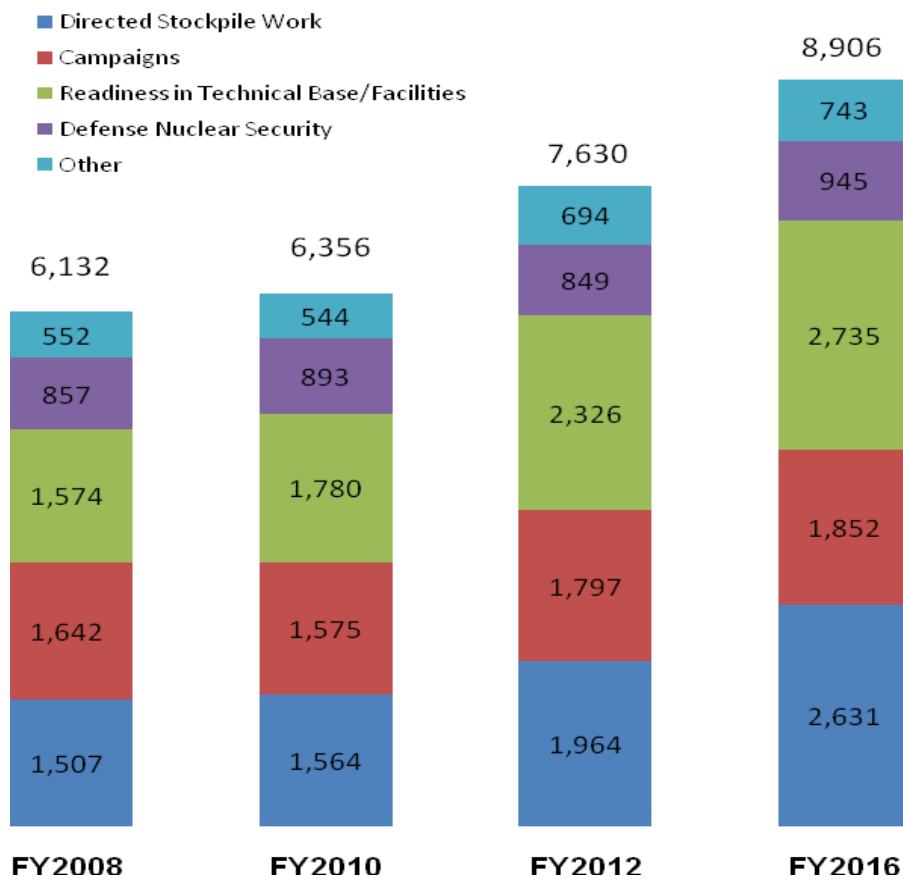


**THE NATIONAL NUCLEAR SECURITY ADMINISTRATION'S
FISCAL YEAR 2012 BUDGET REQUEST
FOR NUCLEAR WEAPONS ACTIVITIES:**

***RECOMMENDATIONS FOR
SAVING AND REDIRECTING FUNDS***

Funding for Nuclear Weapons Activities

Dollars in Millions (1,000 million = 1 billion)



Potential Savings in FY 2012 = \$1.15 billion

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INTRODUCTION

On February 14, 2011, the Department of Energy (DOE) released its budget request for fiscal year 2012, including the budget for the National Nuclear Security Administration (NNSA), a semi-independent agency within DOE that maintains the U.S. nuclear weapons complex and the stockpile. Contrary to standard procedures, the size of the nuclear weapons budget was determined months earlier in a political deal between President Obama and hawkish Republicans, led by Senator Jon Kyl of Arizona. That deal came about as President Obama tried to garner Republican support for Senate ratification of the New START arms control treaty with Russia. In May 2010, concurrent with submitting the treaty to the Senate for its advice and consent, President Obama pledged to increase spending on NNSA's nuclear weapons programs by 10 percent in FY2012 to \$7.0 billion. That was insufficient to gain Sen. Kyl's support and, in November, the President upped the ante to \$7.6 billion. This extraordinary approach to funding for nuclear weapons bypassed the fiscal scrutiny of the normal budget process coordinated for the President by the White House Office of Management and Budget (OMB).

While the Senate did ratify the treaty, Sen. Kyl was not among those voting in favor of it. Nevertheless, President Obama kept his side of the bargain and requested \$7.63 billion for NNSA's nuclear weapons programs for FY 2012 – a 20 percent increase over FY 2010 -- the most recent year for which Congress has completed action.

As one might expect from a politically driven budget such as this, it is terribly wasteful. The bloated funding request is more than \$1 billion in excess of that needed to keep U.S. nuclear weapons safe, secure, and reliable using the same "Stockpile Stewardship" approach that has been used for the past two decades. This report summarizes the request and identifies several programs that the Congress could shrink without impairing that undertaking. If NNSA adopted a fundamentally different approach to maintaining the stockpile, called "Stockpile Curatorship," it could reduce spending by \$3 billion or more, without harming U.S. security. Curatorship refers to an engineering-based, surveillance and maintenance program, under which NNSA would replace nuclear weapons parts only when necessary to preserve their original performance. That approach is described in Transforming the U.S. Strategic Posture and Weapons Complex for Transition to a Nuclear Weapons-Free World on the web at <http://www.trivalleycares.org/new/reports/NWeapPosture=ComplexFNL.pdf>.

BUDGET OVERVIEW

The budget requests \$7.63 billion for the Weapons Activities of the NNSA – an increase of \$1.27 billion over the 2010 appropriation after adjusting for the transfer of facilities for converting plutonium pits into nuclear fuel out of the weapons program. Even though the U.S. stockpile contains only one-fifth as many warheads as it used to, the 2012 request is the largest ever for Weapons Activities. After accounting for inflation, the \$7.63 billion request is 21 percent more than Ronald Reagan's largest nuclear weapons budget and 19 percent more than President George H.W. Bush's highest spending level. That those Republican Presidents were comfortable with much lower spending to maintain a much larger nuclear stockpile is a clear indication of the excess in this year's request.

The outyear budget calls for annual increases of 4 percent/year for Weapons Activities, bringing the 2016 request to \$8.9 billion. Those outyear numbers are right out of the "1251 Report" that the President sent to Congress in Nov. 2010 to garner Sen. Kyl's support for the New START treaty. To mask the large increases to the DOE budget, the Administration plans to shift \$2.2 billion from the

Defense Department’s Research, Development, Testing, and Evaluation (RDT&E) account to DOE’s Nuclear Weapons Activities account between 2013 and 2016.

As shown in Tables 1 and 2, the budget includes increases for each of the major spending programs and for all of the laboratories and production facilities that constitute the nuclear weapons complex.

<u>Program</u>	Appropriated FY2008	Appropriated FY2010	Request FY2012	Request FY2016
Directed Stockpile Work	1,507	1,564	1,964	2,631
<i>Life Extension Programs</i>	247	232	481	687
Campaigns	1,642	1,575	1,797	1,852
<i>ICF Campaign</i>	470	457	476	495
Readiness in Technical Base/Facilities	1,574	1,780	2,326	2,735
<i>Operation of Facilities</i>	1,152	1,336	1,485	1,699
<i>RTBF Construction</i>	224	254	621	778
Defense Nuclear Security	857	893	849	945
Other*	<u>552</u>	<u>544</u>	<u>694</u>	<u>743</u>
TOTAL	6,132	6,356	7,630	8,906

*Includes: Weapons Transportation, Incident Response, Infrastructure Recapitalization, Site Stewardship, National Security Applications, Congressionally Directed Projects, and unobligated balances.

RECOMMENDATIONS FOR PROGRAMS TO REDUCE OR ELIMINATE

Life Extension Programs

The budget requests \$481million (an increase of 107 percent) for so-called “Life Extension Programs (LEPs).” NNSA periodically conducts LEPs for seven types of nuclear weapons, which the Nuclear Weapons Council plans to keep in the enduring stockpile. Life extension is a misnomer for a nearly complete rebuild and upgrade of a warhead system that is nowhere near the end of its life. In a typical LEP, NNSA makes hundreds of changes to the weapon, adding new components and modifying its military characteristics. The direct budget request for LEPs is only the tip of the iceberg. Funding to support LEPs and other upgrades to nuclear weapons is buried throughout the Directed Stockpile Work line of the budget, for which the budget requests nearly \$2 billion -- an increase of 26 percent. Additional funds are included in the Readiness Campaign, the Science Campaign, and elsewhere. Indeed NNSA claims its Campaigns (see below) provide a “broad range of options for future LEPs.”

NNSA is about half way through a LEP on the submarine-launched W76 warhead, which will cost over \$4 billion. Among the changes to the W76, NNSA has been adding a new Arming, Fuzing & Firing (AF&F) system, with a ground burst capability that is more destructive of buried targets than the previous air burst firing system. NNSA is also fitting the warhead to a new reentry body for placement on the D5 missile, which has much greater accuracy than the previous delivery vehicle. The FY2012 budget requests \$257 million for the W76 LEP to support the production rate specified in the 2009 Requirements and Planning Document, which was approved before the New START treaty was

negotiated. Under that plan, NNSA was to rebuild as many as 1,200 W76s by 2017. However, under New START, the U.S. will deploy only 1,070 submarine warheads, including as many as 400 of the more powerful W88 warheads. Some W76s are to be retained in reserve. However, the budget keeps NNSA on a pace to upgrade many more W76 warheads than is called for under New START. Furthermore, we question the need for much of the upgrade. ***We recommend reducing funds for the W76 LEP by at least \$150 million, slowing the pace of the program, and preventing NNSA from making unnecessary changes to W76 warheads, especially those that might soon be retired.***

Table 2
NUCLEAR WEAPONS FUNDING BY LABORATORY AND PRODUCTION FACILITY
(Dollars in Millions)

<u>Site</u>	<u>2010 Appropriated</u>	<u>2012 Request</u>	<u>Percent Increase</u>
Los Alamos National Laboratory	1,334	1,594	19.5%
Sandia National Laboratory	989	1,239	25.3%
Lawrence Livermore National Lab.	999	1,091	9.2%
Y-12 Production Plant	674	831	23.3%
Kansas City Production Plant*	431	545	26.5%
Pantex Assembly Plant	555	645	16.1%
Washington Headquarters**	202	563	178.7%
Other Sites	<u>1,172</u>	<u>1,122</u>	<u>-4.2%</u>
TOTAL	6,356	7,630	20.0%

* Omits funds to build a new home for the Kansas City Plant.
** Funds for Headquarters will be distributed to the sites over the course of the year, further augmenting the site-by-site increases.

In addition to the W76 LEP, the 2012 budget requests funds for Development Engineering on a new LEP for the B61 family of bombs. The B61 comes in both strategic and tactical variants, including about 180 tactical B61 bombs currently based in Europe. Many European leaders are calling for their removal. Consequently, the European-based B61s may all be retired before or soon after the LEP is completed. NNSA plans to complete a full scope (nuclear and non-nuclear component) life extension study of the B61 and to begin production in 2017. NNSA plans to modify the B61 to enhance its margin against failure, while increasing safety and improving security and use control. Those changes could require modifications to the plutonium pits, which are the cores of the existing weapons, as well as the highly enriched uranium (HEU) secondaries. Yet, NNSA has not demonstrated that any of those changes are necessary. NNSA's own studies, supported by the JASON, a prestigious advisory panel on defense issues, have concluded that the plutonium and uranium parts of those weapons will last for at least another 60 years, without degradation. Some other parts do wear out and need to be replaced. Such replacements are an ongoing part of NNSA's Stockpile Systems program in which it spent \$114 million on the B61 in 2010. The budget proposes spending \$224 million on the B61 LEP in 2012 in addition to its \$72 request for B61 Stockpile Systems, for a total of \$296 million. The total increases to nearly \$500 million 2016. ***We recommend pausing the B61 LEP and rescoping it to exclude changes to plutonium or HEU parts; to change other components only if necessary to maintain the bombs at***

their current level of safety, security, and reliability; and to reduce the number of bombs modified in view of the potential removal of warheads from Europe. Such changes would allow saving at least \$180 million from the request for the B61 in 2012.

The FY 2012 budget also includes \$51 million to begin Phase 6.2/2A of a Life Extension Study for the W78 warhead, currently on Minuteman missiles. NNSA is considering using that LEP to develop a substitute for both the W78 and the submarine-launched ballistic missile (SLBM) W88 warhead. The changes that entail would go far beyond anything that NNSA has already done under the Life Extension Program and would be, in effect, a new warhead. Congress voted to reject development of new warheads when it denied funding for the Reliable Replacement Warhead (RRW) Program in 2008. NNSA should fully inform the Congress of its plans and obtain specific authorization from the Congress before it begins down a path that could lead to development of a new warhead. ***We recommend saving \$50 million by suspending the W78 LEP study, until NNSA has better informed Congress of its plans and the potential for development of a new warhead.***

The Chemistry and Metallurgy Research Facility Replacement – Nuclear Facility

The Nuclear Facility of the Chemistry and Metallurgy Research Building Replacement Project (CMRR-NF) at Los Alamos National Laboratory (LANL) is the third phase of a major project to replace plutonium-testing operations and expand pit production capabilities there. NNSA estimates the Nuclear Facility alone will cost \$3.7-5.9 billion. The FY2012 request for CMRR-NF is \$300 million -- more than three times the \$97 million appropriated for the project for 2010. The budget requests an additional \$1.35 billion for CMRR-NF for 2013-2016. The schedule calls for completing 90 percent of the design in 2012 and beginning construction in 2013. The facility is not scheduled to reach full operations until 2023, by which time it will be grossly oversized for supporting the weapons stockpile, which will likely be much smaller than it is today.

The main plutonium facilities at LANL are located in Technical Area 55 (TA-55). TA-55 has been extensively upgraded since it was built, with the most recent project completed in 2009. NNSA has the capacity to build 20 plutonium pits for nuclear weapons per year at that facility, which is sufficient. The 2012 budget includes \$19 million for the next series of upgrades to TA-55, which NNSA estimates it will complete in 2016 at a cost of \$100 million. The budget also includes \$74 million in 2015 and 2016 to begin a more extensive upgrade to TA-55, but it has no detailed information on that project. In addition, the budget includes \$30 million to complete a new Radiological Laboratory/Utility/Office Building (RLUOB) in 2012, at a total cost of \$363 million. That facility will also support plutonium operations. If NNSA were to minimize changes to the nuclear packages of existing nuclear weapons and size its plutonium capabilities to the stockpile projected to result from the New START treaty, it could cancel the CMRR-NF and accommodate all plutonium operations in TA-55 and the RLUOB. ***We recommend cutting \$250 million from the request for CMRR-NF and using the remaining funds to plan for a much smaller facility or prepare for additional upgrades to existing facilities if necessary to satisfy safety and security requirements.***

The Uranium Processing Facility

The budget requests \$160 million -- an increase of 70% -- to continue the design of a Uranium Processing Facility (UPF) at the Y-12 plant in Oak Ridge, TN. The budget requests an additional \$1.24 billion for UPF for 2013-2016 to complete the design and begin construction in 2014. In the past year, NNSA's estimate of the cost of the design alone has increased by more than 50 percent, from \$351 million to \$529 million. NNSA estimates the total cost of the project, which it expects to finish in 2024,

will be \$4.2-6.5 billion. NNSA wants to build the UPF to house all existing enriched uranium operations at Y-12, except for long-term storage.

As is the case with the CMRR-NF, NNSA's plan for the UPF does not fully account for anticipated reductions in the size of the nuclear weapons stockpile by the time the facility is projected to begin operations. The UPF is much larger than necessary and it might not be needed at all. NNSA could consolidate most, if not all, enriched uranium operations to support a smaller stockpile into the recently completed Highly Enriched Uranium Materials Facility (HEUMF) at Y-12. NNSA could continue operating other existing facilities until all operations can be accommodated within the HEUMF or build a much smaller UPF that could begin operating sooner. NNSA is completing the design of upgrades to buildings 9212 and 9204-2E that will be completed in 2016 at an estimated cost of \$76 million. Those buildings house operations that NNSA plans to move to the new UPF when it is completed. ***We recommend cutting \$100 million from the request for UPF and using the remaining funds to plan for a much smaller facility or prepare to upgrade existing facilities if necessary to satisfy safety and security requirements.***

The Inertial Confinement Fusion Campaign and the National Ignition Facility

In the Inertial Confinement Fusion (ICF) Ignition and High Yield Campaign, NNSA experiments with materials under extremely high temperatures and pressures, which approach those found in a nuclear explosion. Results from some of these experiments can help improve the computer codes used to predict the behavior of nuclear weapons. Experiments are conducted at the Omega Laser at the University of Rochester, the Z-machine, a pulsed power facility at Sandia National Laboratory, and the National Ignition Facility (NIF) at the Lawrence Livermore National Laboratory. The NIF, which began operating in 2009, is the world's largest and most powerful laser. NNSA spends about three-fourths of the funds for this Campaign in support of the NIF.

NIF is a prime example of an unnecessary new scientific capability, which NNSA insists is essential to support nuclear weapons. We question whether the marginal contribution that the ICF program, and NIF in particular, might make to improve the understanding of exploding nuclear weapons justifies the huge cost of this program. Clearly, it is not essential for maintaining the U.S. arsenal, since NNSA has been doing fine without it for nearly 70 years. NNSA's capability for modeling nuclear weapons today is vastly superior to what it was even ten years ago and NIF has not made any significant contribution to that capability. The budget requests \$476 million for the ICF Campaign for 2012 – an increase of four percent over 2010 – and \$2.4 billion over the next five years. Nearly all of the funding in the ICF Campaign goes to develop new capabilities and support operation of the large machines. Actual experiments that relate to the stockpile are supported with a small amount of money from the Science Campaign, which the budget does not identify separately.

Recently, NNSA has been touting the potential for NIF to contribute to basic science, including astrophysics, and to a vision of green energy based on inertial fusion. However, the bulk of its costs are still borne by NNSA. ***We recommend reducing the budget for the ICF Campaign by \$300 million and either transferring the NIF to DOE's Office of Science or another agency or shutting it down.***

Other Campaigns

In addition to the ICF Campaign, the budget identifies funding for: a Science Campaign, an Engineering Campaign, an Advanced Simulation and Computing Campaign, and a Readiness Campaign. The budget requests \$1.32 billion for those four Campaigns for 2012 – an increase of 18 percent over 2010. NNSA funds scientific and engineering activities in direct support of the nuclear weapons stockpile, including

analyses and certification of changes to nuclear weapons, through the Directed Stockpile Work program. In contrast, work funded through the Campaigns indirectly supports the stockpile. The Campaigns primarily maintain NNSA's scientific and engineering base and expand its capabilities in relevant technical topics. Most activities within the Campaigns are intended to help improve the computer codes that NNSA uses to predict the performance of nuclear weapons and components. NNSA manages those activities using a Predictive Capability Framework (PCF), which identifies specific advances and expected time scales to improve its modeling of nuclear weapons.

We question why NNSA needs to accelerate spending to hasten refinements in its modeling of nuclear weapons. However, we acknowledge that the Campaigns help NNSA maintain scientific and engineering expertise in support of the stockpile. ***We recommend freezing the budget for these four Campaigns at the 2010 funding level, which would be a reduction of \$200 million from the Administration's request.***

Readiness in Technical Base and Facilities – Operation of Facilities

NNSA funds the activities needed to maintain its facilities in a state of readiness to execute programmatic work through the Operation of Facilities item in the Readiness in Technical Base and Facilities line. The budget requests \$1.485 billion for Operation of Facilities in 2012 – an increase of 11 percent over 2010 and 29 percent over 2008. NNSA claims that it needs this large increase because its infrastructure has been chronically underfunded. This claim persists even after Congress has provided over \$1.5 billion in funding over the past eight years for a Facilities and Infrastructure Recapitalization Program. Moreover, the weapons complex should be shrinking in size as the number of nuclear weapons supported declines. We believe the increase in this budget line is excessive and directly results from the political deal making that set the top line funding for this year's budget. ***We recommend freezing the budget for Operation of Facilities at the 2010 funding level, which is still 16 percent higher than it was under in 2008, under George Bush's Administration. That would be a reduction of \$150 million from the Administration's request.***

National Security Applications

NNSA performs about \$1.3 billion worth of work for other agencies at its facilities. By and large, the agencies that request such work pay the full cost of the activity. However, in the Supplemental Appropriations Act of 2009 (better known as the stimulus bill), Congress provided \$30 million to subsidize work done for other national security agencies, primarily the intelligence community and the Defense Threat Reduction Agency, at DOE facilities. Congress placed the original funding in a budget line called Science, Technology, and Engineering Capability. This year's budget requests \$20 million to continue the subsidy in 2012 and renames it "National Security Applications." Other agencies should pay the full cost of their work at the DOE facilities. ***We recommend eliminating this subsidy for a savings of \$20 million.***

RECOMMENDATION FOR PROGRAMS TO INCREASE

Weapons Dismantlement and Disposition

The 2012 request for Weapons Dismantlement and Disposition is \$57 million – a decrease of 41 percent from 2010. The budget states that the number of dismantlements may decrease, because they will be working on "more challenging systems" this year. We believe that addressing systems that are more challenging is a reason to increase funding, rather than reduce the number of warheads dismantled. ***We recommend adding \$50 million to the request for dismantlement, which would represent an increase of 11 percent from 2010.***

The Kansas City Plant

Construction has begun on a new facility to replace the Kansas City Plant (KCP), where NNSA manufactures most non nuclear components, with a new facility 10 miles from the current site. Construction of the new facility is estimated to cost \$700 million, not including most of the specialized equipment. Funding for some equipment is included in the budget, but NNSA has not requested any funds for construction of the facility. Instead, NNSA has arranged for the private sector to build the plant and has agreed to lease it for 20 years at a cost of \$1.2 billion. The 20-year lease is a firm commitment by the Federal Government, but NNSA has no appropriated funds for the purpose as is required by law. The lease payments will appear in future budgets after NNSA occupies the plant.

We question the need for the new facility. Moreover, NNSA's commitment to the plant, without having appropriated funds for its construction, violates the U.S. Anti-Deficiency Act (31 U.S.C. § 1341), which was enacted by Congress to prevent the incurring of obligations in excess of amounts available in appropriated funds. Congress has three options to bring NNSA into compliance with the Anti-Deficiency Act. Congress could:

- A. Require NNSA to withdraw from its contract to lease the new facility and remain in its existing facility.
- B. Require NNSA to withdraw from its contract to lease the new facility and assume responsibility for completing the facility.
- C. Appropriate funds in advance to cover the 20-year rental agreement.

Each of those options requires additional funds in FY2012 to comply with the law.

We recommend option A, as we believe a new facility is not justified. NNSA would have to pay cancellation costs, which we estimate may be about \$200 million. However, remaining in the existing Kansas City Plant, until it is no longer needed to support a shrinking nuclear weapons stockpile, is the most cost effective option for this year's budget and in the long run. Option B would require construction costs in addition to the cancellation costs and Option C would require appropriating at least \$1.2 billion to cover the cost of the 20-year lease.

SUMMARY OF RECOMMENDATIONS

The following table summarizes the impact on the budget of the changes we recommend to NNSA's 2012 Weapons Activity request. Those changes would save more than \$1 billion, without sacrificing the safety, security, or reliability of the nuclear weapons stockpile.

Table 3

<u>Program</u>	<u>Change in 2012 Funding</u> (Dollars in millions)
W76 Life Extension Program	-150
B61 Life Extension Program	-180
W78 Life Extension Program	-50
Chemistry and Metallurgy Research Replacement – Nuclear Facility	-250
Uranium Processing Facility	-100
Inertial Confinement Fusion Campaign/National Ignition Facility	-300
Other Campaigns	-200
Readiness in Technical Base and Facilities – Operation of Facilities	-150
National Security Applications	-20
Weapons Dismantlement and Disposition	+50
The Kansas City Plant	<u>+200</u>
TOTAL	-1,150