strategy to Combat Weapons of Mass Destruction makes clear, counterproliferation is not only at the heart of U.S. foreign policy, but now incorporates anticipatory self-defense or pre-emption.¹²⁹ In effect, the Bush administration has clarified the counterproliferation doctrine by incorporating two previously ambiguous elements: nuclear weapons and pre-emption.

III. Implications of the NPR

While the NPR has yet to become an official government policy, many of its key components are in the process of both funding and development. In addition, as the last section has shown, many of its components have been under development since the end of the Cold War. The fact that the Bush administration seems to have expanded the previous administration's focus on counterproliferation, by both incorporating an explicitly nuclear component and by adopting a policy of pre-emption, makes it all the more likely that this document will indeed become official government policy.

Many of the problems associated with the New Triad have been examined elsewhere.¹³⁰ Perhaps the most noted is the NPR's focus on new, more useable nuclear weapons that could blur the distinction between nuclear and conventional weaponry.¹³¹ Despite the optimism displayed by the Bush administration, there are severe technical problems with the development of both EPW and BMD systems.¹³² Additionally, the potential for nuclear use in a conflict seems to have increased by the NPR's heavy targeting focus on NBC-armed rogue states. A 'commitment trap' seems to be in the midst of creation, where "a president's deterrent threat does not just reflect a commitment to retaliate; it creates a commitment".¹³³ The impact that the NPR could have on important treaties like the NPT and the Outer Space Treaty are also significant. Regarding the former, the U.S. seems to have ended the 'negative security assurances' that were first given out by President Carter in 1978, and recently reiterated during the 1995 NPT Review Conference and Security Council Resolution 984.¹³⁴ And the U.S. also has plans for nuclear testing that would effectively destroy any chance of resurrecting the CTBT, and possibly would give China, India, and Pakistan an excuse to resume testing themselves.¹³⁵ On the latter, the movement towards a multi-tiered BMD system points towards the potential for developing and deploying various space-based and anti-satellite weapons (ASW). This is made all the more likely given Donald Rumsfeld's interest in the weaponization of space, as evident in his involvement in the Commission to Assess United States National Security Space Management and Organization.¹³⁶

¹²⁸ Mahnken, "A Critical Appraisal", 93.

¹²⁹ See Christine Kucia, "Counterproliferation at Core of New Security Strategy", *Arms Control Today* (October 2002) and John Steinbruner, "Confusing Ends and Means: The Doctrine of Coercive Pre-emption", *Arms Control Today* (January-February 2003). The National Security Strategy can be found at <http://www.whitehouse.gov/nsc/nss.pdf>. The National Strategy can be found at <http://www.whitehouse.gov/news/releases/2002/12/WMDStrategy.pdf>

¹³⁰ For perhaps the most holistic analysis of the NPR's implications, see Bromley and al., "Bunker Busters", Chp. 3.

¹³¹ Some see the possibility of nuclear-nonuclear campaigns, which would be reminiscent of the war plans from the 1950's. For a positive view on these scenarios, see Guthe, "The Nuclear Posture Review", 13-14.

¹³² For the seminal piece detailing the problems of EPWs, see Nelson, "Low-Yield Earth-Penetrating Nuclear Weapons".

¹³³ Scott D. Sagan, "The Commitment Trap: Why the United States Should Not Use Nuclear Threats to Deter Biological and Chemical Weapons Attacks", *International Security*, 24, 4 (Spring 2000), 98. To be sure, the NPR is vague on the use of a nuclear deterrence against CB weapons. However, Bush administration officials have clearly become less ambiguous with regards to the use of nuclear weapons as a CB deterrent.

¹³⁴ For a history of these assurances, see George Bunn and Roland M. Timerbaev, "Security Assurances to Non-Nuclear-Weapon States", *Nonproliferation Review* (Fall 1993), 11-21 and George Bunn, "The Legal Status of U.S. Negative Security Assurances to Non-Nuclear Weapon States," *Nonproliferation Review* (Spring-Summer 1997), 1-17.

¹³⁵ For more on nuclear testing, see Bromley and al., "Bunker Busters", Chp. 3.

¹³⁶ See Michael Krepon, "Lost in Space: The Misguided Drive Toward Antisatellite Weapons", *Foreign Affairs*, 80, 3 (May-June 2001), 1-8 and Caidicott, *The New Nuclear Danger*, Chp. 7.

The NPR should not simply be seen as a nuclear policy document, but rather as a document codifying aspects of an emerging grand strategy that Andrew L. Ross and Barry P. Posen have labeled primacy.¹³⁷ As pointed out by G. John Ikenberry, the U.S. has developed a nascent neoimperial strategy based heavily on Paul Wolfowitz's controversial "Defense Planning Guidance" draft that was leaked in 1992.¹³⁸ However, it remains to be seen whether the Bush administration has fully appreciated the impact this policy could have on its relations with the other major powers. The myopic fixation on the security threat posed by rogue states, and the attendant unilateral impulse to deal with these threats, makes it likely that the implications of this grand strategy have not been fully appreciated and might indeed be detrimental to U.S. interests. This section will attempt to deduce some preliminary conclusions by examining the impact that the NPR in particular has on the U.S. strategic relationship with Russia and China.

Strategic Relations with Russia

The relationship between the U.S. and Russia is important from a strategic perspective for three reasons. First, Russia maintains the Soviet Union's nuclear capability. While heavily dilapidated, the U.S. does have an interest in maintaining nuclear stability between the two countries and preventing the spread of nuclear weapons-related material and knowledge. Second, while the Russian military is certainly only a shadow of the Soviet military machine, it does have a significant presence in the Central Asian region, or what Russia calls its "Near Abroad".¹³⁹ In that region, Russia maintains substantial influence and a military presence that, while certainly ignored in the immediate post-Cold War period, has become increasingly important with the post-9/11 advent of U.S. bases and troops. Third, one should not ignore the sheer geopolitical size of Russia that allows it to exert influence and impact U.S. foreign policy throughout Eurasia.¹⁴⁰

At first glance, it appears that the Bush administration has sought to make a more cooperative relationship with Russia. In terms of their nuclear relationship, the NPR states:

Russia maintains the most formidable nuclear forces, aside from the United States, and substantial, if less impressive, conventional capabilities. There now are, however, no ideological sources of conflict with Moscow ... The United States seeks a more cooperative relationship with Russia and a move away from the balance-of-terror policy framework, which by definition is an expression of mutual distrust and hostility. As a result, a [nuclear strike] contingency involving Russia, while plausible, is not expected.¹⁴¹

While this statement offers an optimistic view of U.S.-Russian relations, one must still question the Treaty of Moscow's continued acceptance of large nuclear arsenals in both parties. Of course, the NPR states that this is for the targeting of both NBC-armed rogue states and unexpected threats in the future. However, as Joseph Cirincione points out, "There is no strategic justification for maintaining thousands of weapons on high alert and a reserve force of thousands more weapons ready for re-deployment other than to target Russia".¹⁴²

While this indicates that very little has indeed changed between U.S. and Russian nuclear policy, this danger is compounded by two developments codified in the NPR. First, the NPR focuses on smaller, more accurate nuclear weapons in order to defeat HDBTs or mobile targets. This would give the U.S. nuclear forces an increased capability for counterforce targeting or the decapitation of Russian nuclear forces. Second, the development of a multi-tiered BMD system, while initially not having the capability to provide the U.S. with a

¹³⁷ See Posen and Ross, "Competing Visions for U.S. Grand Strategy", *International Security*, 21, 3 (Winter 1996/1997), 5-53.

¹³⁸ See G. John Ikenberry, "America's Imperial Ambition", *Foreign Affairs*, 81, 5 (September-October 2002), 44-60. Also see John Lewis Gaddis, "A Grand Strategy," *Foreign Policy* (November-December 2002), 50-57.

¹³⁹ For a good examination of the near abroad, see Michael Mandelbaum, ed., *The New Russian Foreign Policy* (New York: Council on Foreign Relations, 1998).

¹⁴⁰ The campaign in Kosovo provides a good example of Russia's continued influence on American foreign policy and the American tendency to forget or ignore such influence. For a good account of this conflict, see Wesley K. Clark, *Waging Modern War: Bosnia, Kosovo, and the Future of Combat* (New York: Public Affairs, 2001).

¹⁴¹ *Nuclear Posture Review*, 17

¹⁴² Joseph Cirincione, "A Deeply Flawed Review", Testimony before the Senate Foreign Relations Committee (May 16, 2002), available at www.ceip.org. For another skeptical perspective, see Sokolsky, "Demystifying the US Nuclear Posture Review", 133-148.

first-strike advantage vis-à-vis Russia, would provide the preconditions necessary for developing a more sophisticated and threatening BMD system¹⁴³. The fact that research is ongoing on the development of a Space-Based Laser (SPL) indicates the possibility of expanding any BMD system with space-based interceptors or space-based laser. This would provide "critical defence against anti-satellite warfare or other attempts by adversaries to disrupt or disable NMD's intricate architecture".¹⁴⁴ In the end, the NPR's focus on small, accurate nuclear weapons and a multi-tiered BMD system is reminiscent of the Reagan administration's attempt at obtaining "escalation dominance," or the capacity to shift the ratio of warheads to one's own advantage following a cycle of counterforce nuclear exchanges. As Douglas Ross states, "A government possessing this capacity is thought better able to resort to nuclear threats in a crisis situation, as well as to impose 'satisfactory war termination' conditions on the adversary".¹⁴⁵

Irrespective of the technical feasibility of these developments, the potential for U.S. escalation dominance over Russian nuclear forces would have a profound impact on Russian threat perceptions. The current amicable relationship between the two countries aside, one should not discount or underestimate potential Russian policy responses to these developments. From a more technical perspective, the likely Russian response to the NPR would be to increase its current strategy of launch on warning (LOW). This strategy has "long been the primary retaliation plan for the land based strategic rocket forces and ballistic missile submarines".¹⁴⁶ The dangers of a LOW posture are significant: "the decision time is so short that it leaves little time in which to rule out a mistaken warning".¹⁴⁷ This danger is only briefly mentioned in the NPR, and the solutions to that danger speak nothing of prevention:

The New Triad addresses concerns about the accidental or unauthorized launch of certain foreign forces. For example, it provides missile defenses to protect the United States, its allies, and friends against limited or unauthorized launches. It also will provide a spectrum of defensive and non-nuclear response options to an accidental or unauthorized launch ...¹⁴⁸

Strategic Relations with China

The U.S. relationship with China remains one of the most important foreign policy challenges currently facing the Bush administration. It would not be exaggerating to consider the management of China's rise as the key component of any U.S. grand strategy for the 21st century. The NPR does take into account China as a key actor in nuclear policy. As the document states:

Due to the combination of China's still developing strategic objectives and its ongoing modernization of its nuclear forces and non-nuclear forces, China is a country that could be involved in an immediate or potential contingency.¹⁴⁹

Unfortunately, the document will most likely have a negative impact on Sino-U.S. relations. China's nuclear capability is far less extensive than its Russian or American counterparts and throughout the 1990's, China has consistently voiced fears about U.S. BMD programs. Initially, this was confined to the development of TMD, which was seen by China as a possible shield behind which U.S. and Japanese forces could interfere

¹⁴³ According to Charles Glaser and Steve Fetter, "a U.S. decision to deploy any type of NMD would generate momentum for deployment of other types of NMD". See Glaser and Fetter, "National Missile Defense," 77.

¹⁴⁴ Wilson, *Addressing the Ballistic Missile Threat*, 67-68.

¹⁴⁵ Ross, *Coping with Star Wars*, 20. Escalation dominance can also refer to conventional as well as nuclear dominance. In that regard, the U.S. has an overwhelming escalation dominance over almost any state in the world. For a good recent example of this, see Robert S. Ross, "Navigating the Taiwan Straits: Deterrence, Escalation Dominance, and U.S.-China Relations", *International Security*, 27, 2 (Fall 2002), 48-85.

¹⁴⁶ Blair, *Global Zero Alert for Nuclear Forces*, Brookings Occasional Papers (Washington D.C.: The Brookings Institution), 43. The Russian emphasis on LOW and launch under attack (more specifically the latter) can be seen with the development of the automated dead-hand launch system.

¹⁴⁷ Bruce Blair and al., *Toward True Security: A US Nuclear Posture for the Next Decade*, (Report by the Center for Defense Information, Federation of American Scientists, Natural Resources Defense Council, Union of Concerned Scientists, June 2001), 6.

¹⁴⁸ *Nuclear Posture Review*, 54.

¹⁴⁹ *Ibid.*, 16-17. The immediate contingency is regarding a military confrontation over the status of Taiwan. The potential contingency are plausible but not immediate dangers, which can include "the emergence of a new, hostile military coalition against the United States or its allies" (16).

in vital Chinese interests.¹⁵⁰ This threat perception was first reinforced with the 1996 'Joint Declaration on the Alliance for the 21st century' and the 1997 new Guidelines for U.S.-Japan Defense Cooperation, and later by the U.S. consensus to develop an NMD system.¹⁵¹ As pointed out by Charles Glaser and Steve Fetter, there is the possibility that "China would fear that 100 to 250 NMD interceptors would nullify its modest nuclear capability".¹⁵² By focusing on a multi-tiered BMD system and counterforce weapons, the NPR has potentially given the U.S. a first-strike capability against China's vulnerable nuclear forces. Therefore, in any potential military contingency along the Taiwan Straits, the U.S. would have both conventional and nuclear capability for escalation dominance. That the NPR posits contingencies involving China and Taiwan make this development all the more worrisome for China's communist leaders.

To combat the potential dangers inherent in the NPR, it is likely that China will continue and even accelerate the modernization of its nuclear forces.¹⁵³ Currently, it is developing the DF-31, which is a three-stage, land-mobile, solid-fueled missile ICBM with a range of 8,000 km. In addition, reports have suggested that China has developed or is developing Multiple Independently-Targeting Reentry Vehicle (MIRV) technology for its DF-31.¹⁵⁴ Other missiles in development include the JL-2 (a submarine-launched version of the DF-31), and the still tentative DF-41. There seems to be movement in China's nuclear doctrine from its "previous minimum deterrence strategic posture to a more versatile limited deterrence doctrine".¹⁵⁵ While these developments are certainly separate and independent from the NPR, it is likely that the NPR will contribute to the modernization of China's nuclear weapons, delivery systems, and doctrine. That China has consistently voiced opposition to any proposed U.S. BMD system is indicative of this influence. Given that the NPR incorporates advanced offensive strike systems, it is likely that China will view the New Triad as an example of the U.S. desire for first-strike capability and escalation dominance.

The likely consequence of this interaction would be a destabilizing chain reaction. It is likely that China's emphasis on nuclear weapons and ballistic missiles, due in part to fears caused by the New Triad, would increase the incentive for states like Japan to cooperate and develop a BMD system. In addition, China's continued nuclear modernization could directly impact India's already growing concern of Chinese power. This has strong implication for India's nuclear forces, which after the 1998 Pokran II tests has increasingly been justified on the basis of China's nuclear capability.¹⁵⁶ In the end, this could lead to India's further emphasis on nuclear weapons as a deterrent against China, which would impact Pakistan and potentially Iran's own interest in nuclear weapons.¹⁵⁷ The New Triad could simply contribute to a tense and accident-prone nuclear environment in a region that has always been a concern due to the "horizontal proliferation" of NBC weapons.

Conclusion

¹⁵⁰ See Christensen, "China, the U.S.-Japan Alliance," 49-80.

¹⁵¹ See Tsuneo Akaha, "Beyond Self-Defense: Japan's Elusive Security Role Under the New Guidelines for US-Japan Defense Cooperation", *The Pacific Review*, 11, 4 (1998), 461-483. One can also add the cooperation between the two countries on TMD technology in the post-1998 period as well as the renewed logistical support Tokyo has given Washington under the temporary 2001 Anti-terrorism Special Measures Law.

¹⁵² Glaser and Fetter, "National Missile Defense", 81.

¹⁵³ For an excellent analysis using interviews with Chinese officials, see "How U.S. Strategic Policy is Changing China's Nuclear Plans", *Arms Control Today* (January-February 2003).

¹⁵⁴ Swaine with Runyon, *Ballistic Missiles and Missile Defense in Asia*, 17.

¹⁵⁵ *Ibid.*, 47.

¹⁵⁶ For more on Sino-Indian rivalry, see John W. Garver, "The China-India-U.S. Strategic Triangle: Strategic Relations in the Post-Cold War Era," *The National Bureau of Asian Research (NBR) Analysis*, 13, 5 (October 2002) and John W. Garver, *Protracted Conflict: Sino-Indian rivalry in the twentieth century* (Seattle: University of Washington Press, 2001).

¹⁵⁷ To be sure, the impact this development will have on India will be heavily dependent on the type of BMD system the U.S. is focused on. For instance, the NMD system could contribute to an expansion of China's force of ICBMs. Aside for prestige purposes, this would have little impact on Indian national security. However, a TMD system could contribute to an expansion of China's smaller range missiles. This could directly impact India's perception of its nuclear deterrent. For more on the impact that a BMD system could have in South Asia, see Michael Krepon and Chris Gagne, eds. *The Impact of US Ballistic Missile Defenses on Southern Asia*, Stimson Center Report 46 (Washington, D.C.: The Henry L. Stimson Center, July 2002).

This paper has sought to provide a holistic analysis of the 2002 NPR and its proposed New Triad of offensive strike systems (nuclear and non-nuclear), defenses (passive and active), and revitalized defense infrastructure. While the New Triad is meant to buttress deterrence, it is more likely that the NPR further promotes a nuclear posture based heavily on counterproliferation and pre-emption. In that regard, the Bush administration's military policy is remarkably similar to the policy of the early Cold War. As Bruce Blair states, "The 1950's mindset has been resurrected as the U.S. security establishment revs up its programs of offensive special operations, covert action, conventional and nuclear first-strike, national missile defense, and everything else conceivable under the sun".¹⁵⁸ The NPR also reinforces a U.S. grand strategy that has potential implications for both major powers and the international community as a whole. With its analysis on likely Russian and Chinese responses to this developing policy, this paper has been able to comment on a few of these implications. More research is certainly required. In the end, the NPR should be viewed as a component to a potentially destabilizing grand strategy that goes beyond counterproliferation of rogue states or regime change in Iraq.

¹⁵⁸ Bruce Blair, "Nuclear Time Warp", The Defense Monitor, 31, 5 (May 2002), 2.

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