

# Study urges dual track US nuclear weapons policy

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The United States must re-establish its global leadership in nuclear arms control while continuing to update its nuclear arsenal as necessary, but it should not add any new nuclear capabilities in the process, a joint working group of scientists and policy experts says in a study meant to inform decision making by the incoming Obama administration.

The study by a working group of the American Association for the Advancement of Science, the American Physical Society, and the Center for Strategic and International Studies, offers options that would allow the United States to refurbish its nuclear stockpile without pursuing totally new, untested weapon designs.

The study, "Nuclear Weapons in 21st Century U.S. National Security," notes that the "truly pressing nuclear issues that will demand presidential attention are few in number." They include preventing the spread of nuclear weapons to countries such as North Korea and Iran; securing and reducing global inventories of nuclear materials to prevent them from falling into the hands of terrorists; and reversing Russia's apparent increasing reliance on nuclear weapons in its security policy.

As part of a new dialogue with Russia, the study says, the United States should reinvigorate efforts to renew the Strategic Arms Reduction Treaty (START I), which is scheduled to lapse in December 2009. The treaty has verification and compliance procedures that are lacking in the more recent Strategic Offensive Reductions Treaty of 2002. The new administration should pursue deeper reductions in both the number of

deployed nuclear warheads and in overall nuclear inventories, the study says.

It also urges the U.S. to ratify the Comprehensive Test Ban Treaty and to work to close a loophole in the Nuclear Nonproliferation Treaty (NPT) that gives non-nuclear weapons states the opportunity to seek nuclear technologies, such as uranium enrichment, and then divert them to more nefarious uses without penalty. The NPT will be the subject of a review conference in 2010. The study says that will be an opportunity for the United States to re-assert its leadership on nonproliferation, arms control and disarmament.

The lack of a well-articulated strategy on nuclear weapons in the post Cold War, post 9/11 era has produced a policy vacuum that must be addressed by the new administration, the study says.

While noting President-elect Barack Obama's call for a world free of nuclear weapons, the study says the United States will need to have a credible nuclear deterrent as long as other nations have nuclear weapons. It urges a centrist approach to upgrading U.S. nuclear weapons that recognizes a "spectrum of options" beyond the extremes of simply replicating weapons as they were originally produced (using outdated manufacturing processes) or replacement of aging weapons with new designs that have not been subjected to nuclear testing.

The study says upgrading of the nuclear stockpile should be limited to "those activities that would typically be done to any existing weapon system as it ages," such as replacement of worn, dysfunctional or no longer reliable components with the same or newer materials and technologies. "Such actions may make the weapon more reliable, safer and more secure," the study says, "but they do not provide any new military characteristics or capabilities."

The study says the "spectrum of options" approach would include incremental steps to extend the life of a warhead, extensive reuse of parts from existing warheads, and development of replacement warheads "with robust margins but not new capabilities." The approach would allow different weapons types to be kept in the stockpile with varying degrees of modification rather than calling for a wholesale replacement of warheads (such as had been proposed in the Bush administration's Reliable Replacement Warhead program).

The "spectrum of options" approach could be a less expensive way to extend the lifetime of existing weapons, the study says, and could avoid large investments in new production facilities.

To retain a credible nuclear deterrent, the United States also needs to recruit, retain and sustain highly skilled and motivated scientists and engineers, the report says. "Very few of the scientists and engineers having nuclear test experience remain at the laboratories and many of the most experienced weapons experts will retire in the next five to ten years," the study says. "Recruiting the next generation workforce and passing on this experience to that new generation is critical to the continued success of the stockpile stewardship program."

The complete text of the study with supporting documentation is available online at: [cstsp.aaas.org/content.html?contentid=1792](https://cstsp.aaas.org/content.html?contentid=1792)

Source: American Association for the Advancement of Science

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