

VIEWPOINTS

ACHIEVING NUCLEAR BALANCE

Ellen O. Tauscher

One of the most important questions affecting U.S. national security is the future size of the U.S. nuclear stockpile. While there is clear consensus within the U.S. government on the need to reduce the size of the arsenal, there is none on the best path to achieve these cuts; on the type of deterrent necessary to deal with future threats; or on the size of the production complex needed to support that arsenal. Creating a strategic commission to review these questions, as contemplated in the Fiscal 2008 House Defense Authorization bill, is a necessary first step to establish a sensible nuclear policy. The Reliable Replacement Warhead, which has the potential to transform the complex while preserving the current moratorium on nuclear testing, is a program worth exploring further if it stays within congressionally mandated bounds. As Congress considers both programmatic and policy matters related to U.S. nuclear weapons, it is vital that we also renew and strengthen U.S. leadership on nuclear nonproliferation.

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Defining the role that the U.S. nuclear arsenal plays in our current and future national security portfolio is a precarious balancing act. It hinges on the singular question: how do we reduce the size of the nation's nuclear stockpile while retaining a credible deterrent?

Nearly two decades after the end of the Cold War, virtually no one advocates increasing the overall size of the nuclear arsenal. President George W. Bush has said we must aim for the smallest possible force consistent with our national security objectives. This is an objective most can support. But there is disagreement over such questions as how much and how quickly to bring down the arsenal, how big a hedge (in the form of spare or inactive weapons) is necessary to guard against technical or geopolitical surprise, and whether non-deployed weapons should be immediately dismantled or some portion of them simply taken off alert.

Neither the Department of Defense (DOD) nor the Department of Energy (DOE) is likely to move beyond already-planned reductions in the U.S. arsenal without direction from the Bush administration and Congress. The Bush administration's preference for flexibility in our deterrent and its aversion to significant reductions was made clear in both the 2002 Nuclear Posture Review and the Strategic Offensive Reductions Treaty, also known as the Moscow Treaty. The former imagined new scenarios in which nuclear weapons might have a use, and the latter did not call for actual dismantlement of warheads or for the sort of verification measures integral to earlier arms control agreements. The sum total has been a pause in the traditional U.S. leadership on arms control and vagueness on two fronts: how the nation intends to address emerging threats,

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and whether the United States truly intends to meet its commitments under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT).

In this context, I believe it is long overdue that we begin a serious debate on the role of nuclear weapons in our strategic posture. While it is clear nuclear weapons have an increasingly limited role, it is not as clear what their enduring mission should be or what we should do to reduce their appeal to rogue states or terrorist groups. This last point is crucial, for as we chart a 21st century plan for our own shrinking nuclear weapons arsenal, we must do so in the context of the real prospect of nuclear terrorism, the current challenges posed by the weapons possessed by North Korea (and the future weapons potential of Iran), as well as threats from existing nuclear arsenals. A commitment to addressing these threats means understanding that any U.S. national security portfolio must be dynamic, must define the role of nuclear and conventional components, and must dovetail closely with an unambiguous commitment to the international arms control regimes we have helped lead and shape over the years.

The House of Representatives has taken a step toward promoting this sort of understanding with a provision I drafted in the Fiscal Year 2008 National Defense Authorization Act. This provision calls for the establishment of a high-level, bipartisan commission to make recommendations for U.S. nuclear weapons policy. Among other objectives, the bill directs the commission to examine the role of nonproliferation initiatives in U.S. nuclear weapons policy. I am hopeful that just as the 9/11 Commission made a major contribution toward the development of a stronger homeland security policy, this commission can help foster and inform the long overdue debate we must have regarding nuclear weapons policy.

Establishing a Foundation of Sensible Nuclear Policy

Over the last few decades, advocates of arms control and nonproliferation have had significant achievements, including the Anti-Ballistic Missile (ABM) Treaty, a nuclear testing moratorium (which remains in effect today), a ban on the development of low-yield nuclear weapons, and the establishment of critical threat reduction programs. Yet during the last six years these achievements have been undermined and eroded by the Bush administration, which wants to shift away from policies designed to create universal norms, standards, and operating procedures for the international community.

The administration eliminated the ban on research and development of low-yield nuclear weapons. It withdrew from the ABM Treaty. It refused to reconsider ratification of the Comprehensive Nuclear-Test-Ban Treaty, and signed a strategic arms reduction treaty that does not require actual dismantlement of warheads or verification of its provisions (the Moscow Treaty). When the administration proposed the Robust Nuclear Earth Penetrator (RNEP), it signaled a fading commitment to Article VI of the NPT. The low-yield weapons and RNEP proposals in particular elevated rather than reduced the role of nuclear weapons. These steps have eroded international confidence in the United States and worked against our larger security interests by undercutting our work on eliminating the threat posed by nuclear weapons.

Furthermore, despite rhetorical support for cooperative threat reduction and nonproliferation programs, the Bush administration and its congressional allies have never put the kind of effort into strengthening or expanding such programs that is required to demonstrate a strong commitment. Compared to the administration's enthusiastic commitment to largely unproven ballistic missile defense systems, for example, which have enjoyed budgets of more than \$9 billion for the past few years, nonproliferation programs, whose budgets are not even a third of that amount, have been left to languish.

Strengthening our nonproliferation agenda at home will help us retain the high ground when advocating a nonproliferation agenda around the world. This January, by passing a comprehensive national security bill known as the 9/11 Commission Recommendations Act of 2007, the House of Representatives took a step in that direction by creating a new post—the Coordinator for the Prevention of WMD Proliferation within the White House. The coordinator would have budget authority over all nonproliferation programs and would also be responsible for designing and implementing a strategic plan to address threats posed by weapons of mass destruction. The bill also recommends creating a similar office in Russia to improve cooperative efforts between both countries, which together are responsible for 96 percent of the world's nuclear weapons. Without this legislation, nonproliferation efforts would continue to be overseen separately by the DOE, DOD, and the Department of State. While each of these agencies have had successes, they are not guided by an overall plan or supported by a single individual who has the ability to ensure accountability.

The lack of high-level attention and leadership is part of the reason some programs have either lapsed or been burdened with unrelated restrictions. Establishing focused leadership for U.S. threat reduction and nonproliferation efforts should make the programs more effective and may help prevent problems such as the unnecessarily long liability dispute between the United States and Russia regarding cooperative threat reduction and nonproliferation programs. Strengthening these programs and raising their profile are fundamental elements of a sensible nuclear deterrent. As the 9/11 Commission warned: "The greatest danger of another catastrophic attack in the United States will materialize if the world's most dangerous terrorists acquire the world's most dangerous weapons."¹

Creating a Credible Deterrent Without Testing

A strong, unambiguous commitment to nonproliferation is needed, but we must also recognize that for the foreseeable future, nuclear weapons will play an important role in deterring threats to the United States and our allies. From this starting point, however, we face significant choices on the role and size of our strategic forces to meet evolving threats from nation-states and terrorist groups. I strongly believe that the nonproliferation community should welcome a public debate on the nature of strategic deterrence and the role of nuclear weapons. The moral imperative that we find ways to prevent the spread and possible use of nuclear technology, material, and weapons is at least as important as the future of the nuclear arsenal itself. In order to come to a consensus, the nonproliferation community must recognize that these two issues are intimately

connected. The challenge is balancing our need to maintain an appropriate deterrent force with the need for nonproliferation measures whose aim is to minimize the prevalence of nuclear weapons and materials around the world.

One option for retaining a deterrent while establishing a nonproliferation agenda may be the Reliable Replacement Warhead (RRW) program. RRW is a design concept for replacing some existing U.S. nuclear weapons with new ones that are simpler to manufacture and easier to maintain. In so doing, the RRW would ostensibly ensure a more reliable future nuclear arsenal for the United States. Indeed, the National Nuclear Security Administration (NNSA) and U.S. Strategic Command have presented RRW as the best means of reducing uncertainty in the future performance of our nuclear arsenal, and thereby reducing or eliminating any technical reason to conduct nuclear tests.

The RRW program, however, is in its infancy. During fiscal 2006 and 2007, Congress authorized and funded a design competition, and on March 2, 2007, a design from Lawrence Livermore National Laboratory and Sandia National Laboratories was selected as the first RRW program warhead design. For fiscal 2008, the NNSA proposed funding that would support both design and cost study work, which would allow the weapons laboratories to further refine the winning design and to develop a cost, scope, and schedule estimate for possible future development of the RRW. Along with a separate, supporting request from the Navy, the NNSA also proposed funding for engineering development work, based on the possibility that the joint DOD-DOE Nuclear Weapons Council would approve such activity during the course of fiscal 2008.

While action on legislation to authorize and fund NNSA programs in fiscal 2008 was not yet complete as this article went to press, Congress has already made it clear that any activity beyond the proposed design and cost study (known as Phase 2a) will not be supported. In fact, each of the four separate committees with jurisdiction over the NNSA—the House and Senate Armed Services Committees, and the House and Senate Appropriations Committees—have expressly prohibited any activity beyond the Phase 2a study. Congressional action on RRW thus far has been grounded in a conviction that many questions must be answered prior to such a major policy commitment and major fiscal investment (at least \$150 billion, according to one early official estimate, which included the anticipated cost of rebuilding the nuclear weapons complex to support RRW production).² First and foremost, RRW should be pursued only in the context of a revised nuclear weapons policy. As indicated above, such a policy must be comprehensive and complement and support our nonproliferation objectives, not undermine them.

The overall goal of our nuclear program must be to strike this critical balance between deterrence and nonproliferation. The goal of the RRW program can be similarly characterized and aimed at providing U.S. armed forces with a weapons design that is highly reliable while providing our nuclear weapons laboratories and facilities with a stockpile that is safer and easier to manufacture and monitor than our oldest Cold War weapons.³ While it is far from assured, if the RRW program can deliver on this promise, then it should bring the added benefit of allowing the labs to make these safety and security improvements to the weapons stockpile without the dangerous consequences of nuclear testing, which could include resumption of a global nuclear arms race. If it proves feasible, RRW should also allow the weapons production complex to begin using more

environmentally friendly materials and processes and allow the labs to adopt a common set of core design components and safety requirements that could be adapted to different sizes of weapons, streamlining the production process. Further, the RRW would provide an opportunity to further improve the safety and security features of U.S. nuclear weapons, including devices rendering them even more unusable should they fall into the hands of terrorists or rogue nations.

The RRW may also provide an important means of maintaining existing nuclear weapons expertise so that the developers and engineers retain and exercise the skills required to ensure the continued safety and reliability of our stockpile. The Stockpile Stewardship Program, created in the mid-1990s, has brought world-class scientific tools to the labs, including the National Ignition Facility at Lawrence Livermore National Laboratory, the Dual Axis Radiographic Hydrodynamic Test facility at Los Alamos National Laboratory, and the Z Accelerator at Sandia National Laboratories in Albuquerque. These tools have not only facilitated the annual certification of nuclear weapons without testing, they have helped the labs retain and recruit the best scientists in the world—perhaps the most crucial element of our deterrent. RRW would lead to the exercise of different scientific and engineering skills, however, and could thus play an important role in the maintenance of the labs' human capital. The development of this human capital—which translates into the ability to adapt to the evolving needs of the war fighter rather than rely on an outdated stockpile being metaphorically stored on blocks in a garage—is one of the reasons I believe further examination of the RRW program is warranted.

Some opponents of RRW still believe that RRW is less about making U.S. weapons safer and more reliable, and more of a veiled attempt to design new weapons for our arsenal while maintaining jobs at the weapons laboratories. Congress has taken steps to ensure that this is not the case. In providing funds for fiscal 2006, the Appropriations Committee specified that “any weapon design work done under the RRW program must stay within the military requirements of the existing deployed stockpile and any new weapon design must stay within the design parameters validated by past nuclear tests.”⁴

And in the Fiscal Year 2006 National Defense Authorization Act, the House Armed Services Committee laid out several objectives for the program, the first three of which were:

1. To increase the reliability, safety, and security of the United States nuclear weapons stockpile;
2. To further reduce the likelihood of the resumption of underground nuclear weapons testing; [and]
3. To remain consistent with basic design parameters by including, to the maximum extent feasible and consistent with the objective specified in paragraph (2), components that are well understood or are certifiable without the need to resume underground nuclear weapons testing.⁵

The RRW is a replacement weapon, not a new weapon, as borne out by this analogy: our stockpile can be compared to a vintage automobile in dire need of repair. There is no need to get rid of the car because it is valuable, has served you well over the years, and can remain of benefit to you in the future. But while the car needs to be repaired, the

maintenance of the car's antiquated components, including its engine, has become very difficult and expensive.

Being a responsible car owner, you take your car to the shop. The mechanics replace the engine, but with one that is no more powerful or capable, yet more likely to start on the first try and less likely to stall while driving. They also add a new state of the art security system that prevents people from breaking into the car and either stealing the car itself or anything important you keep in the car. Finally, they work on the exhaust system to ensure that the fumes from the car have less of a negative impact on the environment.

After all of this work, when you drive the car out of the garage, do you have a new car? Of course not. But you do have a better operating, more protected, environmentally friendly, energy efficient car. This is what RRW could do for our nuclear stockpile. It should upgrade it and make it safer, but it should neither expand it nor violate the tenets of nonproliferation.

The report accompanying the House-passed Fiscal Year 2008 National Defense Authorization Act echoed the earlier codification of the RRW program, noting:

As established in the National Defense Authorization Act of Fiscal Year 2006 (Public Law 109–163), the primary objectives of the RRW program are to “increase the reliability, safety, and security of the United States nuclear weapons stockpile,” and “further reduce the likelihood of the resumption of underground nuclear weapons testing.” Public Law 109–163 further established that the RRW program should aim to “remain consistent with basic design parameters by including, to the maximum extent feasible . . . components that are well understood or are certifiable without the need to resume underground nuclear weapons testing.” The committee believes it is too soon to judge whether the RRW program can achieve these objectives, and notes that findings from two recent National Nuclear Security Administration (NNSA) studies regarding the aging of pits indicate that a critical component of our nuclear weapons may have a longer lifespan than previously recognized. In light of these findings, the committee believes the focus of the RRW program during fiscal year 2008 should be the analysis necessary to describe in detail how the RRW program will achieve these objectives.⁶

The fiscal 2008 bill makes plain the two fundamental conclusions the House Armed Service Committee has drawn regarding the RRW program: it is too soon to know if RRW can deliver on its substantial promise, and this promise is significant enough that an effort should be undertaken to explore its potential. On May 17, 2007, the House agreed with this sentiment, passing the defense authorization bill by a strong vote of 397–27.

Because that potential could help us establish the balance we must achieve between a fundamentally strong commitment to nonproliferation and a minimal but credible nuclear deterrent, it is in our collective interest to further explore the viability of the RRW program.

NOTES

1. National Commission on the Terrorist Attacks Upon the United States (the 9/11 Commission), Chair Thomas H. Kean, *The 9/11 Commission Report: The Final Report of the National Commission on Terrorist Attacks Upon the United States* (Washington, DC: U.S. Government Printing Office, 2004), p. 380, <www.9-11commission.gov/report/index.htm>.
2. "Recommendations for the Nuclear Weapons Complex of the Future: Report of the Secretary of Energy Advisory Board on Nuclear Weapons Complex Infrastructure Task Force," July 13, 2005, pp. E1–E2, <www.seab.energy.gov/publications/NWCITFRept-7-11-05.pdf>.
3. The oldest U.S. warhead, the W62 (deployed on Minuteman III intercontinental ballistic missiles), has been operational for 37 years. The average age of all warheads in the enduring U.S. stockpile is 22 years.
4. U.S. Congress, "Making Appropriations for Energy and Water Development for the Fiscal Year Ending September 30, 2006, and for Other Purposes [Conference Report to Accompany H.R. 2419]," Report 109–275 109th Cong., 1st sess., p. 159.
5. *National Defense Authorization Act for Fiscal Year 2006*, Public Law 109–163, 109th Cong., 2nd sess., January 6, 2006, p. 119 Stat. 3539, <[www.dod.mil/dodgc/olc/docs/PL109–163.pdf](http://www.dod.mil/dodgc/olc/docs/PL109-163.pdf)>.
6. U.S. House of Representatives, "National Defense Authorization Act for Fiscal Year 2008 — Report of the Committee on Armed Services, House of Representatives, on H.R. 1585 together with Additional Views," H. Report 110–146, 110th Cong., 1st sess., May 11, 2007, p. 528, <http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_reports&docid=f:hr146.110.pdf>.