

3 The 2010 Nuclear Posture Review: the Nexus of Biological Weapons Threats and U.S. Nuclear Weapons Policy

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1. Introduction. The U.S. government released its Nuclear Posture Review (NPR) Report in 2010.⁶¹ The NPR Report is declaratory policy that warns adversaries and assures allies about how the U.S. would use nuclear weapons to defend the people, territories, and vital interests of the United States. The NPR Report reflects the current administration's beliefs that nuclear weapons are not highly relevant to defending against biological weapons (BW) threats, but that unpredictable scientific developments could necessitate a return to greater reliance on nuclear weapons for protection.

2. Assessing Biological Weapons Threats. Current BW threat assessment is complicated by the fact that states and non-state actors can develop biological weapons without leaving a distinct and detectable signature. Consequently, experts such as Gregory Koblentz have observed that "little is known... about the level of effort currently devoted to using biotechnology for malevolent purposes by state and nonstate actors."⁶² Up until the 1990s the threat of biological weapons was associated almost exclusively with state sponsored biological warfare programs. Over the last two decades, however, biological terrorism by non-state actors also has emerged as a credible threat.

A. Non-state Actors and Bioterrorism. The phrase, "The Biological Century," has gained currency as the belief that the biological sciences will continue to experience spectacular and unprecedented advancements in the 21st century.⁶³ This is mostly good news, but the awareness of advances in biology also has fostered great concern about a purported explosion of biological know-how among the population at large and—by implication—among terrorists. In 2010, the Wall Street Journal noted that, "today, do-it-yourself biology clubs have sprung up where part-timers share tips on how to build high-speed centrifuges, isolate genetic material, and the

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⁶¹ U.S. Department of Defense. "Nuclear Posture Review Report, April 2010."

<http://www.defense.gov/npr/docs/2010%20nuclear%20posture%20review%20report.pdf>. The 2001 Bush administration NPR did not produce an unclassified report and is known primarily through leaked sections, while the 1994 Clinton administration NPR did not produce a final report.

⁶² Koblentz, Gregory. *Living Weapons: Biological Warfare and International Security*. Ithaca, NY: Cornell University Press, 2009, 32.

⁶³ Relman, David A. "The Biological Century: Coming to Terms with Risk in the Life Sciences." *Nature Immunology* 11, no. 4 (2010).

like.”^{64,65} It has been asserted that the scientific revolution in the life sciences amounts to a dangerous “proliferation of know-how—if not the actual pathogens.”⁶⁶

Richard Danzig warned in 2005 that “only a thin veil of terrorist ignorance and inexperience now protects us” against biological attacks.⁶⁷ He cautions, however, that in the near term, “most terrorist groups will not incline towards biological weapons,” as the technical demands of employing BW and the heightened risk of detection by law enforcement will outweigh any potential benefits of bioterrorism compared to kidnapping and suicide bombing.⁶⁸ Although Danzig concedes that “no sound calculation can be made as to whether an individual or group will effectively produce and employ biological weapons within the next decade, year or month,”⁶⁹ he is adamant that this unpredictability should not provide solace. Terrorist organizations have demonstrated their ability to work within an extended time horizon to obtain political objectives and master new techniques. Early successes with innovative terrorism tactics, even if limited, typically spawn imitators and enhancements.⁷⁰

U.S. officials also have expressed a high level of concern about non-state bioterrorism. For instance, Undersecretary of State, Ellen Tauscher, remarked in 2009 that, “while the United States remains concerned about state-sponsored biological warfare and proliferation, we are equally, if not more concerned, about an act of bioterrorism...”⁷¹

Milton Leitenberg has argued the opposing view, namely that the risk of large-scale bioterrorism is vastly overblown.^{72,73} Known terrorists groups, he claims, have “little or no scientific competence, little or no knowledge of microbiology, and no known access to pathogen strains or laboratory facilities.”⁷⁴ He noted that various high-level national threat assessments have downplayed terrorist BW capabilities^{75,76} and he further asserted that there is “no evidence”

⁶⁴Johnson, Keith. "Gains in Bioscience Cause Terror Fears." Dow Jones, <http://online.wsj.com/article/SB10001424052748703722804575369394068436132.html>

⁶⁵ For a discussion of do-it-yourself science and the governance challenge see Brian J. Gorman, Patent Office as Biosecurity gatekeeper: Fostering Responsible Science and Building Public Trust in DIY Science, 10 J. Marshall L. Rev. Prop L. 423 (2011). [http://www.jmripl.com/articles/GORMAN\[1\].pdf](http://www.jmripl.com/articles/GORMAN[1].pdf).

⁶⁶ Keith. Gains in Bioscience.

⁶⁷ Danzig, Richard J. "Proliferation of Biological Weapons into Terrorist Hands." In *The Challenge of Proliferation: A Report from the Aspen Strategy Group*, edited by Kurt M. Campbell, 72: The Aspen Institute, 2005.

⁶⁸ Danzig, Richard J. "A Policymaker's Guide to Bioterrorism and What to Do About It." National Defense University, <http://www.ndu.edu/ctnsp/docUploaded//A%20Policymaker's%20Guide.pdf>, 12.

⁶⁹ *Ibid.*, 13.

⁷⁰ *Ibid.*

⁷¹ Horner, Daniel. "U.S. Lays out Plans to Address Biothreats." Arms Control Association, http://www.armscontrol.org/act/2010_01-02/Biothreats.

⁷² Leitenberg, Milton. "The Self-Fulfilling Prophecy of Bioterrorism." *The Nonproliferation Review* 16, no. 1 (2009): 95 – 109.

⁷³ Leitenberg, Milton. "Bioterrorism, Hyped." *Los Angeles Times*, February 17, 2006.

⁷⁴ Leitenberg, Self-Fulfilling Prophecy, 96.

⁷⁵ *Ibid.*

⁷⁶ Intelligence estimates and threat assessments beyond those cited by Leitenberg also are silent on that particular topic. Blair, Dennis C. "Annual Threat Assessment of the U.S. Intelligence Community for the Senate Select

of states providing biological agents, technology or know-how to terrorist organizations.⁷⁷ Leitenberg buttressed his arguments by arguing that the 2001 “Amerithrax” attacks, which the FBI attributes solely to U.S. government scientist Bruce Ivins,⁷⁸ demonstrated that it takes a professional microbiologist working in a state-of-the-art laboratory to succeed at bioterrorism.⁷⁹ Koblenz falls somewhere between Danzig and Leitenberg. Observing that only Ivins and the Rajneeshees ever caused bioterrorism casualties (and on a very small scale at that), he asserts that “analyses of the security implications of dual-use research frequently suffer from...flaws that serve to exaggerate the severity of the threat.”⁸⁰ Thus the challenge for the U.S. national security community is to determine which of these three assessments is closest to the truth.

B. State-sponsored BW programs. In the heyday of their offensive BW programs, both the U.S. and USSR sought weapons with “nuclear scale” lethality,⁸¹ and even since the end of the Cold War, some analysts have warned that a state sponsored BW attack could cause truly massive death, injuries and illness. In the early post Cold War period, a U.S. government analysis estimated that under certain conditions, an attack with aerosolized anthrax—a primary focus of the Soviet biological warfare program—could cause up to three million deaths.⁸² More recently, John Steinbruner contemplated the deliberate creation of a pathogen that combines the virulence/lethality of smallpox with the contagiousness of the 1918 influenza.⁸³ That possibility, he concluded, means that “one can imagine killing more people with an advanced pathogen than with the current nuclear weapons arsenal.”⁸⁴ Since the U.S. abjured offensive BW in 1969, nuclear weapons have been the only weapons in the U.S. arsenal capable of delivering retaliation on a scale commensurate with a worst case BW attack.⁸⁵ Thus analysts continue to argue that America may need nuclear weapons to deter biological attacks.⁸⁶

The State Department has issued three reports over the last decade documenting the official

Committee on Intelligence." http://www.dni.gov/testimonies/20100202_testimony.pdf, and Clapper, James R. "Statement for the Record on the Worldwide Threat Assessment of the U.S. Intelligence Community for the House Permanent Select Committee on Intelligence." http://www.dni.gov/testimonies/20110210_testimony_clapper.pdf.

⁷⁷ Leitenberg, *Self-Fulfilling Prophecy*, 99.

⁷⁸ Bhattacharjee, Yudhijit. "FBI Closes Anthrax Case, Says Bruce Ivins Was Sole Culprit Behind Letter Attacks." AAAS, <http://news.sciencemag.org/scienceinsider/2010/02/-fbi-closes-anthrax-case-says-br.html>.

⁷⁹ Leitenberg, "Self-Fulfilling Prophecy," 100.

⁸⁰ Koblenz, Gregory. "Biosecurity Reconsidered: Calibrating Biological Threats and Responses." *International Security* 34, no. 4 (2010), 116.

⁸¹ Guillemin, Jeanne. *Biological Weapons: From the Invention of State-Sponsored Programs to Contemporary Bioterrorism*. New York, NY: Columbia University Press, 2005. 92-111.

⁸² U.S. Office of Technology Assessment. "Proliferation of Weapons of Mass Destruction: Assessing the Risks." Washington, DC: U.S. GPO, 1993, 54.

⁸³ Steinbruner, John D. *Principles of Global Security*. Washington, DC: Brookings Institution Press, 2000, 181.

⁸⁴ *Ibid.*, p178.

⁸⁵ See Ford, Christopher. "Conventional 'Replacement' of Nuclear Weapons?" <http://www.newparadigmsforum.com/NPFtestsite/?p=546>.

⁸⁶ This argument is made in Pifer, Steven, Richard C. Bush, and V. Felbab-Brown. *U.S. Nuclear and Extended Deterrence: Considerations and Challenges*. Washington, DC: Brookings, 2010, 46, and O'Hanlon, Michael A. *Skeptic's Case for Nuclear Disarmament*. Washington, DC: Brookings, 2010.

U.S. view of whether other states have offensive BW programs that are prohibited under the BWC.⁸⁷ Whereas the 2001 and 2005 reports firmly accused Russia, China and Iran of having prohibited programs, the 2010 report simply says that these states show evidence of engaging in prohibited activities, and that they are not as forthcoming as they need to be to remove doubt. In 2010, only North Korea and Syria received unambiguous reprimands for engaging in offensive weapons programs (down from seven nations in 2001 and five in 2005). Leitenberg also questioned whether the earlier estimates may have been too high, possibly due to having relied upon inadequate intelligence.⁸⁸

3. Purported Roles of Nuclear Weapons in Defending Against BW Threats. The National Strategy for Countering Biological Threats⁸⁹ outlines the U.S. government's multifaceted response to the threat of bioterrorism. It states that "where we identify States, groups or individuals seeking to acquire or use biological weapons, we will use all appropriate means to disrupt or deny their efforts, drawing on a wide range of counterterrorism, counterproliferation, intelligence, law enforcement and other tools."⁹⁰ Interpreting "other tools" to mean nuclear weapons would be a reach. Likewise, the NPR Report does not suggest that nuclear weapons play a role in protecting the United States against nuclear or any other kind of WMD terrorism. Historically, though, the government has taken the position that nuclear weapons can protect the U.S. against state-sponsored BW programs in two ways. First, threats of nuclear retaliation may deter BW attacks. Second, the U.S. military could use nuclear weapons to destroy enemy stockpiles of biological agents in war or in a preventive first strike.

A. Deterrence of State BW Attacks.⁹¹ President Roosevelt stated in 1943 that the U.S. would not be the first to use BW, but would retain a retaliatory capability for purposes of deterrence.⁹² This remained U.S. declaratory policy regarding BW until President Nixon ended the nation's offensive BW program in 1969. Before Nixon's action, there was substantial disagreement within the national security establishment concerning BW's utility for various military purposes, their ability to deter biological or nuclear attacks, or even nuclear weapons' ability to deter biological attacks. Such questions were hotly debated internally as Nixon

⁸⁷ U.S. Department of State. "Adherence to and Compliance with Arms Control, Nonproliferation and Disarmament Agreements and Commitments." U.S. Department of State. "Adherence to and Compliance with Arms Control, Nonproliferation and Disarmament Agreements and Commitments, August 2005." U.S. Department of State. "Adherence to and Compliance with Arms Control, Nonproliferation and Disarmament Agreements and Commitments, July 2010." <http://www.state.gov/documents/organization/22466.pdf>, <http://www.state.gov/documents/organization/52113.pdf>, and <http://www.state.gov/documents/organization/145181.pdf>.

⁸⁸ Leitenberg, *Self-Fulfilling Prophecy*, 98.

⁸⁹ National Security Council. "National Strategy for Countering Biological Threats." http://www.whitehouse.gov/sites/default/files/National_Strategy_for_Countering_BioThreats.pdf.

⁹⁰ *Ibid.*, 16.

⁹¹ For an outstanding overview of deterrence, see Freedman, Lawrence. *Deterrence*. Cambridge, UK: Polity Press, 2004.

⁹² Goldman, David I. "The Generals and the Germs: The Army Leadership's Response to Nixon's Review of Chemical and Biological Warfare Policies in 1969." *Journal of Military History* 73, no. 2 (2009), 534.

considered jettisoning biological warfare; even then National Security Advisor Kissinger found it necessary to assure the president that nuclear weapons would serve as a sufficient deterrent against biological attacks by states.⁹³ It is likely, however, that Nixon already had reached that conclusion. In a famous 1970 remark to William Safire, Nixon said: "We'll never use the damn germs, so what good is biological warfare as a deterrent? If somebody uses germs on us, we'll nuke 'em."⁹⁴ He and Kissinger no doubt assumed that any would-be adversary of the United States would discern that unspoken threat.

Deterrence theory is hardly absolute when it comes to the relationships among states with nuclear weapons and those without. According to a recent study, "the deterrence relationships involving nuclear states and non-nuclear states in possession of other WMD capabilities are fraught with uncertainties."⁹⁵ Koblentz and Susan Martin, two scholars who have devoted substantial attention to the national security and military functions of BW, say little about nuclear deterrence of BW attacks in their seminal articles on the issue.⁹⁶ Martin, however, strongly implies that BW are potent enough to deter even nuclear threats.⁹⁷

Drawing upon history rather than theory, Scott Sagan asserts that there is "little firm historical evidence on which to judge whether and how nuclear threats can deter chemical or biological attacks..." and he argues that it is dangerous for a leader to make nuclear threats for that purpose.⁹⁸ Doing so, he believes, puts the leader's and nation's reputation on the line; if deterrence fails, the leader will feel more compelled to actually retaliate with nuclear weapons than if he had not made such a threat.⁹⁹ Martin isn't bothered by that. Given the immense potential lethality of BW, she says, the extra deterrence that a perceived nuclear threat provides is "well worth" running a higher risk of retaliating with nuclear weapons if deterrence fails.¹⁰⁰

B. Destroying stockpiles of biological agents. Following the demise of the Soviet Union, concerns about WMDs from "rogue nations" quickly came to the fore. Just as quickly, U.S. nuclear planners became more flexible and revised their targeting methodology to include BW

⁹³ Ibid., 560.

⁹⁴ Safire, William. "On Language: Weapons of Mass Destruction." <http://www.nytimes.com/1998/04/19/magazine/on-language-weapons-of-mass-destruction.html?scp=1&sq=%22on%20language%20weapons%20of%20mass%22&st=cse>

⁹⁵ Paul, T. V., Patrick M. Morgan, and James J. Wirtz, eds. *Complex Deterrence: Strategy in the Global Age*. Chicago, IL: University of Chicago Press, 2009, 14.

⁹⁶ Koblentz, Pathogens as Weapons, 84-122 and Martin, S. B. "The Role of Biological Weapons in International Politics: The Real Military Revolution." *Journal of Strategic Studies* 25, no. 1 (2002), 63-98.

⁹⁷ Martin, The Role of Biological Weapons, 64. BW "can serve as a strategic deterrent to protect the vital interests and core values of states."

⁹⁸ Sagan, Scott D. "The Commitment Trap: Why the United States Should Not Use Nuclear Threats to Deter Biological and Chemical Weapons Attacks." *International Security* 24, no. 4 (2000): 97.

⁹⁹ Ibid., 85-115.

¹⁰⁰ Martin, Susan B., and Scott D. Sagan. "Correspondence: Responding to Chemical and Biological Threats." *International Security* 25, no. 4 (2001): 195.

targets.¹⁰¹ The Pentagon began research on precision-guided nuclear weapons that would hit targets with amazing accuracy, have lower yields and kill fewer civilians, and be able to destroy buried or even mobile targets. DoD was particularly interested in weapons that could destroy buried caches of biological agents and deeply-buried command and control bunkers where megalomaniacal leaders who had attacked the U.S. with WMD might otherwise hide out and survive.¹⁰²

In 1997 Keith Payne, soon to become one of the architects of the Bush Administration's 2001 Nuclear Posture Review,¹⁰³ argued that absent impeccable intelligence about an adversary possessing BW, it is virtually impossible to have confidence that threats to retaliate with either conventional or nuclear weapons will dissuade that adversary from attacking. In a hint of administration posture to follow, Payne urged that "U.S. policy should hedge against the possibility of its own failure," and be prepared both to issue and to execute threats to destroy an opponent's BW, rather than limit itself to retaliation.¹⁰⁴

The Pentagon, however, believed that conventional weapons had severe limitations for destroying stockpiles of biological agents. They released "insufficient energy to heat to lethal temperatures the large masses of agent stored in moderate-sized or large facilities, [and as a result] significant quantities of live agent could survive and be dispersed over very large areas, potentially causing the deaths of tens or hundreds of thousands of civilians..."¹⁰⁵

The George W. Bush Administration raised the priority for so-called "bunker buster" nuclear weapons that could fully neutralize biological agents and avoid the risk of infecting nearby civilians, and thus provide a hedge against deterrence failure. It sought long-term funding for a weapon called the Robust Nuclear Earth Penetrator (RNEP).¹⁰⁶ A number of analyses, however, questioned whether either existing nuclear stockpile weapons or the RNEP could sterilize deeply buried biological agents.¹⁰⁷ They also questioned if it was possible to estimate or ethically balance the tradeoffs (i.e., the increased deaths from nuclear collateral

¹⁰¹ For an overview of how U.S. nuclear weapons planning evolved after the fall of the Soviet Union, see Kristensen, Hans. "Targets of Opportunity." *Bulletin of the Atomic Scientists* 53, no. 5 (1997): 22-28.

¹⁰² For a brief discussion of the leader willing to sacrifice his entire country as long as he survives, see Speed, Roger, and Michael May. "Assessing the United States' Nuclear Posture." In *U.S. Nuclear Weapons Policy: Confronting Today's Threats*, edited by George Bunn and Christopher F. Chyba. Washington, DC: Brookings Institution Press, 2006, 267.

¹⁰³ Halperin, Morton H., Bruno Tertrais, Keith B. Payne, K. Subrahmanyam, and Scott D. Sagan. "Forum: The Case for No First Use: An Exchange." *Survival: Global Politics and Strategy* 51, no. 5 (2009): 38.

¹⁰⁴ Payne, Keith B. "Deterring the Use of Weapons of Mass Destruction: Lessons from History." In *The Niche Threat: Deterring the Use of Chemical and Biological Weapons*, edited by Stuart E. Johnson, 71-94: National Defense University Press, 1997, 85.

¹⁰⁵ Speed and May, *Assessing the United States' Nuclear Posture*, 260.

¹⁰⁶ Union of Concerned Scientists. "The Robust Nuclear Earth Penetrator (RNEP)." http://www.ucsusa.org/nuclear_weapons_and_global_security/nuclear_weapons/technical_issues/the-robust-nuclear-earth.html.

¹⁰⁷ May, Michael, and Zachary Haldeman. "The Effectiveness of Nuclear Weapons against Buried Biological Agents." *Science & Global Security* 12, no. 1-2 (2004): 91-114.

damage versus the lives spared by reduced dispersal of biological agents) that would arise from destroying biological agents with nuclear instead of conventional weapons.¹⁰⁸ After Congress ended funding for RNEP in 2005,¹⁰⁹ DoD accelerated development of several conventional bombs that can penetrate deeply underground before detonating massive non-nuclear payloads.¹¹⁰ These new conventional capacities will bring into question any future U.S. threats to use nuclear weapons to destroy buried BW or agents.¹¹¹

4. The 2010 NPR and Declaratory Nuclear Policy. The 2010 Nuclear Posture Review Report constitutes the United States' current "declaratory nuclear policy." A 1995 RAND monograph states that "the principal function of declaratory policy is to suggest the circumstances under which the United States will consider specific retaliatory options... It signals U.S. perceptions of the gravity of specific acts by announcing those retaliatory options the United States might exercise..."¹¹² A decades-long debate over how specific, transparent, or ambiguous declaratory nuclear policy should be in order to best protect American security carried over into the 2010 NPR process and the NPR Report. This discussion elicited strongly conflicting positions around the issues of "Negative Security Assurances," "No First Use" pledges and the role of nuclear weapons in general.

A. Negative Security Assurances. A "Negative security assurance" (NSA) is a statement describing those circumstances under which a nation engaged in a military conflict with the United States can assume that the United States will not attack it (or retaliate against it) with nuclear weapons. Prior to the 2010 NPR, U.S. presidents had issued NSA's three times. The original 1978 Carter version said: "The United States will not use nuclear weapons against any non-nuclear-weapon State Party to the NPT or any comparable internationally binding commitment not to acquire nuclear explosive devices, except in the case of an attack on the United States, its territories or armed forces, or its allies, by such a State allied to a nuclear-weapon State or associated with a nuclear-weapon State in carrying out or sustaining the

¹⁰⁸ Speed and May, *Assessing the United States' Nuclear Posture*, 260-263.

¹⁰⁹ Defense Industry Daily. "Congress Cancels R&D for Nuclear Earth Penetrator."

<http://www.defenseindustrydaily.com/congress-cancels-rd-for-nuclear-earthpenetrator-bombs-01404/>

¹¹⁰ For descriptions of non-nuclear penetrating weapons: Walker, Steven H. "Fiscal Year 2012 Air Force Science and Technology: Presentation to House Armed Services Committee Subcommittee on Emerging Threats and Capabilities," 16, <http://www.airforce-magazine.com/SiteCollectionDocuments/Testimony/2011/March%202011/030111walker.pdf>; Ackerman, Spencer. "Europe's Hardbut Missile Is Your Ultimate Penetrator." *wired.com*, <http://www.wired.com/dangerroom/2010/10/europes-hardbut-missile-is-your-ultimate-penetrator/>; U.S. Air Force Research Laboratory. "Hard and Deeply Buried Target (Hdbt) Technology." <http://www.eglin.af.mil/library/factsheets/factsheet.asp?id=16670>. Bennett, Chuck. "We Can Bust Your Bunkers-- New Earth-Shattering Weapon." *New York Post*, October 14, 2009; and Defense Industry Daily. "Mopping Up: The USA's 30,000 Pound Bomb ." <http://www.defenseindustrydaily.com/mopping-up-the-usas-30000-pound-bomb-03172/>

¹¹¹ Tegnelia, James. "Nuclear Reactions-the 2010 Nuclear Posture Review, Comments on the Nuclear Week." Center for Strategic & International Studies, <http://csis.org/blog/nuclear-reactions-2010-nuclear-posture-review>.

¹¹² Gompert, David, Kenneth Watman, and Dean Wilkening. "U.S. Nuclear Declaratory Policy: The Question of Nuclear First Use." RAND, http://www.rand.org/pubs/monograph_reports/2007/MR596.pdf. 7.

attack.”¹¹³ President Clinton’s 1995 reaffirmation of the NSA put states to which the U.S. had extended a security commitment on a par with allies and clarified that a non-nuclear weapon state must be in compliance with the NPT in order to count on the NSA, but otherwise left the wording alone.¹¹⁴ The Bush Administration extended Clinton’s NSA essentially verbatim.¹¹⁵

The 2010 NSA states simply that “the United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation obligations.”¹¹⁶ However, the NPR Report also contains what former Secretary of State James Baker has called “wobble room”—language that gives the administration an “out” if the dreaded Frankenstein pathogen or mega-anthrax attack becomes more plausible.¹¹⁷ The Report asserts that “given the catastrophic potential of biological weapons and the rapid pace of bio-technology development, the United States reserves the right to make any adjustment in the assurance that may be warranted by the evolution and proliferation of the biological weapons threat and U.S. capacities to counter that threat.”¹¹⁸

B. A Declining Reliance upon Nuclear Weapons to Protect Against BW Threats. The NPR Report also affirms that since the end of the Cold War, “the role of U.S. nuclear weapons in deterring non-nuclear attacks – conventional, biological, or chemical – has declined significantly,” and it sets two long-term goals. First, “the United States will continue to reduce the role of nuclear weapons in deterring non-nuclear attacks.”¹¹⁹ Second, “the United States will consult with allies and partners regarding the conditions under which it would be prudent to shift to a policy under which deterring nuclear attack is the *sole* purpose of U.S. nuclear weapons (emphasis added).”¹²⁰ In other words, in spite of the seemingly straightforward NSA, the U.S. is not yet willing to totally decouple nuclear and biological weapons.

C. No “No First Use” Pledge. The 2010 NPR is silent on another relevant aspect of nuclear declaratory policy known as “no first use” (NFU). A state adopting a NFU position asserts that it will not be the first to use nuclear weapons against another, and would launch nuclear armed missiles or bombers only after having absorbed a nuclear first strike. Such a policy--if observed--would preclude a country from using nuclear weapons either preventively, to destroy another state’s BW stockpiles or emerging BW capability, or to retaliate against an

¹¹³ <http://www.ppnn.soton.ac.uk/bb2/Bb2secK.pdf>, referenced in Collina, Tom Z. “U.S. ‘Negative Security Assurances’ at a Glance.” Arms Control Association, <http://www.armscontrol.org/print/117>. The exception language, known as the “Warsaw Pact clause,” put the USSR on notice that launching attacks on the U.S. through its satellites would not protect either the USSR or its satellites from nuclear retaliation.

¹¹⁴ *Ibid.*

¹¹⁵ U.S. Department of State. “Richard Boucher, Spokesman, Daily Press Briefing, February 22, 2002.” <http://2001-2009.state.gov/r/pa/prs/dpb/2002/8421.htm>.

¹¹⁶ DoD, Nuclear Posture Review Report, viii.

¹¹⁷ U.S. Senate Committee on Foreign Relations. “Complete New Start Hearings for the 111th Congress (General).” <http://foreign.senate.gov/treaties/details/?id=1668ace8-5056-a032-526a-29c8fc32e1dc>, 147.

¹¹⁸ DoD, Nuclear Posture Review Report, viii.

¹¹⁹ *Ibid.*, viii.

¹²⁰ *Ibid.*, 48.

actual BW attack. An explicit NFU pledge would be inconsistent with any attempt to use nuclear threats to deter biological weapon attacks through either dissuasion or denial. The administration would not go that far.¹²¹

D. Calculated Ambiguity. Biological threats, weapons, warfare or attacks are barely mentioned within the 442 pages of publicly available Senate Foreign Relations Committee testimony on the New START Treaty.¹²² However, several former senior defense and diplomatic officials and senators express nostalgia for the “calculated ambiguity” which they believe has been compromised by the new, seemingly less conditional NSA.¹²³ “Calculated ambiguity” means being deliberately coy with adversaries as to whether or not you will retaliate against a WMD attack with nuclear weapons. Proponents of calculated ambiguity rely primarily upon a particular reading of Saddam Hussein’s behavior in 1991; they believe that ambiguous but unmistakable threats of nuclear retaliation communicated by President Bush and Secretary Baker, dissuaded Saddam from attacking U.S. forces or Israel with chemical or BW.¹²⁴ Sagan has argued against this interpretation for over a decade.^{125,126}

E. Declaratory Policy vs. Actual Policy. Contradictions between a state’s declaratory policy and its leaders’ actual behavior are nothing new. In fact, one analyst who carefully compared U.S. declaratory nuclear policy with actual nuclear developments over the last two decades concluded that there has been “a fundamental disharmony between declared policy and U.S. nuclear warriors’ activities...”¹²⁷ In 1995 President Clinton reaffirmed Carter’s 1978 NSA, even though Clinton’s own 1994 nuclear posture review had proposed using nuclear weapons to deter biological weapon attacks. Throughout the 1990s, the Pentagon invested heavily in nuclear technology for that purpose and added BW to nuclear target lists.¹²⁸ U.S. officials repeatedly offered ambiguous statements suggesting the possibility of nuclear retaliation for biological attacks, notwithstanding the NSAs then in effect.¹²⁹ In fact, the Bush State Department official who affirmed the Clinton NSA in 2002 effectively negated it in the next breath. Immediately after reiterating that the United States “will not use nuclear weapons against non-nuclear weapon states parties to the [NPT],” he added, “If a weapon of mass destruction is used against the

¹²¹ For a discussion of this topic, see Sagan, Scott D. “The Case for No First Use.” *Survival: Global Politics and Strategy* 51, no. 3 (2009): 163 – 82, and Halperin, “Forum: The Case for No First Use.”

¹²² Committee on Foreign Relations, New Start Hearings.

¹²³ *Ibid.*, 184.

¹²⁴ Committee on Foreign Relations. “Complete New Start Hearings.”

¹²⁵ Sagan, “The Commitment Trap.”

¹²⁶ Halperin, “Forum: The Case for No First Use.”

¹²⁷ Kristensen, *Targets of Opportunity*, 22.

¹²⁸ See Kristensen, *Targets of Opportunity*, 22-28 ; “Nuclear Futures: Proliferation of Weapons of Mass Destruction and Us Nuclear Strategy.” British American Security Information Council, <http://www.nukestrat.com/pubs/nfuture2.pdf>; and “U.S. Nuclear Strategy Reform in the 1990s.” Nautilus Institute, <http://oldsite.nautilus.org/archives/nukestrat/StratRef.PDF>.

¹²⁹ Collina, Tom Z. “U.S. ‘Negative Security Assurances’ at a Glance.” Arms Control Association, <http://www.armscontrol.org/print/117>.

United States or its allies, we will not rule out any specific type of military response.”¹³⁰ One must assume that U.S. leaders’ willingness to contradict national declaratory policy influences the calculations of potential adversaries.¹³¹

5. Conclusion. The 2010 NPR briefly focused attention on the historically limited relationships between BW and nuclear weapons, and shows that those relationships remain of marginal importance within nuclear weapons policy. The NPR Report reflects a retreat from the Bush Administration’s view that an effective way to discourage malevolent actors from developing BW is to have nuclear weapons capable of destroying such weapons with minimum collateral damage, no matter where such BW may be hidden or buried. The new, streamlined NSA appears to undermine “calculated ambiguity,” but that may merely be a side effect of its main purpose, which is to encourage states to comply with the NPT. Finally, the NPR Report articulates the aspiration to totally decouple nuclear weapons and biological threats as one step on the road to a nuclear-free world. However, the NSA’s “wobble room” shows that nuclear declaratory policy remains constrained by beliefs that scientific advances may yet enable enemies to create utterly devastating BW, and that only the threat of nuclear retaliation will deter parties from pursuing that path. Nothing on the horizon suggests that this fear will diminish. Overall, the 2010 NPR produced modest changes in long-standing declaratory policy regarding BW. In the words of State Department official Robert J. Einhorn, one of the officials dispatched to spin the NPR Report upon its release, “this is an evolutionary approach rather than a revolutionary approach.”¹³²

¹³⁰ U.S. Department of State. "Richard Boucher, Spokesman, Daily Press Briefing, February 22, 2002." <http://2001-2009.state.gov/r/pa/prs/dpb/2002/8421.htm>.

¹³¹ Stephen Walt writes “No matter what the U.S. government *says* about its nuclear strategy, no potential adversary can confidently assume that the U.S. would stick to its declared policy in the event of a crisis or war...(emphasis original) To the extent that nuclear weapons deter...it is the mere fact of their existence and not the specific words we use when we speak about them...Because the prospect of nuclear use is so awful, no minimally rational aggressor is going to run that risk solely because of some words typed in a posture statement.” “Nuclear Posture Review (or Nuclear Public Relations?)” In *A Realist in an Ideological Age*: Foreignpolicy.com, 2010, http://walt.foreignpolicy.com/posts/2010/04/06/nuclear_posture_review_or_nuclear_public_relations.

¹³² Council on Foreign Relations. "Transcript: Nuclear Posture Review." (2010), <http://www.cfr.org/proliferation/nuclear-posture-review/p21861>.