

Preparing for the 2009 Nuclear Posture Review: Post-Cold War Nuclear Deterrence and the 2001 NPR Debate

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Introduction

With the upcoming change of administration, Congress has mandated that a new Nuclear Posture Review (NPR) be accomplished, the first such review since 2001. While the Department of Defense (DoD) endeavors to produce this cornerstone report on the current and future shape of U.S. strategic forces, it is perhaps also time for a renewed public examination and debate. Without the crisis of the Cold War, nuclear weapons and nuclear strategy are no longer the exclusive purview of military generals and elite statesmen. In fact the very nature of democracy demands that its citizens are not ignorant of the risks or costs associated with the various policies and decisions that our elected representatives make on our behalf; and perhaps no issue contains such critical risks and high costs as nuclear weapons.^[1] There must be a clear public understanding of why we still have these weapons, how many we need, what they can and cannot do for us, and how our use or misuse of them will impact not only our own security, but in this increasingly globalized world, the inherently shared security of all people. In this essay I will lay the foundation for understanding these issues by showing how the wide discrepancy in opinions over the shape and purpose of U.S. nuclear forces is due to a fundamental difference in how various groups understand nuclear deterrence.

Beginning with the birth of atomic weapons in 1945 I will examine the roll that they played in U.S. military strategy during the Cold War, focusing specifically on understanding the idea of nuclear deterrence. Moving to the immediate post-Cold War period I will describe the three major academic camps, each with a different idea of the continued relevance of nuclear deterrence, and their unique proposals for the Cold War arsenal of nuclear weapons. This will lead to the 2001 Nuclear Posture Review where each camp had high hopes that their ideas would make it into U.S. policy. I will examine the public portions of the classified report and then cite the criticism and support from the various camps defined previously. Finally I will close with a look to the upcoming 2009 Nuclear Posture Review and a possible scenario for a minimal deterrence posture. This proposal is not so much included as a final solution, but as a starting point for the renewal of public discussion on the risks, benefits, and future of U.S. nuclear weapons.

An Evolving Strategy of Nuclear Deterrence

The use of military force to influence other states in the international arena can take various forms. The most obvious is simply achieving political objectives through by brute force of arms. This is often the most costly form of achieving political goals, however, and states prefer simply to achieve their policy goals through other diplomacy options based upon the *threat* of military force. The distinction between these forms of diplomacy comes from whether you want another state to

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stop performing an action that they are already performing, or whether you want to prevent them from taking an action.^[2] The first is commonly considered compellence, or the ability to threaten another actor with unacceptable harm if they do not change their behavior within a set timeframe.^[3] The latter concept is called deterrence and is the one with which we are most concerned. Deterrence often has a long or indeterminate time frame and simply threatens another actor with denial of their objective, or unacceptable harm if they take a specific action such as initiating a military conflict.^[4] Obviously both compellence and deterrence are terms without specific association to nuclear weapons and apply equally when threats involve conventional arms. But though the nuclear bomb initially seemed to have potential for warfighting, compellence, and deterrence, circumstances would soon see three options effectively reduced to one.

There was much confusion as to whether atomic bombs were simply a more powerful form of traditional weapons, or whether they required separate rules. These initial arguments over its proper place continue to resonate through the 60 plus years of nuclear history. Those such as President Eisenhower saw the bomb as a deterrent first, and only a weapon of last resort. Others saw the bomb as a useful weapon in the first moves of a military confrontation to exact a quick and decisive victory while requiring less mobilization and a smaller, less expensive, army.^[5] In the aftermath of WWII, when the idea of “total war” had legitimized the targeting of cities and civil populations by a number of different weapons, atomic bombs were easily associated with the potential for both compellence and deterrence.^[6]

It was soon increasingly clear that the possession of nuclear weapons did not provide significant compellent power over Moscow. The failure of the Baruch plan in 1946 to create an international control over nuclear weapons as well as the communist coup in Czechoslovakia and the Berlin Crisis in 1948 shattered the idea of nuclear weapons giving the United States free reign in world affairs. It also convinced the West of Soviet aggressive tendencies.^[7] Thus the first Soviet nuclear test in August of 1949 was not seen as an attempt to defend against perceived Western nuclear intimidation, but as a direct challenge to Western security that demanded both the creation of larger arsenals of atomic bombs, and the development of the even more potent thermonuclear bomb.^[8] While the United States no longer had a reason to believe it could compel a nuclear armed Soviet Union, nuclear weapons had an increasing role in deterring and if deterrence failed, militarily defeating Soviet forces. Deterrence, however, still did not dominate strategy in this, perhaps most unstable of nuclear epochs.

Until the launch of Sputnik in 1957 ushered in the age of intercontinental ballistic missiles (ICBMs), the method of nuclear weapon delivery was confined to bombers. Though it was conceivable for the Soviets to attack the United States on one way suicide missions, the most likely conflict with the USSR during the 1950s would occur in Europe.^[9] The NATO alliance was formed in 1949 for this very reason, to assure our European allies that if the Soviets invaded with their overwhelming conventional superiority that the United States would immediately engage in the conflict with nuclear weapons.^[10] To prevent the failure of this extended deterrent policy, the United States felt it needed an overwhelming superiority in nuclear warheads and bombers to both deter the Soviets and to assure its allies. Many were not content to depend solely on deterrence however, and began to recommend utilizing the superiority of U.S. nuclear arsenal to conduct a disarming first strike against soviet nuclear capabilities.^[11] Consideration of this type of attack on both sides led to the fear of being disarmed by the enemy's first strike and the need to be ready to preempt any preparation for such a strike with a strike of one's own. The slightest miscalculation during this period had increasing potential for catastrophic destruction as weapon arsenals grew larger and delivery systems expanded into ICBMs and ballistic missile submarines. But superiority in numbers of weapons and delivery systems was not stabilizing to deterrence and the amount of punishment that could be inflicted upon the opponent was no longer in the realm of warfighting; it was potential national eradication.

U.S. efforts to dominate in numbers of weapons and delivery vehicles led to insecurity in the Soviet Union who feared the ability of the United States to disarm it in a first strike. Likewise the Soviet buildup in arms in the late 1960s and 70s was interpreted by the United States as putting it in a similarly vulnerable position. This classic security dilemma resulted in massive arsenals that, by the 1980s, had reached over 10,000 strategic nuclear warheads on each side.^[12] Though some like Kissinger, and later McNamara, tried to retain the ability to utilize nuclear weapons for warfighting, it was soon widely accepted that the risk of uncontrolled escalation following any nuclear first use would be too catastrophic for both sides.^[13] Stability and trust could only be maintained if each had a secure second strike deterrent with the actual balance of forces important only as it affected the security of this second strike.^[14] In this strange situation, where deterrence of Soviet nuclear forces provided the only remaining utility for the U.S. nuclear arsenal, the Cold War suddenly ended.

The End of the Cold War and the Re-Examination of Deterrence

With the tearing down of the Berlin Wall in 1989, the USSR slowly collapsed. Almost overnight U.S. nuclear strategy and doctrine seemed antiquated. The U.S. seemed to no longer have an opponent requiring a massive arsenal of nuclear weapons, but it was not clear what size it should be, or if nuclear weapons had any relevance at all in this new post-Cold War world. The strategic risks and constraints of the Cold War had narrowed the utility of nuclear weapons to one purpose, the deterrence of the adversary's nuclear forces. But the Cold War had ended, the constraints upon nuclear strategy seemed to be released, but so did much of the need for a powerful deterrent. There was an opportunity to completely reevaluate nuclear strategy and nuclear weapons themselves. Many were excited to present their case for change, many whose ideas through the long Cold War had to take a back seat to US-Soviet arms racing and strategic competition. There continued to be three basic camps, each with its own solution for how best to utilize nuclear weapons to achieve U.S. national objectives. Fundamentally, however, what delineates these three camps from each other is how each one interprets the effectiveness, and forces required to achieve, nuclear deterrence. Not only are these camps interested in how the United States could deter adversaries, but also whether or not we are deterred from utilizing our nuclear forces to achieve other forms of influence such as compellence and warfighting. The three camps are those who favor nuclear disarmament, broad deterrence advocates,^[15] and supporters of minimum deterrence.^[16]

Nuclear Disarmament Camp

The most basic of these camps involves those who see strategies of nuclear deterrence as inherently unstable and conclude that the only solution to eliminate the risks of continued proliferation and an eventual catastrophic nuclear war is complete, worldwide nuclear disarmament. This camp denies that nuclear weapons were responsible for the avoidance of conflict between superpowers during the Cold War.^[17] Citing the long struggle not for equality, but superiority over the Soviet Union in nuclear forces at the beginning of the Cold War, the return in the late 1970s of the idea of being able to win a protracted nuclear war, as well as later efforts to regain U.S. superiority through the Strategic Defense Initiative, Michael MccGwire refutes the idea that stable nuclear deterrence was the central U.S. policy which prevented conflict during the Cold War.^[18] He then moves from the lack of U.S. adherence to deterrence policy to the fallacies implicit in the application of deterrence. He concludes that Cold War strategies of nuclear deterrence were inadequately based upon mathematic and economic models instead of traditional ideas of international politics. This point reflects work by Robert Jervis^[19] and Jeffrey Berejikian^[20] who likewise found cognitive psychology and historical case studies a more substantial foundation than the theoretical assumption of a rational actor used in Cold War nuclear deterrence theories. Cold War assumption of a rational Soviet leader also did not take into account Soviet culture or the traits of individual leaders, an argument supported by a traditional nuclear policy hawk, Keith Payne.^[21] To what extent deterrence did provide stability, it was exploited in games of brinksmanship that actually increased the risk of war in order to

achieve political goals while cooperation was denigrated as undermining the credibility of deterrence.[22] Patrick Morgan came to a similar conclusion but focused instead on the psychological need to prove credibility in small conflicts, to the point of irrationality, in order to ensure credibility for the nuclear deterrent.[23] Daryl Press investigates this topic and finds that credibility does not in fact rely upon a past history of resolve, but upon current interests and capabilities.[24] In the end it was this dogma of deterrence that justified the uninhibited buildup of nuclear strategic superiority thought necessary against an aggressive opponent but which, in fact, fueled the security dilemma.[25] Similarly, Charles Glaser finds that labeling Soviet intent as expansionary caused the West's deterrence posture requiring superior forces but that Soviet interpretation of their own actions differed leading to a spiral of arms buildups on both sides.[26] Finally, MccGwire argues that there is no proof that deterrence should be credited with peace between the superpowers during the Cold War. This conclusion is not unique as writers such as Honoré Catudal[27] and Lebow and Stein[28] found that in many cases concerning Soviet vital interests, the USSR was not, and could not be deterred by nuclear weapons and that, in fact, U.S. nuclear deterrence strategies were destabilizing. MccGwire points out that to conclude that nuclear deterrence had been effective, the Soviet Union would have had to possess the intent and capability for aggression in Europe, as well as the inability to be deterred by conventional forces. He concludes that neither of these is apparent in such a form as to provide a basis for deeming nuclear deterrence effective during the Cold War. Combined with the fundamental weakness of Cold War deterrence theory, and strategies based upon it, MccGwire refutes that deterrence is effective as a foundation for nuclear strategy going forward.[29]

Having argued away the only remaining utility left to nuclear weapons at the end of the Cold War, MccGwire lays the foundation for the 1996 Report of the Canberra Commission on the Elimination of Nuclear Weapons.[30] The commissioners, including General (ret.) Lee Butler, former commander of Strategic Air Command, and Robert McNamara, former Secretary of Defense for both Presidents Kennedy and Johnson, dispute any utility of nuclear weapons, and argue that their mere existence motivates proliferation and the eventual certainty of nuclear war.[31] The Canberra Commission is largely the intellectual continuation of an effort begun by the Council of the Pugwash Conferences on Science and World Affairs in 1990 to take advantage of the opportunity for nuclear disarmament provided by the end of the Cold War.[32] The consensus of these groups is that the only sure solution to prevent the massive destruction inherent in nuclear weapons is to eliminate them completely and establish an international regime to enforce disarmament as previously agreed to in the preamble of the Partial Test Ban Treaty of 1963 as well as the preamble and Article VI of the Non-Proliferation Treaty (NPT) of 1968.[33]

Broad Deterrence Advocates

"We have become rather expert at deterrence: in the hands of such masters as Paul Nitze it made it possible for us to win the Cold War. Military power will still be needed in the future to deter other states, if ones less formidable than the Soviet Union, from using force as an instrument of policy."[34]

Unlike the nuclear disarmament camp, broad deterrence advocates point to scholars such as Sir Michael Howard (above) and Cold War studies of prominent statesmen in concluding that nuclear deterrence was effective in keeping the peace during the Cold War.[35] Keith Payne is perhaps the most eloquent and prolific defender of nuclear deterrence strategy. In his argument against the abolitionist camp he counters that during the Cold War, "Deterrence did not fail, and in some cases it is quite clear that the contribution of nuclear weapons to deterrence was important, possibly essential." [36] He points to both the Cuban Missile Crisis and the Yom Kippur War as both instances where nuclear deterrence created a condition of restraint on both sides.[37] He also presents the argument for the utility of nuclear deterrence in more conventional conflicts by including the 1991 Gulf War as a probable example of nuclear deterrence being effective against biological and chemical weapons use.[38] In fact since the United States does not possess biological or chemical weapons with which to retaliate against a similar attack, he argues that

nuclear weapons are the only feasible means of deterring these types of weapons in the future.[39] Broad deterrence advocates often do not question the limitations of deterrence strategy or the possibility of its improvement but, like a 1993 RAND study, conclude that “The U.S. deploys strategic nuclear forces to deter because *it believes that they deter and because opponents tend to behave in a manner consistent with that belief.*”[40. Emphasis in original.]

Broad deterrence advocates also have a different world view concerning relevant threats to the US. Despite the end of the Cold War, they see Russia and its nuclear weapons as a continuing source of threat. The political and economic changes in Russia, they believe, are only in the initial stages and have great potential for instability. Moscow's adoption of a “first use” policy to emphasize its nuclear deterrent in order to compensate for its reduced conventional capability has also placed into question whether US-Russian relations have truly changed.[41] Broad deterrence advocates conclude that the confidence necessary to change our nuclear deterrence posture toward Moscow simply does not exist.[42] The political collapse of the Soviet Union, however, has created a more complicated global environment where smaller rogue states could develop nuclear, biological, or chemical weapons in order to asymmetrically deter the US.[43] This along with the possibility that a rogue state could supply terrorists with either a complete nuclear bomb, or the fissile material and expertise necessary to create one, seemed to demand a more flexible and credible deterrent strategy and force structure.

The credibility of broad deterrence advocates rests on the ability and willingness to wage nuclear war at all levels of conflict.[44] As Colin Gray and Keith Payne state “as long as nuclear threat is a part of the U.S. diplomatic arsenal and provided that threat reflects real operational intentions—it is not a total bluff—U.S. defense planners are obliged to think through the probable course of a nuclear war.”[45] Only with a strategy and force structure that could successfully fight and win any scale of nuclear conflict can the United States be assured of deterring nuclear conflict at all levels.[46] Analytic models support the proposition that more limited nuclear options, though they add to instability, for this very reason enhance nuclear deterrence.[47] Gray and Payne conclude that the U.S. nuclear arsenal is oriented too much toward suicidal punishment and not enough toward practical warfighting.[48] This leaves the United States vulnerable to limited nuclear escalation by either Russia or a rogue state that is undeterred by conventional forces.[49] Unable to deter its opponent, or justify a massive nuclear response, the United States may “self deter” and find itself paralyzed searching for a way to respond.

Having established the need for response throughout the entire range of conflict, and having connected the credibility of deterrence to the ability to successfully conduct warfare with nuclear weapons, broad nuclear deterrence advocates are forced to conclude that only a robust nuclear force is capable of providing the flexible nuclear options necessary to ensure the achievement of U.S. interests. In various forms this involves large survivable second (and beyond) strike capability, the ability to deter a second nuclear adversary after conducting a large scale nuclear war, smaller weapons that could be utilized against rogue states with less potential for collateral damage, and defensive systems to protect the United States and its deployed forces.[50]

It should be noted that even the broad deterrence advocates did not suggest maintaining the numbers of strategic forces present during the Cold War. All three of the camps in this discussion understood the need for reduction in nuclear forces after 1989, the question was when to stop? Obviously those promoting full disarmament look for the number zero. The broad deterrence camp, with its multiple missions and prolonged nuclear warfare scenarios has a number in the thousands, with the estimate of the 1993 Project Air Force RAND study being 4700.[51] Minimum deterrence advocates lay in between with an argument based again, on their interpretation of the utility of nuclear deterrence.

Minimum Deterrence Camp

Of the three intellectual camps, that of minimum deterrence seems to contain the majority of academic adherents.^[52] Members of this community identify no other useful purpose for nuclear weapons than to deter nuclear forces of other countries.^[53] If this is their only utility, Jeffrey Lewis argues, and their enormous destructive power is apparent to all actors, then only a small number are needed to deter nuclear attack.^[54] This argument also goes back to the early Cold War and is partly attributed to Admiral Arleigh Burke who in 1950 presented the argument that the United States only needed a few nuclear missile submarines to ensure deterrence.^[55] They would do this by in effect holding hostage the enemy's population but striking only in retaliation. The nuclear missiles they carried were too inaccurate for attacking enemy forces and thus were stabilizing in the fact that they could not be utilized in a disarming first strike against an adversaries nuclear forces.^[56] Minimum deterrence advocates give some credit to nuclear deterrence for Cold War peace, but not an overwhelming amount. Janne Nolan contends that giving credit to nuclear deterrence for maintaining peace through the Cold War has hindered the discussion on proper nuclear strategy and perhaps justified attempts to apply nuclear deterrence to areas where it is not effective.^[57]

Interestingly those promoting disarmament and those who argue for broad deterrence forces almost all agree that the basic idea of nuclear deterrence has some legitimacy. The disarmament camp simply argues that if nuclear weapons only deter nuclear weapons then by eliminating them, there is no need for deterrence.^[58] Minimal deterrence advocates don't yet see a practical, enforceable way to eliminate nuclear weapons, thus a small number will always be needed to act in the strategic deterrent role.^[59] They agree with the disarmament camp in most other respects, namely that nuclear weapons are not effective at deterring other forms of weapons of mass destruction (WMD), cannot be utilized in any limited warfighting capacity, and are not credible as a means of compellence or dissuasion.^[60]

Because deterrence comes simply from the possession of nuclear weapons, minimal deterrent forces have unique features. Ideally, their small size and low accuracy prevents them from inflicting a disarming first strike against an enemy thus making them a more stable force.^[61] Because they are designed to be secure, there is no emphasis on a hair trigger and forces can be removed from alert posture making accidents less likely.^[62] The limited amount of warheads also prevents long term catastrophic damage to the global environment in the event of accidental or intentional use.^[63] The final benefit, again derived from the small number of warheads, is that there is less temptation to utilize them in a conventional manner; their importance as a strategic deterrent would override any conventionalization of the weapons.

The 2001 Nuclear Posture Review and Reactions

All of the above described camps have existed in one form or another since the beginning of the Cold War, yet the ever present crisis of Soviet aggression placed the broad deterrence camp in the lead of U.S. force structure even if policy had not quite explained the logic of nuclear warfighting. As the Berlin Wall fell and the Soviet Union collapsed there was a great deal of uncertainty about the shape of the new political world order. In this environment it is perhaps unsurprising that the first Nuclear Posture Review, conducted in 1994, did not dramatically change U.S. nuclear policy from the broad deterrence camp orientation it possessed during the Cold War.^[64] But by the time of the next posture review in 2001 it was clear that the conditions of the Cold War had not returned. As the Clinton administration wound down there was renewed hope for significant change by those advocating minimum deterrence and nuclear disarmament.

Though it is a classified document, many important excerpts from the NPR became public in early 2002.^[65] Of the topics directly relevant to nuclear deterrence, perhaps the most revolutionary was the idea of reinventing the nuclear triad. In its traditional form, the nuclear triad consists of

nuclear armed bombers, intercontinental ballistic missiles, and nuclear missile submarines each considered necessary during the Cold War for its unique characteristics. The NPR suggests reforming the traditional nuclear triad into a new mixed triad consisting of offensive strike capabilities (both conventional and nuclear), defensive capabilities (active and passive), and an updated defense infrastructure capable of delivering new capabilities quickly to the warfighter.[66] Examining threats, the NPR states that countries such as Russia are not going to be direct subjects of war planning, but that instead the United States will develop capabilities able to deter any adversary “at the lowest level of nuclear weapons consistent with U.S. and allied security.”[67] To do this, the report directs that the United States develop strategic forces to defeat any enemy.

The strike piece of the triad is not specifically mentioned in the excerpts pertaining to the U.S. policy goal of deterrence, but is included in the dissuasion and defeat areas.[68] Here the NPR specifically suggests that “nuclear weapons could be employed against targets able to withstand non-nuclear attack, (for example, deep underground bunkers or bio-weapon facilities).”[69] The second part of the triad, defenses, mostly involves missile defense systems that “provide insurance against the failure of traditional deterrence.”[70] The third leg of the triad, an improved defense infrastructure, is offered as necessary to ensure the credibility of the nuclear deterrent by guaranteeing the health of the nuclear force and its command and control equipment.[71] This industrial infrastructure also enhances deterrence by creating new capabilities such as weapons to attack high-value hardened targets.[72]

The security environment against which, presumably, force structure and size depend is laid out by the NPR and covers all possible contingencies including the Straits of Taiwan, a new coalition of enemies armed with WMD, North Korea, Iraq, Iran, Libya, Syria, China and even Russia though it is explicit to mention that our ideological differences with Russia have been eliminated.[73] The NPR then makes its most explicit mention of U.S. deterrence objectives:

Based on current projections, an operationally deployed force of 1700-2200 strategic nuclear warheads by 2012 . . . will support U.S. deterrence policy to hold at risk what opponents value, including their instruments of political control and military power, and to deny opponents their war aims. The types of targets to be held at risk for deterrence purposes include leadership and military capabilities, particularly WMD, military command facilities and other centers of control and infrastructure that support military forces.[74]

The 2001 NPR claims that above all it is a break with the Cold War method of planning for strategic forces.[75] Not all those who reviewed the excerpts from the NPR agree, including our allies.

Certainly the initial newspaper articles in the *L.A. Times* and *New York Times* saw the NPR as a radical departure from past deterrence policies. William Arkin of the *L.A. Times* called the emphasis on creating new nuclear missions a reversal of “an almost two-decade-long trend of relegating nuclear weapons to the category of weapons of last resort,” and called the NPR “an integrated, significantly expanded planning doctrine for nuclear wars.”[76] Michael Gorden of the *New York Times* agreed that the NPR increased the potential use of nuclear weapons in conflicts with both nuclear and non-nuclear states. He also highlights the tension that the NPR nuclear “bunker busters” creates with the policy against threatening with nuclear arms non-nuclear states that have signed the Non-Proliferation Treaty.[77] Subsequent academic examination, in both the United States and abroad, largely agrees with these initial assessments of the NPR, yet few recognize the continuity that the 2001 NPR has with previous broad deterrence strategies.

The introduction by James Wirtz to *Nuclear Transformation: The New U.S. Nuclear Doctrine* sums up succinctly the 2001 NPRs place among the three defined deterrence camps:

Instead, they (writers of the NPR) believed that a variety of credible deterrent capabilities was required to deter a range of actions while still providing a capability to preempt a looming threat or to terminate a war quickly if deterrence should fail.[78]

This along with the mixing of conventional and nuclear strike forces in the new triad gives a picture of previous broad deterrence strategies demanding the ability to fight nuclear conflict at all levels in order to have a credible deterrent. Critics and supporters can easily be broken up by those who agree with the necessity of broad deterrence, and those supporters of minimal deterrence and disarmament who deny it.

Fetter and Glaser consider the idea of nuclear attack as an effective deterrence against a country developing WMD, but largely reject the argument by pointing to the effectiveness of nuclear weapons in a minimalist role as preventing the *use* of WMD even if it is developed and the ability of conventional arms to deter or attack WMD development in all but the most extreme situations.[79] Jeffrey Knopf connects the dots between the change in U.S. policy toward preemption and the increased reliance on nuclear weapons to counter that the administration is actually pursuing a policy of dissuasion. By threatening nuclear attack through preemption in the event of nuclear or other WMD development, the United States is utilizing strategic weapons in a classic deterrence by denial.[80] This, again, falls outside the minimalist view that nuclear deterrence is only effective in preventing nuclear attack. Knopf focuses on the decision-making of nations subject to U.S. threat and concludes that this type of deterrence is almost guaranteed to fail by motivating nations to attempt to deter U.S. attack by development of WMD in a viscous cycle of accelerated proliferation.[81] Speed and May continue classic minimalist critiques of the NPR by pointing out that to be credible, the development of new nuclear weapons will require new nuclear testing. This, they argue would shatter the effort to achieve implementation of the Comprehensive Test Ban Treaty (CTBT).[82] Additionally, the idea of first use by the United States is seen at odds with the desire for deterrence. First use could motivate retaliation in kind by the enemy or the threat of first use could lead to an adversary's first use to preempt a U.S. attack.[83] It is this idea on the part of our NATO allies, Russia, and in Northeast Asia that the U.S. NPR will lead to a lower threshold for nuclear use in war that points to a dominant minimalist approach to nuclear deterrence worldwide.[84] If the broad deterrence camp had support in these regions, it would be accepted that the United States is justified in lowering the threshold for use in order to maintain a credible deterrent.

Supporters of the NPR argue that it actually is a radical shift from the Cold War and is a critical step forward in achieving national security goals. Keith Payne, who helped draft the NPR, while serving as the assistant secretary of defense, is perhaps its strongest defender.[85] He argues in "The Nuclear Posture Review: Setting the Record Straight" that the NPR does not conventionalize nuclear weapons, does not lower the nuclear use threshold, and fights proliferation.[86] By starting from the assumptions inherent in the broad deterrence camp he is able to defend this argument. Payne claims that the NPR aids in deterrence by making U.S. threats of nuclear retaliation more credible at all levels of conflict instead of relying upon the minimalist idea of maintaining strategic deterrence only to prevent nuclear attack.[87] Joseph Pilat agrees and tries to make clear that maintaining all levels of strategic forces is critical to deterrence credibility in the minds of U.S. policy makers and is not war planning.[88] Payne continues that nuclear forces need to be modified so that they are flexible enough to meet the demands of each different strategic situation.[89] Jeffrey Larson makes a similar argument but from a collateral damage point of view. From his perspective smaller more accurate nuclear weapons called for in the NPR reduce collateral damage and thus making them more acceptable and more credible as a deterrent.[90] In a statement that defines the broad deterrence camp, Payne argues that if the United States were to conventionalize nuclear weapons "nuclear deterrence would be as credible as conventional deterrence." [91] By the belief in the efficacy of broad deterrence, he is able to see the NPR as creating a force capable of assuring our allies of our nuclear credibility. This reduces, not increases, their propensity for nuclear weapons programs and thus decreases proliferation.[92] Another argument for the NPR is that it actually

diminishes the role of nuclear weapons by making them only one piece of one arm of the strategic triad sharing its position with conventional strike forces. This, it is argued, is to emphasize the increasing role of conventional deterrence and the de-emphasis on nuclear weapons.^[93] In this way the broad deterrence camp has attempted to reduce objections from the minimal deterrence camp by claiming that the NPR indeed is focused on disarmament and nuclear de-emphasis.^[94]

I think it is difficult to place the 2001 NPR anywhere else than directly in the center of the broad deterrence camp. It is clear that the assumptions that underlie both the force structure and the recommended research and development contribute to a credible deterrence only if credibility relies upon warfighting with strategic nuclear forces. The argument that the NPR is in line with minimal deterrence concepts that call for drastic reductions in nuclear forces and a de-emphasis of nuclear weapons use is unfounded. It also ignores that an increased nuclear posture on the part of the US, while it may prevent proliferation to our allies, will certainly motivate further proliferation among those not covered by our nuclear umbrella. Only if the reduction (actual, not just deployed) in nuclear weapons was planned below the level where a first strike was possible could the NPR claim to have a goal of reaching minimal deterrence or disarmament. And only if nuclear weapons were actually removed from the strategic strike portion of the new triad could they be legitimately called de-emphasized. But for such radical changes, political demands would have to change.

Political Limitations of the NPR

What most critiques fail to take into account is the degree to which the NPR is separated from academic and social debates about nuclear weapons. In the excerpts of the NPR it is clear that the fundamental document upon which the NPR is based is the Quadrennial Defense Review, another product of the Department of Defense. This document is created by the DoD to create:

“a comprehensive examination . . . of the national defense strategy, force structure, force modernization plans, infrastructure, budget plan, and other elements of the defense program and policies of the United States with a view toward determining and expressing the defense strategy of the United States and establishing a defense program for the next 20 years.”^[95]

It is in the QDR that the defense strategy is expressed; the NPR is simply the means by which the nation's strategic forces are married onto the QDR. The military is focused on security risk. Any method by which the United States can be made more secure, as defined in the National Security Strategy, the Department of Defense is entrusted with suggesting in the QDR. At the end of September 2001 when the QDR that was to impact the 2001 NPR was published, there is no doubt that concerns about security were high, and acceptance of risk low. From this perspective it is perhaps easier to understand why, when the dominant academic and international position on nuclear weapons favored minimal deterrence, the U.S. policy moved in the opposite direction.

Minimal deterrence and eventual disarmament involve accepting risk. There are risks that stability in a world where only minimal deterrence forces exist may not be as strong as today's environment.^[96] There are risks that somehow we might find ourselves in critical need of nuclear forces we formerly had, but no longer possess. The military is not entrusted with the ability to make decisions about whether or not the United States should accept more risk. Ultimately that is a political decision. It is unreasonable to expect that the NPR should be anything other than the sum of the parts of our QDR, National Security Strategy, and current force structure because that is all it has to work with.

In this light, if I were to plan the next NPR it would not be started before the election later this year, but after. If the NPR is to move away from the broad deterrence camp, the process must begin with the difficult political decision of choosing which underlying assumptions about nuclear

deterrence are valid. To change from the current force structure would require a strong political commitment not only to accept the perceived security risk inherent in changing nuclear policy, but the political risk of potentially increasing U.S. vulnerability. Assuming that decision was made, what would a minimal deterrence NPR look like? If the minimalist assumptions are correct, however, it would move the United States toward a more secure and less threatening environment.

A Possible 2009 Nuclear Posture

As stated previously, the difference between the broad minimal deterrence camps is not solely in numbers of weapons.^[97] The first focus of a minimal deterrent NPR would be in the explicit removal of nuclear weapons from all forms of deterrence except that of deterring nuclear attack. The best way to do this would be to again reform the strategic triad designating a deterrence, strike, and infrastructure arm. The deterrence arm would contain nuclear weapons as well as ballistic missile defenses. The first would have the role of deterrence by punishment, the second, deterrence by denial. The strike arm would consist solely of conventional weapons capable of achieving strategic effects. The infrastructure arm would be uniquely focused on the conventional weapons infrastructure and given the goal to achieve all missions with conventional weapons that were filled previously with nuclear weapons.

The minimum deterrent NPR would, like the 2001 NPR, have to have the number of final nuclear warheads dictated by political treaty and verification regime established by the President between the current nuclear capable nations. Without that groundwork being accomplished, this suggested NPR would be politically impossible. The NPR would lay out the process for elimination of surplus nuclear weapons above the number designated for minimal deterrence. A number in the low hundreds would be chosen along with the elimination of the air arm of the nuclear triad. Nuclear bombers and dual use fighters would be eliminated from the arsenal as well as a massive reduction in ICBMs and missiles aboard nuclear submarines. A blueprint for a largely dispersed ICBM force of along with sufficient submarines to ensure that the needed number of missiles was always available for use would be spelled out in the new NPR.

This new NPR would also explicitly state the intention of the United States to declare a “no first use policy” and to abide by the new nuclear disarmament treaty, NPT, and CTBT. It would also spell out how U.S. nuclear forces would be ensured mission capable under these treaties. Weapons laboratories would be directed to find conventional methods to defeat hardened targets, and other missions that nuclear warfighting had envisioned. Finally, the posture of U.S. nuclear forces would be explicitly spelled out. Nuclear weapons would not need to be on high alert due to the hardened nature of nuclear silos and the dispersion of nuclear submarines which make them survivable in any first strike. Warheads would not be mounted on ICBMs and additional safeguards would be added to SLBMs in accordance with a verifiable international norm likely also spelled out in the nuclear disarmament treaty.

After all this work, what would be the expected benefits of changing over to this type of nuclear posture? If the underlying assumptions of the minimal deterrence camp are correct, this policy should see a period of unprecedented international cooperation. Beginning with the treaty, the verification regime, and enforcement measures, all nuclear powers would have to open up and become transparent to the disarmament protocol. This would aid in preventing proliferation by de-emphasizing the utility of nuclear weapons and increasing international accountability. Deterrence should be strengthened overall as decision makers in Washington will have a better perspective on the true limits to U.S. military influence instead of an unrealistic picture of being able to use nuclear deterrence for all occasions. If the nuclear arsenals were able to be reduced to the minimum deterrent level and verified, then likely the international regime would be strong enough to take the next step of full nuclear disarmament.

Conclusion

In the realm of nuclear deterrence strategy, where you stand does depend a great deal upon which camp you sit in. I have shown that advocates of nuclear disarmament base their views largely on the lack of utility for nuclear deterrence. Broad deterrence advocates claim an opposite view in that they see nuclear warfighting at all levels essential to an essential credible deterrent. Finally, the minimal deterrent camp sees only the only utility in nuclear weapons in their ability to deter nuclear attack. Based upon these camps I showed that the 2001 NPR falls in the center of the broad deterrence camp. What I found lacking in the discussion of the NPR was an understanding of the military strategy process and the fundamentally political origins of the assumptions underlying all U.S. military strategy. In imagining a minimal deterrence strategy for the 2009 NPR it is clear just how much political thought about nuclear weapons would have to change to realize this vision of the future.

What becomes apparent in considering a minimal deterrence NPR is that the risk is primarily taken by the United States in reducing its arsenal and relying on deterrence only to deter nuclear attack, while the benefits are shared with the international community and future generations. In the case of today's current policy, the benefits (if broad deterrence advocates are correct) are accrued by the United States in the form of more credible deterrence while the international community becomes less relevant. This can be seen in the potential damage to the existing international treaties and norms that the 2001 NPR could produce. As in all political decisions, the nuclear strategy of the United States demands tradeoffs. The question remains, can the U.S. academic community, Department of Defense, and political leadership come together to deploy a coherent minimalist nuclear deterrence strategy that will further reduce warheads and de-emphasize nuclear weapons in order to gain the reward of increased international security?

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References

1. Though the risks of worldwide nuclear Armageddon are well known from movies and television, few realize the cost of developing and maintaining the U.S. arsenal of nuclear weapons since 1940 is estimated to have cost \$5.5 trillion (constant 1996 dollars) with a continuing \$35 billion spent annually. See Stephen I. Schwartz, ed., *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons since 1940* (Washington: Brookings, 1998), 1, 3.
2. Dissuasion is another form of military influence strategy which attempts, through overwhelming military superiority (in one or various areas), to influence another actor not to attempt to develop a particular military capability. It was suggested that creating a large arsenal of weapons could dissuade Soviet development of the atomic bomb. The failure of this idea is perhaps illuminating for the debate over dissuasion today. See Andrew F. Krepinevich and Robert C. Martinage, "Dissuasion Strategy," Center for Strategic and Budgetary Assessments, Washington, DC, 2008, CSBAonline.org; and Joseph Cirincione, *Controlling the Bomb* (New York: Columbia University Press, 2007), 20.
3. Thomas C. Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), 72.
4. Schelling, 72.

5. Lawrence Freedman, *The Evolution of Nuclear Strategy* (London: Palgrave Macmillan, 2003), 49, 46.
6. Ibid., 19.
7. Schwartz, Op. Cit., 29.
8. Freedman, Op. Cit., 60.
9. Ibid., 61.
10. Freedman, Op. Cit., 69.
11. Bunn and Chyba, Op. Cit., 39; Freedman, Op. Cit., 149.
12. Schwartz, Op. Cit., 23.
13. Freedman, Op. Cit., 102, 222, 207.
14. Freedman, Op. Cit., 343.
15. Not to be confused with Lawrence Freedman's use of broad deterrence in which strategic weapons are used to deter all war. In my usage it is any use in addition to deterring an opponent's use of nuclear weapons. See Lawrence Freedman, *Deterrence* (Malden, MA: Polity Press, 2004), 32.
16. The post-Cold War concept of comparing minimal and broad nuclear deterrence is not recent. See Eric Mlyn, "The End of the Cold War and the U.S. Nuclear Policy," in T.V. Paul, Richard Harknett, and James Wirtz, eds., *The Absolute Weapon Revisited: Nuclear Arms and the Emerging International Order* (Ann Arbor, MI: University of Michigan Press, 1998).
17. Michael MccGwire, "Appendix 2: Nuclear Deterrence," *International Affairs* 82, no. 4 (2006): 771.
18. Ibid., 772-773.
19. Robert Jervis, "Introduction: Approach and Assumptions," in Robert Jervis, et al., *Psychology & Deterrence* (Baltimore: Johns Hopkins University Press, 1985).
20. Jeffrey D. Berejikian, "A Cognitive Theory of Deterrence," *Journal of Peace Research* 39, no. 2 (2002).
21. MccGwire, Op. Cit., 774; Keith B. Payne, "The Fallacies of Cold War Deterrence and a New Direction," *Comparative Strategy* 22 (2003).
22. MccGwire, Ibid., 776.
23. Patrick M. Morgan, "Saving Face for the Sake of Deterrence," in Jervis, et al., Op. Cit.
24. Daryl G. Press, *Calculating Credibility: How Leaders Assess Military Threats* (Ithaca, NY: Cornell University Press, 2005).

25. MccGwire, Op. Cit., 777.
26. Charles L. Glaser, "Political Consequences of Military Strategy: Expanding and Refining the Spiral and Deterrence Models," *World Politics* 44 (July 1992).
27. Honoré M. Catudal, *Nuclear Deterrence: Does it Deter?* (Atlantic Highlands, NJ: Humanities Press, 1985).
28. Richard Lebow and Janice Stein, *We All Lost the Cold War* (Princeton, NJ: Princeton University Press, 1994).
29. MccGwire, Op. Cit., 780-781.
30. MccGwire's article in *International Affairs* references its inclusion in the Report of the Canberra Commission though the online version mentions in the acknowledgements that it will be published separately. See [Report of the Canberra Commission on the Elimination of Nuclear Weapons](#) (Australian Department of Foreign Affairs and Trade, August 1996), hereinafter, "[Canberra Commission](#)."
31. [Canberra Commission](#), 18.
32. Joseph Rotblat, Jack Seinberger, Bhalchandra Udgaonkar, eds., *A Nuclear Weapon-Free World: Desirable? Feasible?* (San Francisco: Westview Press, 1993) vii.
33. Joseph Rotblat, "Past Attempts to Abolish Nuclear Weapons," in Rotblat, et al., *Ibid.*, 24-25.
34. Sir Michael Howard, "Lessons of the Cold War," *Survival* 36, no. 4 (Winter 1994-95): 164-165.
35. John Lewis Gaddis, Philip H. Gordon, Ernest R. May and Jonathan Rosenberg, eds., *Cold War Statesmen Confront the Bomb* (Oxford, UK: Oxford University Press, 1999).
36. Keith B. Payne, "The Case Against Nuclear Abolition and for Nuclear Deterrence," *Comparative Strategy* 17, no. 1 (1998): 21.
37. *Ibid.*, 23.
38. *Ibid.*, 31.
39. *Ibid.*, 32.
40. David A. Shlapak and David E. Thaler, [Back to First Principles: U.S. Strategic Forces in the Emerging Environment](#) (Santa Monica, CA: RAND) 14.
41. Payne (1998), Op. Cit., 21; Christopher F. Chyba and Karthika Sasikumar, "A World of Risk: The Current Environment for U.S. Nuclear Weapons Policy," in George Bunn and Christopher F. Chyba, eds., *U.S. Nuclear Weapons Policy: Confronting Today's Threats* (Washington, DC: Brookings, 2006), 13.
42. Shlapak and Thaler, Op. Cit., 5.
43. Freedman, Op. Cit., 414.

44. Colin S. Gray and Keith Payne, "Victory is Possible," *Foreign Policy*, no. 39 (Summer 1980): 19.
45. Gray and Payne, Op. Cit., 16-17.
46. Gray and Payne, Op. Cit., 19; Slapak and Thaler, Op. Cit., 76-77.
47. Robert Powell, "Nuclear Deterrence and the Strategy of Limited Retaliation," *The American Political Science Review* 83, no. 2 (June 1989): 503.
48. Gray and Payne, Op. Cit., 27.
49. Gregory A. Pickell, "Strength in an Unsettled World: The Role of Nuclear Weapons in Nuclear Nonproliferation and Deterrence," *Comparative Strategy* 15, no. 1 (January-March 1996): 89.
50. Slapak and Thaler, Op. Cit., 50, 76. Gray and Payne, Op. Cit., 26.
51. Slapak and Thaler, Op. Cit., 68.
52. Jeffrey Lewis, "Minimum Deterrence," *Bulletin of the Atomic Scientists* 64, no. 3 (July-August, 2008): 38.
53. Harold A. Feiveson, ed., *The Nuclear Turning Point: A Blueprint for Deep Cuts and De-alerting of Nuclear Weapons* (Washington: Brookings Institution Press, 1999) 35. It is here that I disagree with Eric Mlyn's conclusion that the two camps (traditionalists and marginalizers in his terms) remain opposed mainly over the conventionalization of nuclear weapons. Though this is perhaps an interpretation of the external effects of the traditionalist camp, fundamentally they differ on their belief in the utility of nuclear deterrence as defined in his introduction. Eric Mlyn, Op. Cit., 193, 205.
54. Jeffrey Lewis, Op. Cit., 38.
55. Glenn C. Buchan, David Matonick, Calvin Shipbaugh, Richard Mesic, [*Future Roles of U.S. Nuclear Forces: Implications for U.S. Strategy*](#) (Santa Monica, CA: RAND, 2003), 86.
56. For a discussion on stabilizing verses destabilizing deterrence weapons see George H. Quester, "The Continuing Debate on Minimal Deterrence," in T.V. Paul, Richard Harknett, and James Wirtz, eds., *The Absolute Weapon Revisited: Nuclear Arms and the Emerging International Order* (Ann Arbor, MI: University of Michigan Press, 1998), 172-3.
57. Janne E. Nolan, *An Elusive Consensus: Nuclear Weapons and American Security after the Cold War* (Washington: Brookings Institution Press, 1999), 111.
58. Jack Steinberger, Essam Galal, Mikhail Milstein, "A NWFV: Is it Desirable? Is it Necessary?" in Joseph Rotblat, Jack Steinberger, Bhalchandra Udgaonkar, eds., *A Nuclear Weapon-Free World: Desirable? Feasible?* (San Francisco: Westview Press, 1993), 54.
59. Feiveson, Op. Cit., 15.
60. David Halloway, "Deterrence, Preventive War, and Preemption," in George Bunn and Christopher F. Chyba, eds., *U.S. Nuclear Weapons Policy: Confronting Today's Threats* (Washington: Brookings, 2006): 43.

61. The inherent stability of minimal deterrence is also understood by Russian academics. See Sergey Rogov, Victor Yesin, Pavel Zolotaryev, "Can Russia and the USA Jettison Reciprocal Nuclear Deterrence?" *Social Sciences* 36, no. 3 (2005): 133.
62. Lewis, Op. Cit., 40.
63. Matthew Rendell, "Nuclear Weapons and Intergenerational Exploitation," *Security Studies* 16, no. 4 (2007).
64. Eric Mlyn, Op. Cit., 203-204.
65. James J. Wirtz, "Introduction," in James J. Wirtz and Jeffrey A. Larsen, eds., *Nuclear Transformation: The New U.S. Nuclear Doctrine* (New York: Palgrave MacMillan, 2005), 8 fn 1.
66. [Nuclear Posture Review](#) [excerpts], January 8, 2002, (hereinafter, [NPR](#)).
67. [NPR](#), Foreword.
68. [NPR](#), 12-14.
69. [NPR](#), 12-13.
70. [NPR](#), Foreword.
71. [NPR](#), 14.
72. [NPR](#), 14.
73. [NPR](#), 16-17.
74. [NPR](#), (No Page Referenced).
75. [NPR](#), Foreword.
76. William M. Arkin, "[Secret Plan Outlines the Unthinkable](#)," *Los Angeles Times*, March 10, 2002, Opinion.
77. Michael R. Gordon "U.S. Nuclear Plan Sees New Targets and New Weapons," *New York Times*, March 10, 2002, Late Edition (east Coast).
78. Wirtz, Op. Cit., 3.
79. Steve Fetter and Charles L. Glaser, "Critiquing the NPR's New Nuclear Missions," in James J. Wirtz and Jeffrey A. Larsen, eds., *Nuclear Transformation: The New U.S. Nuclear Doctrine* (New York: Palgrave MacMillan, 2005), 28-29.
80. Jeffrey W. Knopf, "Nuclear Tradeoffs: Conflicts between U.S. National Security Strategy and Global Nonproliferation Efforts," in James J. Wirtz and Jeffrey A. Larsen, eds., Op. Cit., 168.
81. Knopf, Op. Cit., 169.

82. Roger Speed and Michael May, "Assessing the United States' Nuclear Posture," in George Bunn and Christopher F. Chyba, eds., *U.S. Nuclear Weapons Policy: Confronting Today's Threats* (Washington: Brookings, 2006), 254.

83. Speed and May, Op. Cit., 256.

84. See David S. Yost, "The NATO Allies," Alexander G. Saveliev, "Implementing the Nuclear Posture Review: The Impact on Russia," and William E. Berry, Jr., "The Nuclear Posture Review and Northeast Asia: Theoretical and Practical Implications," in Wirtz and Larsen, eds., *Nuclear Transformation: The New U.S. Nuclear Doctrine*, Op. Cit.

85. Speed and May, Op. Cit., specifically mention Keith Payne's involvement in the NPR, 265.

86. Keith Payne, "The Nuclear Posture Review: Setting the Record Straight," *The Washington Quarterly* 28, no. 3 (Summer 2005): 136.

87. Payne (2005), Op. Cit., 140.

88. Pilat, Op. Cit., 43.

89. Payne (2005), Op. Cit., 142.

90. Jeffrey A. Larsen, "Arms Control," in Wirtz and Larsen, eds., *Nuclear Transformation: The New U.S. Nuclear Doctrine*, Op. Cit., 152.

91. Payne (2005), Op. Cit., 142.

92. Ibid., 146.

93. Joseph F. Pilat, "The New Triad," in Wirtz and Larson, eds., *Nuclear Transformation: The New U.S. Nuclear Doctrine*, Op. Cit., 42.

94. Larsen, Op. Cit., 159.

95. [Title 10, Section 118](http://uscode.house.gov) U.S. Code, <http://uscode.house.gov>.

96. Payne (1998), Op. Cit., 23. Payne argues that as the numbers of nuclear weapons approach very low numbers, they begin to matter more in terms of coercion.

97. Glaser and Fetter argue for nuclear weapons in the dozens to low hundreds, but retain the warfighting missions inherent in broad deterrence. The risks critics apply to the broad deterrence camp apply just as much with low numbers of weapons as with today's arsenal. See Charles L. Glaser and Steve Fetter, "Counterforce Revisited: Assessing the Nuclear Posture Review's New Missions," *International Security* 30, no. 2 (Fall 2005): 125-126.