

What's Wrong with Zero?

President Obama's pledge during a speech in Prague in April 2009 to eliminate nuclear weapons from the US arsenal was greeted positively by most people. Although Obama was careful not to specify when this goal would be achieved, he nonetheless set the country on a path to reduce to zero the number of nuclear weapons possessed by the United States. Yet, the president's vision is not shared by the other major holders of nuclear weapons: Russia, China, France, and Great Britain. In fact, unlike the United States, each has nuclear weapon modernization programs underway or planned. While not all of these programs necessarily aim to increase existing arsenals quantitatively, each envisions qualitative improvements to nuclear weapons and related delivery systems to ensure their credibility well into the future. A review of these nuclear modernization programs more than suggests that each country perceives the utility of nuclear weapons for its long-term national security.

Although Russian president Dmitry Medvedev broadly endorsed President Obama's goal, Russia quickly identified several conditions to attain agreement on a nuclear-free world, suggesting little enthusiasm for Obama's proposal. Moreover, Russia's nuclear modernization programs point to a continuing, not declining, role for nuclear weapons in its strategic thinking. Russia plans to gradually retire its aging SS-18, SS-19, and SS-25 ICBMs and replace them with modified Topol-M (RS-24) missiles capable of deploying multiple independently targeted warheads. To ensure the long-term viability of its sea-based deterrent, Russia will retire its Delta IV ballistic missile submarines and replace those platforms with new *Borei*-class submarines, each armed with 16 new Bulava missiles capable of carrying six warheads each.¹ In sum, as Stanford University research associate Pavel Podvig has pointed out, over the long term Russia's strategic nuclear arsenal could grow.²

China's strategic nuclear force, while modest, is also being modernized. Its current 20 DF-5 single-warhead ICBMs will be supplemented with new missiles, and a ballistic missile submarine equipped with medium-range missiles will be replaced.³ China's upgrades to its ICBM force include the new road-mobile, solid-fuel DF-31 and DF-31A missiles, each with the potential to carry multiple independently targeted warheads.⁴ Its sole ballistic missile submarine is slated for replacement with new boats equipped with ICBMs, also with the potential to carry multiple indepen-

dently targeted warheads.⁵ While China embraces a minimum deterrence policy and will probably continue to deploy a small strategic nuclear force, the modernization of its land-based and sea-based ballistic missiles and the addition of modern ballistic missile submarines point to a commitment to retain nuclear weapons over the long term.

In addition to the nuclear modernization programs in Russia and China, two key US allies—France and Great Britain—have ongoing or planned nuclear force upgrades. France’s strategic nuclear arsenal consists of sea- and air-based components. Importantly, both components are undergoing impressive modernization. France is deploying new *Le Triomphant*-class ballistic missile submarines, the newest to be equipped with advanced, longer-range M51 ballistic missiles as well as a new warhead in 2010. Also scheduled for 2010, France will upgrade its air-based nuclear component with new Rafale aircraft armed with advanced ASMP-A nuclear-tipped, air-launched missiles.⁶ Among the “nuclear modernizers,” only the future of Great Britain’s nuclear force is problematic, at least at this writing. The British government announced in 2006 that it would replace its *Vanguard*-class ballistic missile submarines with a follow-on platform. However, in 2009 the government delayed the program pending an internal review. The replacement warhead for its submarine-launched ballistic missiles is to be based on the proposed US reliable replacement warhead, but since this program has not been funded by the Obama administration, the future of the British warhead is uncertain.⁷

On balance, then, the weight of ongoing and planned modernization programs among the major nuclear powers, except the United States, reveals the continuing importance of nuclear weapons in their national security calculus. Clearly, none of these countries would devote the substantial human and financial resources to nuclear weapon modernization if senior decision makers did not perceive the continuing relevance of those weapons. Thus, while the Obama administration pursues a vision for a nuclear-free world, the other major nuclear powers have ostensibly staked out a different course, and for the long term.

What’s wrong with zero? Much. As Russian, Chinese, French, and British programs and plans for nuclear modernization show, no major nuclear-armed state, except the United States, currently accepts a nuclear-free world as a realistic goal. In fact, by devoting resources to nuclear modernization programs, these countries have made a clear, long-term commitment to procure and deploy qualitatively improved nuclear weapons

and advanced delivery systems. This level of commitment does not suggest that Russia, China, France, or Great Britain will embrace, even in the longer term, the same vision as the US administration. While each country will no doubt define differently the role of nuclear weapons in its national security, none appears poised to eliminate these weapons from its arsenal. Even if the major nuclear powers were persuaded to embrace the US goal, other known or suspected nuclear-armed countries perceive the usefulness of these weapons. As President Obama pointed out in his Prague speech, the technology to build nuclear weapons has spread. This spread occurred not as the result of some inevitable technological imperative but because some countries recognize the utility of nuclear weapons. Addressing the national security motives that drive these decisions should be a fundamental US foreign policy objective, not a clarion call to eliminate the instruments acquired to address those concerns. This is not to suggest that the United States should ignore attempts by irresponsible regimes or nonstate extremists to obtain nuclear weapons, but it is to urge more focused national policies that address security challenges as sui generis cases amenable to specific solutions instead of sweeping proposals unlikely to achieve more than broad verbal commitments while potentially undermining US security.

While one cannot prove that nuclear weapons deterred serious US or Soviet provocations during the Cold War, one can surmise these weapons played a nontrivial role in preventing superpower war. Although the potential for major state-on-state war is probably lower since the end of the Cold War, it is not absent. Carl von Clausewitz observed in his classic work, *On War*, that when the potential exists for extreme violence, states do not take the first step toward war without carefully considering the last step. Because nuclear weapons clarify and sharpen thinking about war in ways other weapons cannot, states are wary of taking the first step because they grasp the image of the last step.

Rather than an elusive quest for a nuclear-free world—a vision not only unlikely to garner substantive support among other nuclear-armed states but which also could diminish US security—a debate about the future role of nuclear weapons should occur. This debate is more urgent given the release of the Nuclear Posture Review in April and concerns about the purpose of nuclear weapons in the US arsenal, their numbers, and distribution across the triad. Crucial questions in that debate should be: Rather than zero nuclear weapons in the US arsenal, how low can we go?

What is the ideal mix at lower levels of nuclear weapons and delivery systems essential for US security? Under what circumstances will the United States use nuclear weapons? Should the United States retain a strategy of calculated ambiguity or adopt an approach that specifies actions that would precipitate a nuclear response? These and other questions should constitute the debate about the future of nuclear weapons—it is simply not an all-or-nothing choice.

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Notes

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2. Pavel Podvig, "Russia's New Arms Development," *Bulletin of the Atomic Scientists*, 16 January 2009, <http://www.thebulletin.org/web-edition/columnists/pavel-podvig/russias-new-arms-development>.
3. Joseph Cirincione, "China's Nuclear Modernization," *Carnegie Proliferation Brief* 2, no. 8 (undated), <http://www.carnegieendowment.org/publications/index.cfm?fa=view&id=93>.
4. Nuclear Threat Initiative, "China Profile: Missile Overview," August 2009, http://www.nti.org/e_research/profiles/China/Missile/index.html.
5. Cirincione, "China's Nuclear Modernization."
6. Kingston Reif, "Nuclear Weapons: The Modernization Myth," *Bulletin of the Atomic Scientists*, 8 December 2009, <http://www.thebulletin.org/web-edition/features/nuclear-weapons-the-modernization-myth>; and Bill Sweetman, "Instant Sunshine," *Defense Technology International*, September 2009, 44.
7. Reif, "Nuclear Weapons."