By Robert S. Norris
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What's Behind Bush's Nuclear Cuts?

It is not every day that the U.S. government decides to cut its nuclear-weapons stockpile in half. Yet, the mainstream media paid little attention on June 1 when Linton F. Brooks, head of the National Nuclear Security Administration, announced that by 2012 the United States would reduce the number of nuclear weapons in the stockpile by "about half."

He suggested that further cuts could be in store in the future. Although the exact figures are classified, we interpret the decision to mean that the current stockpile of more than 10,000 warheads will be reduced to about 6,000.

This decision was significant, and Congress should be commended for pushing the Bush administration into taking this important step. Still, it came more than a decade after the end of the Cold War, and the weapons retired from the stockpile will not be fully dismantled for another decade or more. Also, the cuts were less of a leap than it might seem; in fact, they had been prefigured in many earlier events that go back at least seven years to a 1997 summit between Presidents Bill Clinton and Boris Yeltsin, including the never-completed START III, the 2001 Nuclear Posture Review (NPR), and the 2002 Strategic Offensive Reductions Treaty (SORT).

The total size of the active strategic arsenal reflects cuts first proposed for START III and later crystallized in SORT, while the underlying motive behind the decision is evident in the NPR. The NPR called for retaining a nuclear arsenal large enough to deter any country from challenging U.S. nuclear preeminence. At the same time, it envisions retooling major portions of the arsenal to make them more "useful," shifting from high-yield Cold War weapons aimed at the former Soviet Union to "modified," or new, more accurate, more "credible" nuclear weapons that could be used against a wider variety of targets including rogue states and terrorists as well as Russia and China. Brooks' announcement went a step further by addressing the disposition of all warhead categories in the stockpile: strategic and nonstrategic, active and inactive, deployed and reserve (see page 9).

Unfortunately, however, the decision also carried a hidden subtext: the retirement of almost half of the current stockpile, a total of more than 4,000 warheads by our estimate, could help pave the way to developing and producing a new nuclear arsenal. Retiring thousands of warheads will free up funds that can, the administration hopes, be put to better use. This includes a series of programs for constructing a "responsive infrastructure," or "modern infrastructure," that includes, among other things, building a Modern Pit Facility to manufacture plutonium parts for nuclear weapons; supporting the scientists and engineers at the weapons laboratories to design and develop new or modified nuclear weapons; and reducing the time it takes

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to resume nuclear testing. Potentially, this could mean the resumption of testing and the building of a new and different nuclear arsenal. Any additional future cuts would only come, Brooks indicated, if this infrastructure were up and running.[1]

The Current And Future Stockpile

Although the stockpile plan submitted to Congress remains classified, it is possible to estimate what warheads will be retired and what warheads will be kept and thus project what the stockpile will look like in 2012. We base our estimates on our long experience following trends and developments in the U.S. stockpile and on some newly obtained information, which makes us confident that the figures below are very close to the actual numbers.

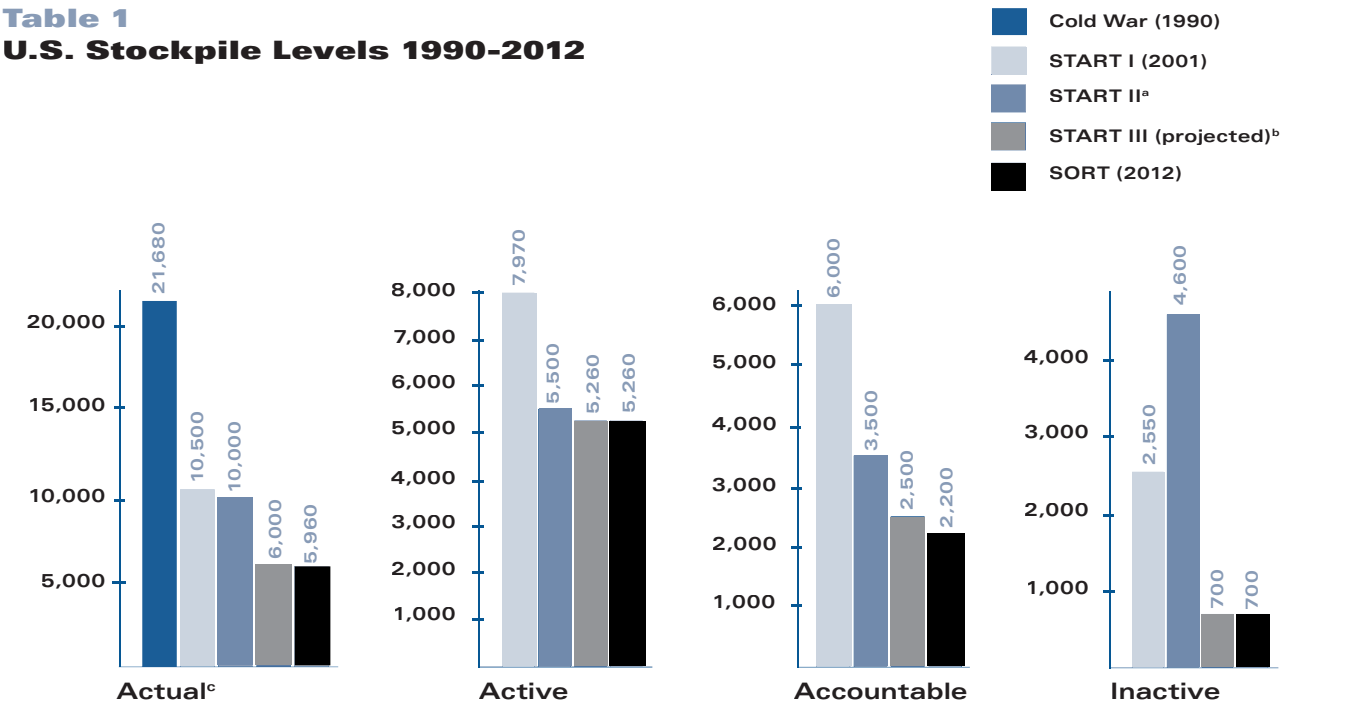
The current stockpile includes warheads for the three legs of the old Cold War triad, that is, submarine-launched ballistic missiles (SLBMs), land-based ICBMs, and bombs dropped from planes. In addition, there are some nuclear bombs and sea-launched cruise missile warheads intended for use in tactical or battlefield scenarios. All told, today's stockpile includes more than 10,350 warheads of nine basic types in 15 different versions. Their yields range from 0.3 kilotons to 1.2 megatons. Each delivery platform (submarine, land-based ICBM, or bomber) can accommodate at least two different types of warheads. The stockpile is far more than the 6,000 warheads declared under START as many of the additional warheads have been in inactive status, having been retained for the last decade in storage as a "hedge" against a Russian nuclear revival.

We conclude from our knowledge of U.S. stockpile trends that Brooks' announcement of plans to cut the stockpile by "almost half" means that some 4,325 warheads of six types are slated for retirement and disassembly. Some warhead types will be completely retired, such as the W62 and, we assume, the W84. Of the versions that remain in the stockpile, there will be significant cuts in six while seven others will be unaffected, except for a small number that are disassembled each year for routine analysis and examination.

Still, eight years from now, more than 20 years after the end of the Cold War, the United States under current plans will retain approximately 6,000 nuclear weapons in its arsenal, almost all of them active with as many as 2,200 operationally deployed.

Moreover, the number of warheads in the active arsenal in 2012 will differ little from that planned under START II reached with Russia and the proposed START III. In setting a framework for START III negotiations, Clinton and Yeltsin set a goal of each country possessing no more than 2,500 accountable strategic warheads. The START III proposal also included important guidelines on transparency and verifications and other arms control restrictions that were not included in SORT. The Bush administration has ridiculed the complexity of those treaties and the time it took to achieve them. Yet, the crucial number of weapons in the active arse-

Table 1
U.S. Stockpile Levels 1990-2012



[a] START II was ratified by Russia and the United States but never entered into force and was abandoned because of a U.S.-Russian dispute over U.S. plans for a ballistic missile defense system.

[b] As part of the Helsinki Summit of March 1997, Presidents Clinton and Yeltsin agreed to begin negotiations on a START III Treaty, but this never occurred. The only proposal to survive was the number of strategic warheads. We assumed a similar total stockpile size given the almost equal strategic force levels of START III and SORT.

[c] Totals may not add due to rounding.

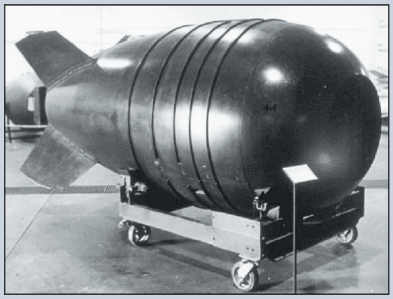
The Evolution of the U.S. Nuclear Arsenal

In the 45 years following the 1945 bombings of Hiroshima and Nagasaki, the United States built about 70,000 nuclear warheads of 65 types for 116 kinds of delivery systems.[1]

Very few bombs were built in the first several years after World War II, but after the Soviet Union conducted a nuclear test in August 1949, the U.S. nuclear weapons complex was expanded and the stockpile grew rapidly. An intense interservice rivalry among the Air Force, Navy, and Army drove the U.S. side to outpace actual and imagined Soviet capabilities, producing a mighty action-reaction engine that fueled the arms race. Adding to the intensity was a fierce competition between the national laboratories at Los Alamos and Lawrence Livermore to design new and improved warheads of every shape and size.

The U.S. stockpile grew by leaps and bounds, from less than 500 warheads in 1951 to more than 22,000 a decade later, finally reaching a peak of about 32,000 in 1967. There was never a rational process to determine how many ICBMs, submarines, or nuclear artillery shells should be built to serve the goal of deterrence or, if that failed, to fight a war. In fact, the process was exceedingly arbitrary and capricious. The size and scale of each weapon system was determined in part by the turbulent congressional authorization process, in which the White House and the Pentagon requested new programs that were then filtered through key committees and powerful members who were subject to pressures by a military-industrial complex anxious to win contracts. All sides in the debate invoked the Soviet threat as well as new enemies and competitors such as China.[2]

By the 1970s, the military's enthusiasm for nuclear weaponry began to wane, and the decade saw the overall stockpile decline by almost 20 percent due to the phaseout of several nuclear missions. Qualitative improvements, such as placement of multiple warheads on ballistic missiles and better guidance systems, rather than ever increasing numbers characterized the 1970s and 1980s. In many instances, it has been the professional military that pushed to get rid of nuclear weapons, especially the nonstrategic ones. A high point of this trend came when President George H. W. Bush on Sept. 27, 1991, ordered the withdrawal of all nuclear artillery shells and short-range missiles from overseas bases, along with several types of naval tactical weapons and bombs. After the unilateral cuts and treaty reductions, there were close to 11,000 warheads left in the active stockpile by the mid-1990s.



nuclearweaponarchive.org

The Mk-6 (pictured above) was the first nuclear weapon to be produced in quantity after World War II with about 1,100 bombs entering the stockpile between 1951 and 1954. The Mk-6 was phased out between 1957 and 1961.

Those cuts, along with the strategic arms treaty known as START I, the planning that went into START II and START III, and the Comprehensive Test Ban Treaty (CTBT), set the stage for the June 2004 decision. Warheads removed from missiles and bombers to comply with START I were placed in storage as a "hedge," able to be redeployed if the geopolitical competition with Russia were somehow rekindled. This "lead and hedge" policy, adopted by the Clinton administration in its 1994 Nuclear Posture Review, resulted in a large reserve of warheads that had to be maintained, serviced, and guarded. The result was that the size of the total stockpile did not decline all that much under START I.

Part of the rationale for maintaining such a large reserve was the uncertainty over how to maintain the reliability of the stockpile over the long run. In September 1992, the United States conducted its last nuclear explosive test; and on Sept. 24, 1996, President Bill Clinton was the first world leader to sign the CTBT.

In the absence of testing and with no new nuclear weapons coming off the production line, the Department of Energy was charged with developing a program to ensure the reliability of the existing warheads indefinitely. The result, lavishly funded at levels at or above those of the Cold War, was the so-called Stockpile Stewardship Program, an ambitious effort to offset the loss of data from underground nuclear weapons test explosions with above-ground nuclear experiments and massive increases in computational capability. Tens of billions of dollars have been committed to maintaining an "enduring stockpile" by building a variety of large facilities at the three weapons labs, Los Alamos, Livermore, and Sandia, to further the development of a comprehensive capability to assess and simulate the nuclear explosive performance of the warheads in the stockpile. (See *ACT*, May 2004.)

Confidence in the stockpile has not eroded, and the responsible officials from the Departments of Defense and Energy have certified each year that the nuclear warheads have a high probability of working as intended.

ENDNOTES

1. Stephen I. Schwartz, ed., *Atomic Audit: The Costs and Consequences of U.S. Nuclear Weapons Since 1940* (Washington, DC: Brookings Institution Press, 1998), p. 42; Robert S. Norris, Thomas B. Cochran, and William M. Arkin, "History of the Nuclear Stockpile," *Bulletin of the Atomic Scientists*, August 1985, pp. 106-109.

2. J. Ronald Fox, *Arming America: How the U.S. Buys Weapons* (Cambridge, MA: Harvard University Press, 1974); Jacques S. Gansler, *The Defense Industry* (Cambridge, MA: MIT Press, 1990).

nal will remain essentially identical, with the minor difference of how many warheads would be considered "accountable" (see table 1); that difference was not large.

Those negotiations never got off the ground, partly because of opposition in Congress. START II, on the other hand, was ratified by both countries but never entered into force and was abandoned because of a U.S.-Russian dispute over U.S. plans for a ballistic missile defense system. In ratifying the pact in 2000, the Russian Duma included a provision that its approval was conditional on U.S. adherence to the 1972 Anti-Ballistic Missile (ABM) Treaty. The United States withdrew from that treaty in June 2002.

A Consistent Philosophy Meets Congressional Concerns

The Bush plan is infused with an ideological commitment about the appropriate role of nuclear weapons crafted by a coterie of nuclear policy thinkers when they were out of power from 1993 to 2001. During the Clinton administration, a steady drumbeat of vituperation from this group questioned the wisdom of a nuclear test ban and urged development of a new generation of nuclear weapons. The most influential group comprised the co-authors of a report entitled *Rationale and Requirements for U.S. Nuclear Forces and Arms Control* by the National Institute for Public Policy (NIPP).[2] The study director, Keith Payne, issued the report as the new administration took office in January 2001. Over the following year as the new administration conducted its own NPR, it adopted many of the recommendations of the NIPP's report. Payne co-chaired a group that advised Secretary of Defense Donald Rumsfeld on the NPR, and he ended up in the administration.[3]

According to Rumsfeld, the NPR "will transform the Cold War-era offensive nuclear triad into a New Triad designed for the decades to come." The New Triad is composed of the old triad of ICBMs, SLBMs, and bomber weapons plus conventional strike systems; active and passive defensive systems; and a responsive infrastructure to provide nuclear weapons whenever needed. The NPR urges that "[n]ew capabilities must be developed to defeat emerging threats such as hard and deeply buried targets (HDBT), to find and attack mobile and relocatable targets, to defeat chemical or biological agents, and to improve accuracy and limit collateral damage." More recently, Brooks described what a responsive infrastructure would look like: "A truly responsive infrastructure would let us fix stockpile problems, modify existing warheads if needed, or produce replacement warheads without disrupting ongoing refurbishments, all much more quickly than in the past. One part of a responsive infrastructure is the capability to resume underground nuclear testing."

Building the case for resuming warhead production was also a prominent feature of a February report from a task force of the Defense Science Board (DSB), a federal advisory committee established to provide independent advice to the secretary of defense. Among the task force's chief recommendations were that the government should shift its focus in dealing with the nuclear stockpile. Right now, the DSB noted, the Stockpile Stewardship Program uses computer and other technical simulations to maintain weapons that were built with "previously tested nuclear devices/designs." But the DSB recommended another model: using the same means to "provide weapons more relevant to the future threat environment." The authors recognize that the political barriers to changing direction are formidable. "[U]ltimately the issue requires deep White House involvement and the difficult creation of a consensus in Congress that can be sustained over a number of years if not decades."[4]

The Republican-controlled Congress turned out to be more difficult to sway than the Bush administration initially expected. A particular thorn in the side of the Department of Energy and the Pentagon has been Rep. David L. Hobson (R-Ohio), chairman of the Subcommittee on Energy and Water Development of the House Appropriations Committee. For Hobson, the question has been whether the nation could afford to spend billions of dollars to maintain thousands of warheads in the enduring stockpile, extend the lives of some or all of them, and simultaneously refurbish the weapons complex to

Counting Warheads

Specific terms are used to describe the different categories of warheads in the nuclear stockpile.

Active warheads are maintained in a ready-for-use status with tritium and other limited-life components installed and may be either deployed or stored. The active warhead inventory is broken down into deployed warheads, responsive force warheads, and spares.

Deployed warheads consist of operationally deployed warheads (i.e., warheads on fielded strategic forces) and those associated with weapon systems in overhaul and fielded nonstrategic weapons.

Responsive force warheads consist of active warheads not on deployed systems. These are kept in secure storage but are available to be returned to the operationally deployed force to meet some contingency. Depending on the particular weapon system, this may take days, weeks, or months. Under the Bush plan, there will be approximately an equal number of "responsive" warheads and "operationally deployed" warheads in 2012.

Spare warheads are part of the active but not operational inventory and are the normal amount of extras to support routine maintenance and operations.

Inactive warheads do not have limited-life components installed and may not have the latest warhead modifications.

prepare the way for a new and different kind of arsenal. Hobson pressured the Departments of Energy and Defense to submit a stockpile plan to resolve this issue and held up funds for certain programs until it was delivered.[5]

It took some time for the Pentagon, the Energy Department, and the White House to work out their differences over these matters. The Pentagon position was to keep almost all of the warheads even if many were in inactive status and merely used as a tritium supply for active weapons.

In practice, this meant that the Energy Department would be responsible for their routine maintenance and surveillance and would have to conduct expensive service-life extension programs. Sectors within the Energy Department, however, especially at the weapon laboratories, did not want to have their budgets drained by supporting these activities. What was more important to them was a recommitment to their original mission of designing, developing, and producing nuclear weapons. With the submission of the stockpile plan to Congress in June, it would seem as though the Energy Department has won at least part of the battle (see page 8).[6]

Don't We Already Have Enough Low-Yield Weapons?

For now, it seems that the upcoming election has prompted the Bush administration to put the pursuit of new nuclear weapons on the back burner. Last year, after a major effort, the administration succeeded in repealing the 1993 Spratt-Furse Amendment, a statutory prohibition on research and development that could lead to production of a new low-yield nuclear weapon (defined as having a yield less than five kilotons).

Other plans to develop a more "robust" earth-penetrating weapon for destroying chemical and biological weapons encountered considerable opposition from Congress and the public, and Brooks has recently made a special effort in several public appearances to disavow any present intention actually to develop or produce such weapons. The administration, he avers, only wants to assess their feasibility and possible military utility prior to any future decision to develop and produce such weapons, which could only occur with the approval of Congress.

If President George W. Bush wins a second term, however, the new nuclear weapons issue is likely to reignite. After all, the NPR states that new, more discriminate, and therefore more "credible" capabilities are needed; the DSB agrees; and the weapons labs are pushing it.

Yet, the call for weapons with lower yields ignores the fact that the current stockpile already includes thousands of warheads with low-yield options. It has been generally assumed that low yield means a yield of five kilotons or less, a threshold stated in the 1993 legislation. By contrast, the Pentagon's definitions (see box) of yield categories define low yield as a range between one and 10 kilotons, or double that of the Spratt-Furse Amendment.

Using the Pentagon's own definition, we calculate that there are some 4,220 warheads in the current stockpile (more than one-third) that already have a low-yield option. Of these, more than 1,000 (B61-3/-4/-10) have a "very low" yield option of 0.3 kilotons. Under the new stockpile plan, by 2012, nearly half of all warheads in the stockpile (approximately 2,900 of 5,900 warheads) will have a low-yield option, and more than 600 of them will have the very-low-yield option of 0.3 kilotons.

With such capabilities already in place and expected to remain so in 2012, the recommendations by the DSB and others that the United States should develop low-yield warheads need better justification and fuller explanation. In many public comments thus far, some proponents have left the misleading impression that the United States does not have low-yield weapons in the stockpile.[7] The DSB report describes how the current "legacy nuclear stockpile consists of weapons that were designed and optimized for the world of massive, arsenal exchange...and had the large yields" and other characteristics better suited for the Cold War. By contrast, the DSB's alternate stockpile would include "modified legacy weapons (mainly for lower yield)," among others, to "produce tailored effects at much lower collateral damage." To avoid future misunderstanding, the administration needs to explain why the current warheads with existing low-yield options are not sufficient.

Unfortunately, however, Bush's decision also carried a hidden subtext: **the retirement of almost half of the current stockpile, a total of more than 4,000 warheads by our estimate, could help pave the way to developing and producing a new nuclear arsenal.**

Ironic Consequences

Ironically, a smaller future stockpile may have consequences that could impede arms control and disarmament efforts. To military planners, fewer warheads deployed on delivery platforms means that it is more important that each individual warhead that remains in the arsenal survives. A smaller deployed stockpile, therefore, requires a comparatively large reserve of nondeployed warheads to safeguard against a worst-case scenario such as catastrophic

The Pentagon's current definition of nuclear weapon yields:

Very low yield:	Less than 1 kiloton
Low yield:	1 kiloton to 10 kilotons
Medium yield:	Over 10 kilotons to 50 kilotons
High yield:	Over 50 kilotons to 500 kilotons
Very high yield:	Over 500 kilotons

Table 2
U.S. Stockpile By Warhead Type 2004 and 2012

Warhead Type	2004	2012 (projected)
ICBMs		
W62	730	0
W78	827	400
W87	555	545
Total	2,112	945
SLBMs		
W76	3,195	1,840
W88	404	404
Total	3,599	2,244
Cruise Missiles		
W80-1	1,827	825
*W80-0	304	265
W84	383	0
Total	2,514	1,090
Bombs		
B61-7	441	430
B61-11	43	35
B83-0/-1	633	625
*B61-3	396	200
*B61-4	412	200
*B61-10	208	180
Total	2,133	1,670
Total	**10,358**	**5,945**

* Nonstrategic warheads

technical failure or a sudden change in potential threats against the United States. To protect against such problems, the new stockpile plan requires there be two warhead types for each strategic delivery platform, essentially doubling the number of warheads that might otherwise be retained.

Also, a smaller future arsenal means that each warhead type has to be capable of hitting a broader range of targets. ICBMs and SLBMs already have been equipped with retargeting features that enable planners to switch warheads to new targets quickly, but the NPR calls for more. Under "life-extension programs" (LEPs), bombs and re-entry vehicles are being equipped with new radars and fuses to improve their accuracy and efficiency, and efforts are underway to maneuver re-entry vehicles to GPS-like accuracy. The B61, W80, W76, and W87 warheads are undergoing or will undergo similar life-extension upgrades.

Although there will be fewer warheads in the future stockpile than today, the Energy Department will still have to spend a considerable amount of money and resources to maintain them, resources that will likely be taken from dismantlement efforts. Throughout the 1990s, the Pantex plant near Amarillo, Texas, dismantled more than 11,000 warheads from the weapon systems retired by the first Bush administration. With that task now virtually complete, work has shifted to refurbishment and life-extension upgrades of the warheads that will remain in the stockpile. The first LEP was for the W87 warhead on the Peacekeeper missile, with first deliveries to the Air Force in June 1999. A W88 program is underway, and LEPs for the B61, W76, and W80 warheads are planned to follow.

The combined LEPs involve thousands of warheads and will have priority over dismantling the 4,000 warheads scuttled by Brooks' announcement.[8] Disassembly rates have already been dropping from as many as 1,500 warheads per year in the early 1990s and could drop to as few as 300 warheads annually, unless the Device Assembly Facility at the Nevada Test Site is tapped to handle the increased workload.[9] Additionally, the administration still plans to construct the smaller future stockpile using the needlessly expensive and elaborate facilities of the Stockpile Stewardship Program to verify and improve weapon capabilities. (See *ACT*, May 2004.)

Conclusion

The timeline of the new stockpile plan and SORT makes it clear that the goal stated by Bush in May 2001 "to move quickly to reduce nuclear forces"[10] will not be achieved. Current plans for implementation mean that almost another decade will pass before the force levels first agreed to in Helsinki in 1997 will become a reality. If the Cold War is really over and Russia is no longer an enemy, then there is nothing to prevent the president from implementing the cuts immediately.

Nevertheless, more can and should be done. Fifteen years after the end of the Cold War, U.S. ICBMs are still on high alert, able to launch some 1,300 warheads on a moments' notice. Fourteen strategic submarines carry more than 2,200 warheads. Ten are deployed at any given time, with four to six on high alert. The fleet continues to deploy at Cold War levels, with more than 60 patrols a year. Alert levels of either or both of these legs of the triad could be significantly reduced immediately without any loss of credibility in the U.S. nuclear deterrent.

The administration's actions do nothing to address the issues of transparency and verification of the U.S. nuclear arsenal, hindering progress on gaining greater knowledge and control of Russia's arsenal. SORT requires no verification, and the stockpile plan will retain a reserve of warheads that are not accountable under U.S.-Russian arms control agreements. The stockpile plan continues a policy of maintaining a substantial reserve of warheads to supplement the fielded weapons that was set a decade ago and has proven to be a domestic expense and a foreign policy irritant ever since. From the outset, the "hedge" aroused suspicions, especially among Russian planners who were provided ample justification to establish hedges of their own.

The announcement by the administration to cut the nation's nuclear stockpile almost in half seems a missed opportunity that should have been used to challenge the Russians to follow suit

Reuters

Presidents Boris Yeltsin and Bill Clinton in 1997 set a framework for START III negotiations on nuclear reductions, but those negotiations never took place.

and to engage the other nuclear powers in a long-term arms reduction effort. It also could have been used as a way to improve the administration's standing with the nuclear Nonproliferation Treaty review process. Uncharacteristically, the announcement was low key and needlessly secretive. Why not disclose the exact size and composition of the nuclear reductions to pressure other countries to do likewise? The administration has not advanced an argument to justify the continuing secrecy.

Perhaps most disturbingly, if Bush wins a second term, it is likely that more vigorous steps will be taken to develop new or modified nuclear weapons. On the eve of the election, it is politically impossible, both domestically and internationally, to suggest that the United States needs new nuclear weapons, and the Bush administration has increasingly downplayed any such intentions as Nov. 2 draws near. They have repeatedly stated that there are no plans to resume testing and that they are only "studying" whether or not a nuclear earth penetrator is feasible. Many of their actions belie this rhetoric.

In May 2001, when Bush first announced his plans for future nuclear force levels, he said he was "committed to achieving a credible deterrent with the lowest-possible number of nuclear weapons consistent with our national security needs."[11] With almost 6,000 weapons in the stockpile almost a decade in the future, he has clearly not met that goal.

The Bush administration holds out the prospect of further cuts if they are able to build new warheads first. We will have to wait to see if that bargain is ever struck. In the interim, it will depend on whether Bush wins a second term, whether Congress funds the programs, and whether the American people decide they really want a new nuclear arsenal. **ACT**

ENDNOTES

1. Linton F. Brooks, "U.S. Nuclear Weapons Policies and Programs," presentation to the Carnegie International Nonproliferation Conference, June 21, 2004, p. 6.

2. National Institute for Public Policy, *Rationale and Requirements for U.S. Nuclear Forces and Arms Control: Volume I, Executive Report,* January 2001. Among the participants are Linton F. Brooks, Stephen Cambone, Stephen J. Hadley, Robert G. Joseph, and William Schneider Jr. See Stephen M. Younger, *Nuclear Weapons in the Twenty-First Century*, LAUR-00-2850, June 27, 2000. At the time, Younger was associate laboratory director for nuclear weapons.

3. Keith Payne is currently a member of the Strategic Advisory Group, a federal committee that serves as a technical and political advisory body to the commander of U.S. Strategic Command.

4. Defense Science Board Task Force, *Future Strategic Strike Forces* (Washington, DC: Department of Defense, February 2004), p. 6-11.

5. See House Committee on Appropriations, *Energy and Water Development Appropriations Bill, 2004,* 108th Cong., 1st sess., H. Rept. 108-212, July 16, 2003, pp. 139-143.

6. Although the stockpile plan may have answered some questions, it apparently did not answer them all. In its fiscal year 2005 committee report, Hobson has requested a report from the secretary of energy that assesses the implications of the president's decisions on future stockpile size and composition and what it will mean regarding personnel, facilities, and budgets, to be submitted by April 30, 2005. House Committee on Appropriations, *Energy and Water Development Appropriations Bill, 2005*, 108th Cong., 2d sess., H. Rept. 108-554, June 18, 2004, pp. 110-111.

7. The DSB acknowledges that current Stockpile Stewardship Program work includes "modifying some to lower yield." DSB, "Report of the Defense Science Board Task Force on Future Strategic Strike Forces," February 2004, pp. 6-1, 6-2, 6-11, 6-15.

8. Since the scheduled LEP work flow at Pantex fluctuates over the next decade, dismantlements may occur in the low periods.

9. The facility was completed just as the Soviet Union dissolved, nuclear explosive testing ended, and U.S. warhead production ceased. After spending almost $100 million, the facility may finally get some use. Hobson has encouraged the National Nuclear Security Administration to see if the facility can play a role in expanding dismantlement capacity.

10. Office of the Press Secretary, The White House, "Remarks by the President to Students and Faculty at National Defense University," Washington, DC, May 1, 2001.

11. Ibid.