

DEVELOPMENT OF NEW NUCLEAR WEAPONS

I. The Issue

For 57 years, the nuclear powers have adhered to a norm, often referred to as a "firewall" or "threshold," precluding the use of nuclear weapons. Thus, the U.S. and the Soviet Union produced enormous nuclear arsenals but never used them—even in the face of military conflicts that they were not winning and in which they suffered extensive casualties. Indeed, the U.S. has given a "negative security assurance," that is, its promise not to use nuclear weapons against non-nuclear weapon states that are parties to the Non-Proliferation Treaty (NPT) unless they have attacked the U.S. (or a U.S. ally) in association or alliance with a nuclear-weapon state.¹ One of the most recent expressions supporting that principle came from Secretary of Defense Donald Rumsfeld. Speaking in July 2002 in reference to the India-Pakistan confrontation, he said, "We think it's important that the nuclear threshold not be lowered."²

The NPT itself, which entered into force in 1970, was extended indefinitely in 1995, and has been signed by 187 countries,³ is also relevant. In Article VI, the parties promised to "pursue negotiations in good faith on effective measures relating to ... to nuclear disarmament ...," an obligation obviously made harder to meet, or at the least greatly complicated, by a party's development of new nuclear weapons. The nuclear powers made this promise to move toward nuclear disarmament in exchange for the non-nuclear weapons states' promise not to seek nuclear weapons capability.⁴

In 1993, reflecting concerns that the development of smaller nuclear bombs might blur the distinction between nuclear and conventional weapons, i.e., lower the threshold, Congress enacted the Furse-Spratt law,⁵ prohibiting research and development of a "low-yield" nuclear weapon (one with an explosive force of less than 5 kilotons, about one-third that of the Hiroshima bomb).

Based on those and other concerns, the international community has also largely opposed nuclear testing, which is generally a necessary part of the design and development of a new weapon. For more than a decade, neither the US nor Russia has conducted any nuclear tests.⁶ In 1992, President George H.W. Bush signed into law a provision, known as the Hatfield Amendment,⁷ under which he established a 9-month testing moratorium. President Clinton extended it through September 1996.⁸ In January 1995, the U.S. announced that, assuming a Comprehensive Test Ban Treaty would be signed before September 30, 1996, and it was, the U.S. would not test before that treaty entered into force.⁹

In recent years, however, there has been renewed U.S. interest in the development of new nuclear weapons or the modification of existing ones to perform new roles—for example, an earth-penetrating bomb, or "bunker buster," to destroy hardened underground bunkers or silos. Such fortifications might house an adversary's command structure, missiles, or facilities for producing biological, chemical, or nuclear weapons. For that purpose, the U.S. developed the B-61 mod 11 bomb, which it announced in the mid-1990's.¹⁰ Later, in 2000, Senators Warner and Allard authored a provision that required a study on the defeat of hardened and deeply buried targets (HDBTs) and chemical and biological agents.¹¹ The ensuing report noted the absence of a "current program to design a new or modified HDBT Defeat Nuclear Weapon."¹² However, it also concluded that "unique and emerging strategic threats . . . will require additional investment in . . . counter-WMD capabilities, including nuclear weapons" and that the two departments had formed "a joint Nuclear Planning Group"¹³ to outline "a possible design feasibility and cost study."¹⁴ Thereafter, the President's FY 2003 budget included \$15.5 million for a preliminary study of a Robust Nuclear Earth Penetrator (RNEP).¹⁵

One of the hoped-for characteristics of an RNEP is that it could burrow deep enough to contain the explosion and thus prevent significant radioactive fallout. However, some scientists argue that this is an impossibility and that the use of any nuclear weapon capable of destroying a buried target that is invulnerable to conventional weapons would produce a very large number of civilian casualties.¹⁶

According to published excerpts,¹⁷ the Nuclear Posture Review (NPR) submitted to Congress December 31, 2001, stressed the desirability of providing maximum flexibility in the options available to the President. For example, the NPR noted that "a need may arise to modify, upgrade, or replace portions of the extant nuclear force or develop concepts for follow-on nuclear weapons better suited to the nation's needs." The NPR also declared a "need for a revitalized nuclear weapons complex . . . able, if directed, to design, develop, [and] manufacture . . . new warheads." In addition, the NPR contemplated the use of nuclear force against "an Iraqi attack on Israel or its neighbors, or a North Korean attack on South Korea." Other contingencies possibly requiring the use of nuclear weapons included "a sudden regime change by which an existing nuclear arsenal comes into the hands of a new, hostile leadership group, or an opponent's surprise unveiling of WMD capabilities."

Both the NPR and the HDBT report mentioned above, however, focus only on the perceived enhancement to our security that the development of a new nuclear weapon might bestow. They do not balance against that the decrease in our security that would flow from the neglect of our legal obligations under the NPT2 and the incentive and excuse that such action would provide non-nuclear states to develop their own nuclear capability.

In section 3146 of the National Defense Authorization Act for FY2003 (NDAA '03; Public Law 107-314), Congress required that the Administration-proposed RNEP study be delayed until 30 days after the Secretary of Defense submits a report on the military need for the RNEP and the ability of conventional weapons to satisfy that need. Section 3143 of that same law requires specific budget requests for any funds for research and development for new or modified nuclear weapons. In the House-Senate conference on the NDAA '03 a House provision permitting research and design work on low-yield nuclear weapons was dropped, and the Joint Statement of the Committee of Conference specifically stated that nothing in section 3143 "may be construed as modifying [or]

repealing" the Furse-Spratt law prohibiting R&D of nuclear weapons with a yield of less than 5 kilotons.

With respect to testing, section 3142 of the NDAA '03 requires the Secretary of Energy to prepare plans, along with cost estimates, for achieving within 6, 12, 18 and 24 months, respectively, the ability to resume nuclear weapons testing-which is currently believed to take about 2 to 3 years.¹⁸ Section 3142 also requires the Secretaries of Defense and Energy to identify the optimal time within which the U.S. should be able to resume testing.

II. Recent Legislation

- The National Defense Authorization Act for Fiscal Year 2003 (H.R. 4546, which became Public Law 107-314):
 - Section 3142 requires the Secretary of Energy (1) to prepare plans, along with cost estimates, for achieving readiness for nuclear weapons testing in 6, 12, 18, and 24 months, respectively, and (2) after consultation with the Secretary of Defense, to identify the optimal time within which the U.S. should be able to resume testing.
 - Section 3143 requires explicit budget requests for any proposed research and development for new or modified nuclear weapons.
 - Section 3146 requires that initiation of the proposed Robust Nuclear Earth Penetrator (RNEP) study be delayed until 30 days after the Secretary of Defense submits a report regarding the military need for the RNEP and the ability of conventional weapons to satisfy that need.

III. Obstacles

- Not applicable.

IV. Q & A

Q: Does not the development of a new nuclear weapon that others might see us as more ready to use plainly enhance our national security?

A: Not necessarily. We must weigh against any possible military advantages of a new nuclear weapon the fact that our development of it may create an incentive for potential adversaries to develop their own nuclear capability. It also may lessen our ability to garner international support for our efforts to invoke the NPT against a nation seeking to acquire a nuclear weapon.

Q: Are not nuclear weapons clearly needed to defeat some hard and deeply buried targets that conventional weapons cannot conceivably destroy?

A: There may not be targets that are vulnerable only to nuclear weapons. Studies indicate that for targets buried beyond a certain depth, no weapon, not even a burrowing nuclear weapon, could reach the target. Moreover, for targets that are not buried below the physical limits of where a weapon could burrow, conventional weapons could be used instead of nuclear ones. A recent review of nuclear and non-nuclear options concluded that "advances in non-nuclear weapons can produce many of the capabilities heretofore possible only with nuclear bombs." That paper also concluded that the removal or modification of constraints on non-nuclear weapons development might narrow the gap further.¹⁹ Whatever military advantage might lie

with the nuclear option must be weighed against the costs of our crossing the nuclear threshold.

Q. Isn't a small nuclear weapon comparable to the conventional weapons the US already has in its arsenal?

A. Nuclear weapons and conventional weapons are in entirely different classes. This is true from the standpoints of the risks to civilian populations including from radioactive fallout; the ways in which these two types of weapons are treated under treaties and international law; the reactions that the use of a nuclear weapon would draw from the international community; and the danger of catastrophic escalation that the use of a nuclear weapon could precipitate.

If the US, which has the world's most capable conventional and nuclear forces, decided to develop smaller nuclear weapons, it would only stand to reason that many other countries would conclude that they need nuclear weapons to ensure their national security.

Q. What has been the Congressional view on the development of new nuclear weapons?

A. Recent indications are mixed and have primarily revolved around the issue of small weapons for an RNEP. Thus, in the conference report on the National Defense Authorization Act for FY 2003, the conferees expressed support for the continuation of the 1993 Furse-Spratt provision and deleted a proposal to authorize research and design work on a low-yield weapon. On the other hand, the Act funds an RNEP study and calls for plans to shorten the time required to renew nuclear weapons tests.

V. Talking Points

- The U.S. promised in the Non-Proliferation Treaty (NPT) to move, together with other nuclear powers, toward nuclear disarmament. In exchange, the 182 non-nuclear powers who have signed the Non-Proliferation Treaty have promised not to acquire a nuclear-weapons capability.
- For the U.S. now to start developing new nuclear weapons would be hard to reconcile with our NPT promise and weakens our moral authority to demand, and our ability to gain international support for any demand, that a non-nuclear state keep its promise.
- Our development of new nuclear weapons, together with our enunciation of a right to use them against states lacking nuclear weapons, may be creating the incentive and excuse for potential adversaries of the U.S. to develop their own nuclear capability.

VI. Factoids

- A 1993 law (known as the Furse-Spratt provision, after former Congresswoman Elizabeth Furse and Representative John Spratt), section 3136 of the National Defense Authorization Act for Fiscal Year 1994 (Public Law 103-160), prohibits research and development of a nuclear with a "yield of less than five kilotons."
- In the joint explanatory statement accompanying the conference report on the National Defense Authorization Act for Fiscal Year 2003 (H. Rept. No. 107-772, p.786), the conferees expressly noted that nothing in the Act should be construed to "modify, repeal, or in any way affect" the Furse-Spratt provision.

- August 9, 2003 will mark the 58th anniversary of the last use of a nuclear weapon.
- It has been more than 10 years since either the U.S. or Russia conducted a nuclear weapons test. Russia (the Soviet Union) last conducted a test on October 24, 1990; the U.S., on September 23, 1992.²⁰

VII. Applicable Treaties, Legislation, and Other International Agreements

- The Non-Proliferation Treaty, which entered into force in 1970, was extended indefinitely in 1995, and has been signed by 187 countries,²¹ requires the nuclear-weapons states who are signatories (U.S., U.K., France, Russia, and China) to negotiate in good faith for nuclear disarmament and the requires the states without nuclear weapons not to achieve nuclear weapons capability.
- The Comprehensive Test Ban Treaty was opened for signature on September 24, 1996, and the U.S. signed it that day. However, on October 13, 1999, the Senate refused to provide its advice and consent. The CTBT will formally enter into force after 44 designated "nuclear-capable states" have deposited their instruments of ratification with the UN secretary-general. To date, 166 states have signed and 97 have ratified the treaty. Of the 44 specified countries, India, Pakistan, and North Korea still have not signed, and only 31 have ratified the treaty.²²

¹ Arms Control Association, March 2002 Fact Sheet: U.S. Nuclear Policy, "Negative Security Assurances," accessible at <http://www.armscontrol.org/factsheets/negsec.asp>.

² Mazzetti, "Nukes You Can Use," U.S. News & World Report, July 22, 2002.

³ The non-members are Cuba, India, Israel, and Pakistan. Arms Control Association Fact Sheet, "The Nuclear Nonproliferation Treaty at a Glance," accessible at <http://www.armscontrol.org/factsheets/nptfact.asp>.

⁴ Department of State, International Information Programs, Arms Control-Key Documents, "1968 Non-proliferation Treaty," accessible at <http://www.state.gov/www/global/arms/treaties/npt1.html#1>.

⁵ Section 3136 of the National Defense Authorization Act for Fiscal Year 1994 (Public Law 103-160).

⁶ The last Soviet test was October 24, 1990; the US test, September 23, 1992. US Information Agency paper, Arms Control and Disarmament-The US Commitment-Part 7, Nuclear Testing, accessible at <http://usinfo.state.gov/products/pubs/armsctrl/pt7.htm>.

⁷ Section 507 of the Energy and Water Development Appropriations Act, 1993 (Public Law 102-377).

⁸ US Information Agency op. cit.

⁹ Ibid.

¹⁰ David Ruppe, "United States: DOE Requests Study on Nuclear 'Bunker Buster,'" Global Security Newswire, February 11, 2002, accessible at http://www.nti.org/d_newswire/issues/2002/2/11/3p.html.

¹¹ Section 1044 of the National Defense Authorization Act for Fiscal Year 2001 (Public Law 106-398). The study is "Report to Congress on the Defeat of Hard and Deeply Buried Targets," Departments of Defense and Energy (July 2001), accessible at http://www.nukewatch.org/facts/nwd/HiRes_Report_to_Congress_on_the_Defeat.pdf.

¹² Departments of Defense and Energy, op. cit., p. 18.

¹³ Id. at 6 and 18.

¹⁴ Id. at 18.

¹⁵ Department of Energy FY 2003 Congressional Budget, National Nuclear Security Administration, Weapons Activities/Directed Stockpile Workload/Stockpile R&D.

¹⁶ Miller, "Fuel for the Fire: Tactical Nuclear Weapons and Terrorism," in the Nautilus Institute's Policy Forum Online, Special Forum 16, September 18, 2001, accessible at http://www.nautilus.org/fora/Special-Policy-Forum/16_Miller.html.

¹⁷ Global Security.Org, "Nuclear Posture Review [Excerpts]," accessible at <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm>.

¹⁸ Ibid.

¹⁹ Michael Levi, "Fire in the Hole: Nuclear and Non-Nuclear Options for Counterproliferation," Carnegie Endowment for International Peace Working Paper (November 2002).

²⁰ Center for Defense Information, "Current World Nuclear Arsenals," accessed at: <http://cdi.org/nuclear/database/nukestab.html>.

²¹ The non-members are Cuba, India, Israel, and Pakistan. Arms Control Association Fact Sheet, "The Nuclear Nonproliferation Treaty at a Glance," accessible at <http://www.armscontrol.org/factsheets/nptfact.asp>.

²² Arms Control Association, "The Status of the Comprehensive Test Ban Treaty: Signatories and Ratifiers" (October 2002), accessible at <http://www.armscontrol.org/factsheets/ctbtSIG.asp>