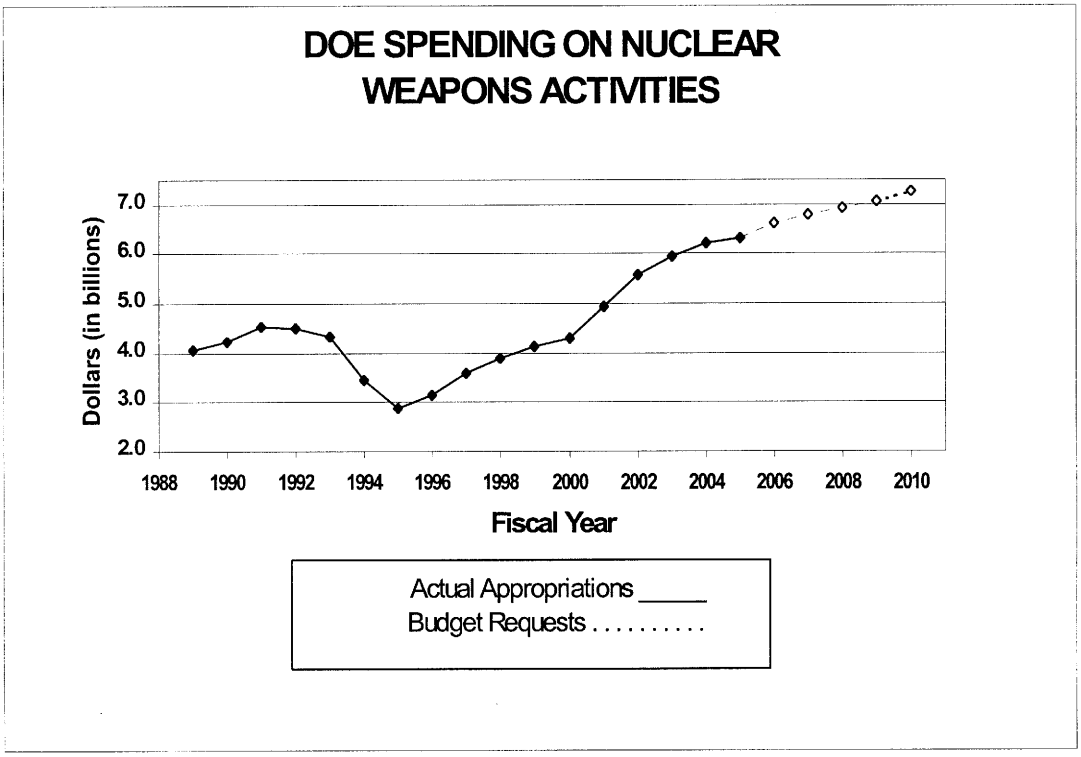
America's One-Nation Arms Race

An Analysis of the Department of Energy's Fiscal Year 2006 Budget Request for Nuclear Weapons Activities



A Report for Tri-Valley CAREs

By Dr. Robert Civiak

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About the Author

Dr. Robert Civiak has been doing research and analysis in nuclear weapons policy and related areas for more than 25 years. He received a Ph.D. in physics from the University of Pittsburgh in 1974. From 1978 through 1988, he was a Specialist in Energy Technology and Section Head in the Science Policy Research Division of the Congressional Research Service at the Library of Congress. During the spring and summer of 1988 he was a Visiting Scientist at Lawrence Livermore National Laboratory. From November 1988 through August 1999 he was a Program and Budget Examiner with the Office of Management and Budget (OMB) in the Executive Office of the President. At OMB, Dr. Civiak's primary responsibilities included oversight of the national security activities at the Department of Energy, including the Stockpile Stewardship Program. He currently resides in New Hampshire, where he continues to do research and policy analysis on nuclear weapons and arms control issues as an independent consultant.

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About Tri-Valley CAREs

Tri-Valley CAREs (Communities Against a Radioactive Environment) is a Livermore, California-based 501(c)(3) nonprofit organization with more than 20 years experience monitoring the Department of Energy (DOE) nuclear weapons complex and the neighboring Lawrence Livermore National Laboratory. Tri-Valley CAREs' research, writing and advocacy activities stand as a counterweight to DOE nuclear weapons programs. Tri-Valley CAREs publishes a monthly newsletter as well as technical and policy reports. The group is dedicated to increasing public knowledge of the relationship between peace, social justice and the environment, with a special focus on nuclear weapons and nuclear waste.

Tri-Valley CAREs

Communities Against a Radioactive Environment

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OVERVIEW

On February 7, 2005, President Bush submitted his budget request for fiscal year 2006, which begins October 1, 2005. **The budget requests $6.63 billion for Nuclear Weapons Activities**. The request continues the decade long upsurge in funding for nuclear weapons to well over twice what the Department of Energy (DOE) spent in 1995 (see Fig. 1). Remarkably, the 2006 nuclear weapons budget is one and one-half times the average annual spending on nuclear weapons during the Cold War, even after accounting for inflation. The upward trend is projected to continue, with the funding level reaching $7.3 billion in 2010.

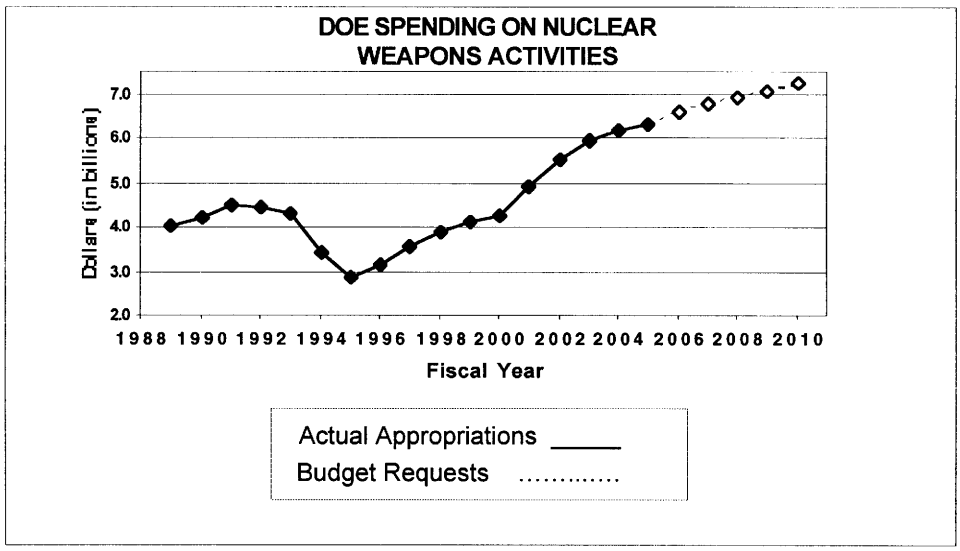

Figure 1

The Administration's request supports a vast research and manufacturing enterprise focused on upgrading existing U.S. nuclear weapons and designing new ones. Beyond being an appalling waste of Federal funds, this massive nuclear weapons development effort belies commitments the United States has made under the nuclear Non-Proliferation Treaty (NPT) toward the total elimination of nuclear weapons. By placing such great importance on upgrading U.S. nuclear weapons capabilities, the Administration's actions directly contradict its efforts to convince potential nuclear weapons proliferators that there is nothing to be gained in developing nuclear weapons.

As an alternative to the Administration's bloated, counterproductive approach to our nation's nuclear deterrent, which it calls "Stockpile Stewardship," we have proposed policy changes and funding levels for a "Curatorship" approach to maintaining nuclear weapons. The Curatorship approach is less expensive and more in line with our vital national security interest of limiting nuclear weapons proliferation. Under Curatorship, the United States would maintain all of the weapons allowed to be deployed under current treaties with Russia and a few extra spares. However, the U.S. would refrain

from upgrading its nuclear weapons or design capabilities. This analysis describes the 2006 budget request for Stockpile Stewardship and recommends specific areas in which a Curatorship approach could save $2 billion in 2006 and better support our national security.[1]

Putting the Request in Context

Two complicating factors make it awkward to compare the 2006 budget request for Nuclear Weapons with the 2005 Appropriation. First, the normal appropriation to the Department of Energy for nuclear weapons was enhanced in 2005 by a special one-time add-on of $300 million from the Department of Defense. Table 1 shows the 2005 appropriation with and without that extra $300 million. In addition, the 2006 request for Nuclear Weapons Activities includes $238 million for activities that were previously conducted by other DOE organizations -- primarily environmental cleanup activities. That has the appearance of making the 2006 request look larger, without increasing the amount of money available for comparable activities. DOE compensates for that by estimating what the funding level would have been in 2005 for "comparable activities," to the 2006 request. Table 1 shows both the actual 2005 appropriation and DOE's comparable calculation. We believe the fairest way to compare the 2005 numbers with the 2006 request is to compare the comparable amount appropriated directly to DOE in 2005, $6,583 million with the 2006 request, $6,630 million. On that basis, the **2006 DOE request is $47 million (0.7 percent) more than Congress appropriated directly to DOE for comparable activities in 2005.**

That seemingly modest increase must be seen in the context of a very tight budget year, when many agencies face large cuts. DOE's total departmental request is 2.0 percent less than last year's appropriation and the request for the DOE Office of Environmental Management is down 7.8 percent. Other agencies slated for large cuts include the Environmental Protection Agency down 5.6 percent, Housing and Urban Development down 11.5 percent, Justice down 5.5 percent, and Agriculture down 9.6 percent. In that context, it is scandalous that spending on nuclear weapons is so much higher than it was during the Cold War and still continues to increase.

Why is the Nuclear Weapons Budget so Large?

The nuclear weapons budget is excessively large because the United States is conducting a one-nation arms race against itself to upgrade its nuclear weapons and capabilities. The National Nuclear Security Administration (NNSA), a semiautonomous agency within the Department of Energy, maintains this nation's nuclear weapons. NNSA is sprinting to build upgraded versions of thousands of nuclear weapons even though the 2002 Treaty of Moscow, which was negotiated by and signed by President Bush, requires the U.S. to remove many of them from deployment by 2012. Even more costly and disturbing, the NNSA supports an enormous effort to expand its vast knowledge of nuclear weapons science and technology. NNSA wastes hundreds of millions of dollars to stay on the forefront of diverse technologies and apply them to nuclear weapons including: development of supercomputers, microfabrication technology, lasers, particle accelerators, explosives, and measurement technology. In addition to being costly, this approach sends a message that the United States puts a high value on nuclear weapons. That message undercuts international efforts to discourage nuclear weapons development in countries like North Korea and Iran.

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[1] For a more detailed comparison of Stockpile Stewardship and four other strategies, including Curatorship see, "Managing the U.S. Nuclear Weapons Stockpile," by Dr. Robert Civiak. Tri-Valley CAREs, July 2000, 63 p. www.trivalleycares.org/ManagingStockpileReport.pdf

Another reason the nuclear weapons budget is so high is that there has been very little Congressional scrutiny of spending on nuclear weapons. As a result, **the NNSA has become an entrenched bureaucracy that maintains an outdated spending program solely for its own benefit.** There is some hope that this situation is changing. Last year, the Congress reduced or eliminated funding for several controversial programs. This laudable effort to simultaneously cut the budget and improve national security was led by Representative David Hobson (R-Ohio), Chairman of the House Appropriations Subcommittee responsible for the NNSA budget. Last year's cuts were small in dollar terms, but hopefully they set the stage for more budgetary discipline this year.

THE 2006 BUDGET REQUEST

The table below summarizes the 2006 budget request for Nuclear Weapons Activities. The first column is the amount mandated by the Congress for 2005.[2] The second column shows the comparable amounts that DOE estimates would have been the funding levels if its programs were organized in 2005 as it proposes to reorganize them in 2006. The biggest difference between the 2005 actuals and comparables is that the comparables include $238 million to reflect a NNSA proposal to take responsibility for certain environmental cleanup activities in 2006, which have previously been performed by DOE's Office of Environmental Management. The comparables also reflect small programmatic shifts from other DOE entities, as well as some shifts within the NNSA. The final column shows our recommended 2006 funding level under a Curatorship approach to maintaining the stockpile.

Table 1 -- Funding for Nuclear Weapons Activities (dollars in millions)

	FY 2005 Actual	FY2005 Comparable	FY2006 Request	FY2006 Curatorship
Directed Stockpile Work	1,346	1,277	1,421	784
Campaigns	2,305	2,294	2,081	1,050
Readiness in Technical Base	1,657	1,786	1,631	1,340
Facilities and Infrastructure Improvements	314	314	284	250
Weapons and Materials Transportation	200	200	212	212
Nuclear Weapons Incident Response	98	108	119	119
Environmental Projects and Operations	0	193	174	0*
Safeguards and Security	752	752	740	740
Adjustments and Use of Prior Year Balances	-41	-41	-32	-32
TOTAL Nuclear Weapons Activities	**6,631**	**6,883**	**6,630**	**4,463**
Transfer of funds from Department of Defense	-300	-300	0	0
TOTAL Appropriated directly to DOE	**6,331**	**6,583**	**6,630**	**4,463**

- The $174 million requested would go the DOE's Office of Environmental Management.

[2] The Consolidated Appropriations Act of 2005 appears to provide $6,226 million for Nuclear Weapons Activities. That was modified by an across-the-board rescission elsewhere in the Act, which reduced funds for Nuclear Weapons by $50 million. In addition, in an unprecedented letter, dated December 9, 2004, from the Chairmen and Ranking Minority Members of the Energy and Water Appropriations Committees in the House and Senate to the Secretary of Energy, the appropriators claimed the 2005 Appropriations Act was in error and instructed DOE to transfer $156 million from environmental cleanup activities to nuclear weapons. The transfer resulted in a final appropriation of $6,331 million.

DIRECTED STOCKPILE WORK (DSW)

The DSW budget line is where the NNSA accounts for work directly in support of stockpile systems. For many years, the Congress has tried to get NNSA to show how much it spends on each weapon system. NNSA partially complied this year. The budget shows spending by weapon system for two of the program elements within DSW -- Life Extension Programs and Stockpile Systems. However, at $660 million, those two program elements account for less than half of the request for DSW (see Table 2) and barely 10% of the total request for Nuclear Weapons Activities. Thus, NNSA would have us believe that it must spend nearly $6 billion in overhead to support $660 million of work to maintain and extend the life of existing warheads! Table 2 compares the budget request for DSW program elements with their comparable 2005 funding level and our recommendations for 2006 under the Curatorship approach.

Life Extension Programs -- Within the $660 million request for specific warhead systems, NNSA is requesting $348 million for so-called "Life Extension Programs" on three of the seven "enduring weapon systems." They are the W76 warhead for submarine launched missiles, the W87 warhead for ground-launched missiles, and the B61 strategic bomb. Life Extension Program (LEP) is an insidious misnomer for complete rebuild and upgrade of a warhead system that is nowhere near the end of its life. (See the text box on Upgrading Nuclear Weapons.)

Table 2 - Funding for Directed Stockpile Work (Dollars in millions)

Program Element	FY 2005 Comparable	FY 2006 Request	FY 2006 Curatorship
Life Extension Programs	363	348	100
Stockpile Systems	278	312	209
Subtotal Funding by Weapon Type	641	660	309
DSW Overhead*	436	501	327
R & D Certification and Safety	156	212	78
Robust Nuclear Earth Penetrator	0	4	0
Reliable Replacement Warhead	9	9	0
Warhead Dismantlement	35	35	70
DSW Total	**1,277**	**1,421**	**784**

* Production Support; Research and Development Support; and Management, Technology, and Production.

An LEP for a single weapon system costs billions of dollars and may take fifteen years to plan and execute. Nevertheless, NNSA initiates them without any specific programmatic request to or authorization by the Congress. It is inconceivable that the DoD would procure a new billion-dollar weapon system without congressional review. However, that is routine business for the NNSA. The budget contains no information on how many weapons the Administration plans to refurbish, what role the weapons might play in U.S. security, or why the upgrades are needed. Some of that information is available to those with access to classified documents, but there is no opportunity for the average Member of Congress, let alone the public, to debate the merits of the weapons upgrades. These upgrades are not needed under a Curatorship approach to maintaining the arsenal. Under Curatorship, as components age, NNSA would replace them with new components of substantially the same design. That approach could maintain indefinitely, but not improve, the capability of U.S.

nuclear weapons. **We recommend that Congress provide no more than $100 million for 2006 for an orderly closeout of the ongoing LEPs. If Congress wants to provide for future upgrades to nuclear weapons, it should require NNSA to submit a detailed justification for each upgrade including unclassified information on the reasons for the upgrade, the number of weapons that it plans to upgrade, and the total multi-year cost of the project.**

Stockpile Systems -- The subprogram under which NNSA maintains existing nuclear weapons is called "Stockpile Systems." Within this subprogram, NNSA replaces limited life components, makes "routine" modifications and alterations to upgrade performance, and performs any other maintenance that is necessary to keep its weapons in working order, including weapons that are simultaneously undergoing LEPs. For example, the NNSA budget states, "Enduring stockpile workload efforts on the W76 will include ongoing assessment and certification activities, limited life component exchange activities, surveillance activities, and required alterations, modifications, repairs, and safety studies." Many of these activities would continue under the Curatorship approach. However, under Curatorship NNSA would not make modifications and alterations solely to upgrade performance and would maintain only those warheads that DoD intends to deploy under the Treaty of Moscow and a reasonable number of spares.

The budget requests $312 million, an increase of $33 million (12.0 percent) over 2005, for Stockpile Systems. It is curious that an increase is needed for

UPGRADING NUCLEAR WEAPONS

The NNSA uses a confusing array of terms to refer to the many types of upgrades it performs on nuclear weapons. The most ambitious upgrades have the innocuous sounding name of **"Life Extension Programs" (LEPs)**. As part of an LEP, NNSA and DoD reexamine the desired performance features for the weapon (called military requirements) and reevaluate the design of every component in the weapon against the revised military requirements. Typically, dozens of components are replaced with new designs. Few, if any, of the replacements are required to extend the life of aging components. The vast majority of them are intended to improve the performance of the weapon. Improved components may be lighter, more rugged, more tamper proof or radiation resistant, or may be intended to improve the consistency of the weapon's explosive yield, add new yield options, conserve tritium, or improve the accuracy of delivery. At the end of an LEP, NNSA has a substantially new nuclear weapon, but it retains the previous designations, e.g. W76, W87 ...

The next most ambitious type of upgrade is a **Modification or Mod.** Mods are multifaceted-design changes in response to requests from DoD to add a new capability to a weapon design or to modify the weapon for a different mode of delivery. A typical Mod was to change the W80 design for the sea-launched cruise missile to the W80-1 for an air-launched cruise missile. The B-61 bomb has seen numerous modifications. NNSA made extensive changes to the B61 bomb in the late 1990s to give it a new capability to burrow underground before exploding. The new bomb was given the name B61-11 to indicate it is the 11th "modification" to that bomb.

A third type of upgrade is an **"Alteration or Alt."** Alts are generally upgrades to one or to several related components to improve a specific aspect of a weapon's performance. NNSA may be working on as many as ten Alts for various weapons at any given time. Some recent Alts include: replacing the tritium reservoirs and neutron generators of the W76 warhead with new designs (Alt 317); changing the bomb fin angle on some B61 bombs to improve the accuracy of delivery (Alt 354); making follow-on structural enhancements to the modified B61-11 (Alt 349); altering the radar on the B83 bomb to change the height of its detonation (Alt 752); and changing the tritium gas transfer system in the W78 warhead (Alt 351).

The simplest upgrades are **replacement of limited-life components (LLCs)**. A small number of components truly have limited lifetimes and have to be replaced regularly. These include batteries, supplies of tritium gas, and neutron generators. Designers anticipated that DoD personnel would replace those components in the field with identical versions supplied by NNSA. However, recently NNSA has chosen to replace some LLCs with completely new designs, which usually requires that the weapons be returned to NNSA facilities to be fitted with the new components.

Lastly, NNSA uses the term **"refurbishment"** to refer to all of the above improvement programs. The term implies a modest effort, like what an automobile might go through at its 25,000-mile checkup. However, it belies the substantial modifications, alterations, and upgrades that are described above.

this subprogram, since the budget states, "In June 2004, NNSA submitted the revised stockpile plan to Congress showing a significant reduction in the nation's total nuclear weapons stockpile by 2012. DSW budgets have been formulated during the [2006] budget period accordingly." In a conference call with reporters just after submitting the revised stockpile plan, Linton Brooks, the Administrator of the NNSA, said the reductions would be almost half of the current stockpile. Given the recent decision to reduce the stockpile by nearly half, the workload for maintaining Stockpile Systems should be reduced considerably. **We conservatively recommend a 25 percent reduction in funding for Stockpile Systems from the comparable 2005 level to $209 million for 2006.**

Directed Stockpile Work (DSW) Overhead -- Much of the DSW budget is for overhead activities. The budget requests $501 million for three overhead-type subprograms -- Production Support; Research and Development Support; and Management, Technology, and Production. That is an increase of $65 million (14.9 percent) over the comparable 2005 amount of $436 million. Since we recommend cuts in funding for Life Extension Programs and for Stockpile Systems, it makes sense to similarly reduce the overhead that supports those programs. In line with our recommendation for Stockpile Systems, **we recommend a 25 percent reduction from the comparable 2005 level for the DSW overhead activities to $327 million in 2006.** That is a much smaller proportional cut than we propose for the Life Extension Programs.

Research and Development (R&D), Certification, and Safety -- The remaining large subprogram within DSW is called R&D, Certification, and Safety. The budget requests $212 million for this subprogram, an increase of $56 million (35.9 percent) over 2005. Within this subprogram, NNSA conducts R&D that is not directly attributable to a single existing warhead type. This is NNSA's general R&D enterprise for new and improved nuclear weapons. The weapons laboratories conduct pre "Phase 6.3" design studies for new nuclear weapons under this program element, including concept assessments and feasibility studies. **This subprogram is perhaps the most objectionable in the entire NNSA budget.** At a time when the United States, and indeed most of the world, is trying to get nations to discontinue nuclear weapons research programs, the NNSA continues to seek new and improved nuclear weapons and components. There is no justification for any research on upgrades to nuclear weapons and components, except perhaps to correct a specific problem in an existing weapon (if there is any such problem). This entire subprogram should be eliminated under a Curatorship approach to nuclear weapons. For 2006, **we recommend a reduction of at least 50 percent from the comparable 2005 funding level for Research and Development (R&D), Certification, and Safety to $78 million or less. Congress should notify DOE that it will not provide funding for this program in 2007, unless the NNSA shows that it is needed to fix a specific problem in one or more existing weapons.**

Robust Nuclear Earth Penetrator (RNEP) -- Last year, Congress zeroed the NNSA funding request for the RNEP. The RNEP is a new weapon, based on the B83 bomb designed at Lawrence Livermore National Laboratory, which would propel a nuclear warhead into the ground before detonating. By that means, it might deliver more of its explosive punch to underground bunkers or munitions facilities. The U.S. already has a gravity propelled, earth penetrating nuclear weapon, the B61-11, and several other options for attacking buried targets. Nevertheless, the NNSA is intent on pursuing this new nuclear weapon. Despite last year's rejection, this year's NNSA budget requests $4 million in 2006 and $14 million in 2007 for the RNEP. In addition, this year's budget for the DoD requests $4.5 million for "drop-testing experiments" on prototypes of the RNEP. **We recommend that Congress not provide any funding to NNSA or DoD for the RNEP.**

Reliable Replacement Warhead Program --Last year, Congress also zeroed the NNSA funding request for an Advanced Concepts Initiative (ACI). The ACI was an amorphous concept for research on new options for the use of nuclear weapons. In its place, Congress provided $8.9 million for a Reliable Replacement Warhead program "to improve the reliability, longevity, and certifiability of **existing** [emphasis added] weapons and their components." This year, the NNSA is requesting $9.4 million under the Reliable Replacement Warhead program. On March 2, 2005, Linton Brooks, the Administrator of the NNSA, told the House Armed Services Committee, "This is a concept to decide whether or not we can relax some the Cold War design constraints such as very high yield to weight ratios." Thus, it appears that NNSA plans to use this program to design new warheads, rather than simply make existing weapons more reliable. Designing new warheads runs counter to U.S. commitments under the nuclear Non-Proliferation Treaty and, consequently, it would weaken the non-proliferation regime. Indeed, Congress cancelled the ACI because it was concerned that program would have adverse consequences for non-proliferation and for U.S. national security. The NNSA seems to be back with another weapon design program under a different name. **Congress should cancel the Reliable Replacement Warhead Program**.

Warhead Dismantlement -- In the summer of 2004, the Pentagon announced that the U.S. would reduce its strategic arsenal from the current size of approximately 10,600 nuclear warheads to around 6,000 warheads in support of the Moscow Treaty's active deployed force of 1,700-2,200 strategic warheads. This leaves some 4,600 warheads and another 12,000 retired plutonium pits, which are already in storage at the Pantex site in Texas, awaiting dismantlement. Nevertheless, NNSA requested only $35 million for 2006 to dismantle retired warheads. Most dismantlement activities take place at the same facilities, at the Pantex site in Texas and the Y-12 site in Oak Ridge, Tennessee, where NNSA does work on the Life Extension Programs and Stockpile System Programs. NNSA's approach to dismantlement activities is to use them to even out its workload level, when scheduling problems for other DSW activities would leave facilities operating at less than full capacity. Last year, Congress expressed its displeasure over the NNSA's weak approach to dismantlement. The House Appropriations Committee report on the Energy & Water appropriations bill stated, "The Committee expects the NNSA to develop a robust program of continuous dismantlements, with aggressive near-term milestones, rather than treating dismantlement as low priority work used to fill in during lulls in the LEP schedule." NNSA's meager 2006 request for warhead dismantlement clearly ignores the Committee's instructions. **We recommend that Congress use some of the funds saved by reducing Life Extension Programs to provide $70 million for Warhead Dismantlement -- twice the requested level.**

CAMPAIGNS

The 2006 budget requests $2.1 billion for six separately managed "Campaigns." Each campaign includes one or more subprograms that seek to improve NNSA's capabilities in a particular area relevant to designing, developing, testing, or producing nuclear weapons. For example, within the Science Campaign, the Primary Assessment Technologies subprogram supports development of new ways to test and certify the performance of modified nuclear weapon primaries using aboveground and underground testing. Table 3 compares the budget request for the six campaigns with the comparable 2005 funding level and our recommendations for 2006 under the Curatorship approach. Much of the campaigns represents little more than make-work for the nuclear weapons laboratories. After 60 years of research and testing, NNSA knows more than enough about nuclear weapons to maintain the existing stockpile. The primary justification for these campaigns under a Curatorship approach is to keep a cadre of trained scientists on hand should problems develop in the future. That

can be done with significantly less funding than NNSA requests. **We recommend that the Congress provide no more than $1.05 billion for all six of the campaigns.** Our specific recommendations for four of the campaigns are discussed below.

Pit Manufacturing and Certification Campaign -- NNSA has spent $1.5 billion so far and proposes to spend $249 million in 2006 and $1.3 billion through 2010 to "regain" the capability to produce plutonium pits. NNSA claims that it lost that capability when it closed the production facility at Rocky Flats, Colorado in 1989. In truth, the capability to produce pits was never lost.

Table 3 -- Funding For Campaigns (dollars in millions)

Program Element	FY 2005 Comparable	FY 2006 Request	FY 2006 Curatorship
Pit Manufacturing and Certification Campaign	263	249	50
Advanced Simulation and Computing Campaign	697	661	350
ICF, Ignition, and High Yield Campaign	536	460	200
Science Campaign	276	262	100
Engineering Campaign	261	230	150
Readiness Campaign	261	219	200
Campaigns Total	**2,294**	**2,081**	**1,050**

The Los Alamos National Laboratory (LANL) produced hundreds of pits for test devices during the Cold War, fabricating as many as 60 per year. LANL has continually maintained and upgraded its pit production capabilities. Nevertheless, under this campaign, NNSA plans to produce and extensively test dozens of new pits at LANL before certifying the first production pit for a rebuilt W88 warhead in 2007. This is gross overkill to re-prove that Los Alamos can do what it has already demonstrated it can do. Furthermore, the oldest pits that NNSA plans to retain in the stockpile are less than 30 years old. NNSA studies of pit lifetimes indicate existing pits should last at least 60 years and possibly 100 years or more. Thus, there is no need for any new pit production to maintain existing warheads for at least the next 20 years and perhaps not for 50 years. Any studies of renewed pit production can be done at a much more deliberate pace.

Within this campaign, NNSA plans to spend $7.7 million in 2006 and $126 million through 2010 for a new "**Modern Pit Facility" (MPF).** That facility might produce 250 or more plutonium pits/yr and could cost $3-5 billion to build. Last year, under pressure from Congress, NNSA delayed its plans to select a site and begin construction of the MPF. However, NNSA still wants to continue design studies and environmental activities that would pave the way for construction. There is no validity to NNSA arguments that existing facilities at Los Alamos will be insufficient if production of new pits is needed to replace existing ones. **We recommend that Congress provide no more than $50 million in 2006 for manufacturing and certifying plutonium pits at Los Alamos and no funds for the Modern Pit Facility.**

Advanced Simulation and Computing Campaign -- The budget requests $661 million for the Advanced Simulation and Computing Campaign. Under this campaign, NNSA wants to double its

computing power between now and 2006. NNSA wants an additional doubling in 2007 and a further tripling by 2009 to more than 12 times the speed of its computers today and a fantastic 10,000 times the speed of its computers less than 10 years ago when this campaign began. This is ludicrous when one considers that the first nuclear weapons were designed without computers and the most modern weapons in the stockpile today were designed nearly 20 years ago with a tiny fraction of today's computing power. NNSA has already shown it has enough computing capacity to perform 3-dimensional simulations of nuclear weapons explosions, which was its primary goal at the beginning of this campaign. A small justification for this spending is that it helps to keep the U.S. computer industry at the forefront of technology. However, NNSA plans to spend only $7.4 million in 2006 for its "Path Forward" program to assure that future technologies are available in the marketplace. If DOE wants to support the development of supercomputers, it should use them to benefit programs other than nuclear weapons development. **We recommend that Congress reduce funding for the Advanced Simulation and Computing Campaign to no more than 50 percent of the 2005 level, or $350 million in 2006.**

Inertial Confinement Fusion (ICF), Ignition, and High Yield Campaign -- This campaign seeks to create, on a small scale, the extreme conditions of temperature, pressure, and radiation approaching those in a nuclear explosion. The centerpiece of that effort is the National Ignition Facility (NIF), which is being built at the Lawrence Livermore National Laboratory in California. NIF includes an enormous laser that would use light to compress and heat target pellets. If the NIF can sufficiently heat and compress properly designed pellets containing fusion fuel, the pellets might achieve "ignition." Such ignition would reproduce certain characteristics of an exploding nuclear weapon. Achieving ignition was the primary justification for starting the NIF project in 1995 despite the belief among many scientists at the time that ignition could not be reached in that facility. Last year, NNSA proposed delaying the goal of ignition from 2010 to 2014 and claimed it could obtain valuable information at the NIF without ignition. In response to this flip-flop, Congress cut $25 million from the request for the Inertial Confinement Fusion, Ignition, and High Yield Campaign. This year, NNSA drastically cut back funding for other Inertial Confinement Fusion (ICF) programs and facilities in favor of funding for NIF and ignition. About $373 million of the $460 million budget request for the campaign this year is NIF-related (see table 4). NNSA plans to provide Congress a revised NIF Activation and Early Use Plan by June 30, 2005. According to the budget, this plan will reaffirm that ignition is the highest priority activity for NIF and will delay experiments in other areas of high energy density weapons science. Thus, in one year, NNSA has flip-flopped twice between claims that achieving ignition is the key goal for NIF and that NIF is an

Table 4 -- Funding For ICF Ignition and High Yield Campaign (dollars in millions)

Program Sub-Element	FY 2005 Comparable	FY 2006 Request	FY 2006 Curatorship
Ignition	69	76	0
NIF Diagnostics, Cryogenics, and Experimental Support	49	43	20
NIF Demonstration Program	95	112	40
NIF Construction	129	142	53
Subtotal NIF-Related	342	373	113
Other ICF Programs and Facilities	194	87	87
Campaign Total	**536**	**460**	**200**

essential tool for Stockpile Stewardship, even without ignition. We believe that last year's proposed delay in reaching the goal for ignition was an admission of the problems in achieving that goal. We doubt that NNSA can ever reach ignition at the NIF. Furthermore, while NIF might be of some incremental value in improving the codes NNSA uses to design nuclear weapons (with or without ignition), those codes need no improvement unless NNSA plans to design new nuclear weapons. The NIF is superfluous to a Curatorship approach to maintaining the nuclear weapons stockpile. **We recommend that Congress provide no more than $200 million for the Inertial Confinement Fusion, Ignition, and High Yield Campaign in 2006 and that NNSA drop the unachievable goal of ignition and cancel or drastically scale back the NIF project.**

The Science Campaign and Enhanced Test Readiness -- The Science campaign is actually five separate campaigns (subprograms), which are grouped together so NNSA can move money between them without asking for permission from Congress. Four of the five subprograms focus on improving NNSA's understanding of physical properties and processes relevant to the performance of nuclear weapons. NNSA incorporates this information into computer codes to improve its predictive capability for nuclear weapons. There is no need to improve those codes except to support the design of new nuclear weapons. We recommend substantial cuts in those programs under the Curatorship approach. The fifth subprogram in the Science Campaign is called Enhanced Test Readiness.

The **Enhanced Test Readiness Program** is intended to improve NNSA's ability to perform a full-scale underground test of a nuclear weapon, should weapons designers determine that their codes are not sufficient to predict the performance of a new or modified design. The United States has signed, but not ratified, the Comprehensive Test Ban Treaty, which prohibits the full-scale testing of nuclear weapons. Neither the United States, nor any of the other four original nuclear weapons states, has performed a full-scale nuclear weapons test in more than a decade. Nevertheless, the Bush Administration continues to design new nuclear weapons and to pave the way for testing them. A resumption of nuclear testing by the United States would lead other nations to resume testing and would be disastrous for non-proliferation efforts.

The Budget requests $25 million, within the Science Campaign, for Enhanced Test Readiness in 2006. According to the NNSA, it would currently need 24 to 36 months notice to conduct an underground nuclear test. NNSA plans to reduce that time to 24 months by the end of 2005 and 18 months by the end of 2006. The funding in this campaign is only a portion of the total funding that maintains NNSA's readiness to test nuclear weapons. The budget includes $124 million for the Nevada Test Site (NTS) under the Readiness in Technical Base and Facilities Program and a total of $377 million for the NTS in the entire Nuclear Weapons budget. Since all of the nuclear weapons in the existing stockpile were extensively tested, there is no need to maintain a testing capability, unless the NNSA plans to develop a completely a new nuclear weapon. **We recommend that Congress limit funding for the Science Campaign to $100 million, prohibit any funding for the Enhanced Test Readiness Program, and limit funding for Test Site Readiness within RTBF (see below) to $50 million.**

READINESS IN TECHNICAL BASE AND FACILITIES (RTBF)

The Readiness in Technical Base and Facilities (RTBF) program supports the base operations of the laboratories and production sites in the NNSA weapons complex. Most of the funding for RTBF is directed to specific sites. The Members of Congress who represent states or districts that contain

NNSA facilities routinely add pork barrel spending for their sites to the RTBF budget. Last year Congress added $196 million to the $1.6 billion budget request for RTBF. This year, NNSA is again requesting $1.6 billion for RTBF. While less than the porked-up 2005 level (after Congressional adds and comparability adjustments), it is still 18% higher than RTBF funding as recently as 2002. The request for RTBF supports a bloated infrastructure for research and development, testing, and production of new weapons and components, much of which is not needed under the Curatorship approach. As noted above, the request for RTBF includes $124 million to maintain the readiness of the Nevada Test Site for nuclear weapons tests. **We recommend that Congress provide no more than $1,340 million for RTBF, which is a reduction of 25 percent from the comparable 2005 funding level, and that it limit funding for the Nevada Test Site within RTBF to $50 million.**

OTHER PROGRAMS

Facilities and Infrastructure Recapitalization Program (FIRP) -- This is a relatively new initiative to fund improvements to the weapons complex facilities. FIRP and RTBF both fund weapon's complex infrastructure. The major difference is that FIRP is targeted to infrastructure improvements, while RTBF supposedly supports ongoing activities. However, the distinction between the two is unclear, as the 2006 request for RTBF includes $243 million to build new facilities.

The $283 million request for FIRP includes $45 million for disposition of facilities that NNSA no longer needs. We support NNSA's desire to dispose of outdated facilities. Much of the nuclear weapons complex is still sized for Cold War production levels. The NNSA can save millions of dollars in overhead costs by modernizing and reducing the size of the complex. However, in some cases, NNSA plans to retain the older facilities after it builds replacements under the FIRP. **We recommend that Congress limit spending on FIRP to $250 million and that it funds only those projects that replace existing facilities with smaller, more modern versions of the old facilities.**

Weapons and Materials Transportation -- NNSA is requesting $212 million for 2006 to transport nuclear weapons and materials. That is more than one-fifth the amount that the Greyhound bus line spends each year transporting people. According to the budget, workload requirements for this program will escalate significantly in 2006 and beyond to support the dismantlement and maintenance schedule for the nuclear weapons stockpile and the Secretarial initiative to consolidate the storage of nuclear material. NNSA plans to increase the annual number of "secure convoys" from 90 in 2004 to 150 by 2009. They are expanding the transport fleet from 31 "Safeguard Transporters (SGT)" in 2004 to 51 by 2011. They also plan to increase the agent end-strength from approximately 280 agents now to 420 agents by the end of FY 2008. **We recommend that Congress provide the NNSA with its full request for transportation, so NNSA will not be able to claim a lack of adequate transportation assets as an excuse to delay dismantlement of warheads or consolidation of nuclear materials at fewer sites.**

Nuclear Weapons Incident Response -- This program provides funding for emergency management and radiological emergency response. NNSA experts train for and respond to nuclear and radiological incidents worldwide in an attempt to mitigate consequences that may occur. NNSA funds and maintains nuclear weapons incident response capabilities, but in an actual emergency, the Department of Homeland Security may assume control and direction of the emergency response teams. The budget requests $199 million for NNSA's nuclear weapons incident response program,

an increase of $11 million (10.2 percent) over comparable 2005 activities. **We recommend funding Nuclear Weapons Incident Response at the level requested by NNSA.**

Environmental Projects and Operations -- The budget proposes that beginning in FY 2006, NNSA should assume responsibility from DOE's Office of Environmental Management (EM) to manage the remaining environmental legacy of the Cold War at most NNSA Sites. This includes environmental restoration, legacy waste management and disposition, and decontamination and decommissioning activities. DOE created the Office of Environmental Management, nearly twenty years ago, in response to concern that environmental cleanup did not receive sufficient priority in an organization whose primary mission was the development of nuclear weapons. That concern has not diminished. Nevertheless, DOE proposes to return the responsibility for cleaning up its sites to the NNSA. That is a bad idea. We remain concerned that cleanup activities will have difficulty competing for funds within NNSA. We are also concerned that NNSA may not enforce the same standards for cleaning up that the EM organization requires. The budget states that NNSA "will execute its clean-up and waste disposition projects in a cost effective, compliant and safe manner, **consistent with end states that support the nuclear weapons complex mission** [emphasis added]." The last phrase of that sentence implies that the cleanup at NNSA sites may be to a lesser standard than similar projects at sites that no longer support the nuclear weapons complex mission. That is unacceptable. **We recommend that Congress keep the responsibility for cleaning up all of DOE's sites in the Office of Environmental Management.**

Safeguards and Security -- The budget requests $740 million for Safeguards and Security within the NNSA weapons complex; a decrease of $12 million (1.6 percent) from 2005. The reduction is feasible, since this is the last year of a three-year program for all NNSA sites to come into compliance with security requirements that were upgraded in 2004. Funding for Safeguards and Security remains 27% above the 2004 level. **We recommend funding Safeguards and Security at the level requested by NNSA.**

CONCLUSION

In a year when many agencies are seeing large cuts in their budgets, including the Department of Energy (DOE), DOE's National Nuclear Security Administration (NNSA) continues its upward march to one and one-half times the average spending level on nuclear weapons during the Cold War. NNSA uses those funds to support a vast complex in seven states in which it conducts a one-nation arms race to upgrade U.S. nuclear weapons and capabilities. The NNSA plans to rebuild every weapon in the stockpile and install new components to make weapons lighter, more rugged, more resistant to radiation, to improve the consistency of their explosive yield, to add new yield options, to change the height of explosive detonation, to conserve tritium, or to improve the accuracy of delivery. In addition, the NNSA wants to design a new nuclear weapon, the Robust Nuclear Earth Penetrator, with a new war fighting capability -- the ability to thrust itself into the earth before exploding and attack targets that are deep underground. The Administration also wants to make it easier to conduct a full-scale nuclear weapons test, by reducing the time it would need to prepare for such a test.

Beyond being an appalling waste of Federal funds, this massive nuclear weapons development effort belies commitments the United States has made under the nuclear Non-Proliferation Treaty (NPT) toward the total elimination of nuclear weapons. The Administration's actions directly contradict its efforts to convince potential nuclear weapons proliferators that there is nothing to be gained in

developing nuclear weapons. The Bush Administration's approach to nuclear weapons diminishes our national security rather than improving it.

Instead of this bloated, counterproductive approach to maintaining our nation's nuclear deterrent, which the Administration calls "Stockpile Stewardship," we are proposing policy changes for a "Curatorship" approach to nuclear weapons. Under Curatorship, the United States would maintain a portion of its existing nuclear stockpile for the time being, but would refrain from upgrading its nuclear weapons or design capabilities. Our proposed Curatorship budget would cut $2.0 billion (30 percent) from the Administration's $6.6 billion request for Stockpile Stewardship. And, perhaps even more importantly, it would support efforts to limit nuclear weapons proliferation.

In addition to identifying $2.0 billion in budget savings, our specific program recommendations include:

- Closing out the so-called "Life Extension Programs," which upgrade nuclear weapons that are nowhere near the ends of their lives;
- Canceling the Robust Nuclear Earth Penetrator;
- Canceling the Reliable Replacement Warhead Program;
- Eliminating all new weapon design activities, including concept assessments and feasibility studies, and all general R&D on nuclear weapons, unless it is needed to fix a problem in existing warheads;
- Doubling funds to safely dismantle retired warheads;
- Canceling the Modern Pit Facility;
- Dropping the unachievable goal of ignition at the NIF and canceling or drastically scaling back the project;
- Prohibiting funding for the Enhanced Test Readiness Program;
- Limiting new infrastructure projects to those that replace existing facilities; and
- Keeping the responsibility for cleaning up all of DOE's sites in the Office of Environmental Management.