



Department of Energy

Washington, DC 20585

MAY 05 2010

The Honorable Ike Skelton
Chairman
Committee on Armed Services
U. S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

This letter is to notify you of the Department of Energy's (DOE) intent to pursue the nuclear portion of the B61 life extension study, consistent with the Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85), and to reprogram funding in the amount of \$53,657,125.

The National Nuclear Security Administration (NNSA) has determined that a reprogramming is necessary to redirect resources to enable the assessment of B61 nuclear and non-nuclear life extension options and for the maturation of associated nuclear and non-nuclear technologies. The reprogramming supports the United States efforts to deploy a safe, secure, and effective B61 bomb as called for by the President and as reflected in the Nuclear Posture Review (NPR). The "Phase 6.2/6.2A study" is an essential precursor to meeting the B61 FY 2017 First Production Unit requirement, as specified by the Nuclear Weapons Council.

The funding being reprogrammed to support the assessment of options and associated costs is \$39,574,372. The study will assess design concepts that address near-term components expirations, improved aircraft compatibility, and options to address nuclear explosive package aging and incorporation of enhanced surety technologies. The study will be conducted primarily at Los Alamos National Laboratory and Sandia National Laboratories, and is planned to conclude in September 2011. The remaining \$14,082,753 will replace Stockpile Systems funding reallocated earlier to ensure the continuation of the B61 non-nuclear portion to the life extension study, consistent with the guidance contained in the Energy and Water Development and Related Agencies Appropriations Act, 2010 (P.L. 111-85). This funding for the surveillance and maintenance program would ensure the reliability of operationally deployed weapons, and provide valuable data on aging and other issues to the B61 study.



Two enclosures are provided: Enclosure 1 is a table that details the funding requirements and the sources for the reprogramming and Enclosure 2 is a narrative justification in support of the funding requirements.

Should you have any questions or need additional information concerning this matter, please have your staff contact Ms. Kathy Peery in the Office of Congressional and Intergovernmental Affairs, at (202) 586-2794, or Ms. Tara Hicks of the External Coordination Staff in the Office of the Chief Financial Officer, at (202) 586-7487.

Sincerely,



Steve Isakowitz
Chief Financial Officer

Enclosures

cc: The Honorable Howard P. McKeon
Ranking Member

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U.S. Department of Energy
National Nuclear Security Administration
Weapons Activities Appropriation
FY 2010 Reprogramming
(in Whole Dollars)

Total Obligational Authority ^a	Changes	Revised Obligational Authority
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REQUIREMENTS:**Directed Stockpile Work**

Stockpile Systems

B61 Stockpile Systems (Phase 6.2/2A Study)	47,500,000	+10,000,000	57,500,000
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Stockpile Systems (Other than B61 Stockpile Systems)	313,618,717	+14,082,753	327,701,470
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Stockpile Services	829,408,860	+22,650,554	852,059,414
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Subtotal, Directed Stockpile Work		+46,733,307	
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Readiness Campaign

Non-Nuclear Readiness	12,714,996	+6,923,818	19,638,814
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TOTAL, REQUIREMENTS

		53,657,125	
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SOURCES:**Directed Stockpile Work**

Life Extension Program	232,758,300	-1,070,898 ^{bcd}	231,687,402
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Weapons Dismantlement and Disposition	96,111,382	-336,703 ^{bcd}	95,774,679
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Reliable Replacement Warhead	1	-1,694 ^{cd}	-1,693
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Subtotal, Directed Stockpile Work		-1,409,295	
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^a Total obligational authority as reflected in the latest Approved Congressional Base Table of December 31, 2009.

^b Includes funding derived from unearned fee.

^c Includes funding derived from deobligation of prior year uncosted balances.

^d Includes funding derived from unobligated carryover balances.

Total Obligational Authority ^a	Changes	Revised Obligational Authority
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Campaigns

Science Campaign

Primary Assessment Technologies	83,181,010	-342,637 ^c	82,838,373
Dynamic Materials Properties	86,660,633	-245,756 ^{bc}	86,414,877
Advanced Radiography	28,548,825	-45,530 ^c	28,503,295
Secondary Assessment Technologies	77,913,000	-332,387 ^{bc}	77,580,613
Test Readiness	0	-17,018 ^{bc}	-17,018
Advanced Certification	19,400,000	-131,253	19,268,747
Dynamic Plutonium Experiments	452	-76,566 ^{bc}	-76,114

Engineering Campaign

Enhanced Surety	42,000,000	-72,033 ^c	41,927,967
Weapons Systems Engineering Assessment Technology	18,000,000	-23,142 ^{bc}	17,976,858
Nuclear Survivability	21,143,000	-19,756 ^c	21,123,244
Enhanced Surveillance	69,000,000	-205,504 ^c	68,794,496

Inertial Confinement Fusion and High Yield Campaign

Ignition	106,734,000	-159,165 ^c	106,574,835
Support of Stockpile Programs	0	-21 ^{bc}	-21
NIF Diagnostics, Cryogenics, and Experiment Support	72,252,000	-108,582 ^{bc}	72,143,418
Pulsed Power Inertial Confinement Fusion	5,000,000	-8,439 ^{bc}	4,991,561
University Grants/Other Support	0	-249 ^{bc}	-249
Facility Operations and Target Production	269,929,000	-154,547 ^{bc}	269,774,453
Inertial Fusion Technology	0	-3,398 ^{bc}	-3,398

^a Total obligational authority as reflected in the latest Approved Congressional Base Table of December 31, 2009.

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^c Includes funding derived from deobligation of prior year uncosted balances."

	Total Obligational Authority ^a	Changes	Revised Obligational Authority
NIF Assembly & Installation	0	-42,597 ^{bc}	-42,597
High-Energy Petawatt laser	0	-236 ^{bc}	-236
Advanced Simulation and Computing	568,003,527	-1,555,846 ^b	566,447,681
Pit Manufacturing and Certification			
Pit Manufacturing	0	-15,799 ^{bc}	-15,799
Pit Certification	1,357	-12,220 ^{bc}	-10,863
Pit Manufacturing Capability	12,595	-22,224 ^{bc}	-9,629
Readiness Campaign			
Advanced Design and Production Technologies	8,784,001	-79,927 ^{bc}	8,704,074
Stockpile Readiness	5,746,061	-76,258 ^b	5,669,803
High Explosives Weapons Operations	4,608,000	-24,646 ^{bc}	4,583,354
Tritium Readiness	76,981,115	-1,785 ^{bc}	76,979,330
Subtotal, Campaigns		-3,777,521	
Readiness in Technical Base and Facilities			
Operations of Facilities			
Kansas City Plant	158,176,311	-40,281,274 ^b	117,895,037
Lawrence Livermore National Laboratory	86,670,000	-586,959 ^b	86,083,041
Los Alamos National Laboratory	312,738,234	-2,159,331 ^{bd}	310,578,903
Nevada Test Site	79,583,000	-257,333 ^{bd}	79,325,667
Pantex Plant	131,480,226	-375,257 ^b	131,104,969
Sandia National Laboratories	104,133,000	-514,695 ^b	103,618,305
Y-12 Production Plant	229,774,000	-1,172,653 ^b	228,601,347

^a Total obligational authority as reflected in the latest Approved Congressional Base Table of December 31, 2009.

^b Includes funding derived from unearned fee

^c Includes funding derived from deobligation of prior year uncosted balances.

^d Includes funding derived from unobligated carryover balances.

	Total Obligational Authority ^a	Changes	Revised Obligational Authority
Institutional Site Support	120,224,844	-87,619 ^b	120,137,225
Program Readiness	73,021,000	-315,838 ^{bc}	72,705,162
Material Recycle and Recovery	69,734,237	-318,163 ^b	69,416,074
Containers	23,392,000	-71,029 ^b	23,320,971
Storage	24,708,000	-149,467 ^b	24,558,533
Subtotal, Readiness in Technical Base and Facilities		46,289,618	
Secure Transportation Asset			
Operations and Equipment	142,905,192	-178,387 ^b	142,726,805
Program Direction	98,248,018	-2,304 ^b	98,245,714
Subtotal, Secure Transportation Asset		-180,691	
Defense Nuclear Security	723,112,803	-2,000,000	721,112,803
TOTAL, SOURCES		-53,657,125	

The Nuclear Posture Review (NPR) confirmed the requirement to maintain the B61 in the nuclear stockpile and this reprogramming addresses the necessity to study the nuclear portion of the B61 and pursue technology maturation initiatives supporting the B61 Life Extension Study. To meet the Nuclear Weapons Council requirement for a B61 First Production Unit (FPU) date of Fiscal Year (FY) 2017, the National Nuclear Security Administration (NNSA) has determined that a reprogramming is necessary to accelerate activities in FY 2010. Completion of the Phase 6.2/6.2A Study is an essential precursor to meeting the B61 FY 2017 FPU requirement.

The NNSA, as stated in The Energy and Water Development and Related Agencies Appropriations Act, 2010, Public Law 111-85, has already reallocated \$15,000,000 within Weapons Activities to address non-nuclear refurbishment requirements in FY 2010, and submitted notification letters to Congress of this action. This reprogramming will also restore surveillance funding used as a source for the recent \$15,000,000 reallocation, which will also provide valuable information on aging to the B61 study.

^a Total obligational authority as reflected in the latest Approved Congressional Base Table of December 31, 2009.

^b Includes funding derived from unearned fee.

**U.S. Department of Energy
National Nuclear Security Administration
Weapons Activities Appropriation
FY 2010 Reprogramming
Narrative Justification**

Reprogramming Requirements Summary Table

	FY 2010 External Reprogramming
Support for B61 Study	
Nuclear	19,280
Non-Nuclear	20,294
Support for other Stockpile Systems	14,083
Total	53,657

The NNSA requests approval to include an analysis of the nuclear components in the B61 Phase 6.2/2A Study. Funding will enable the program to address the nuclear refurbishment options and will maintain the ability to meet the FY 2017 FPU requirement. The FY 2017 FPU is required to avoid potential capability gaps in the B61 strategic and extended deterrence mission which were recently confirmed in the NPR. Absent inclusion of nuclear refurbishment options, NNSA will not be able to meet extended service life requirements, assess implementation of enhanced safety features, and consolidate B61 weapon-types (B61-3, -4, -7, and -10), which will enable a reduction of special nuclear material in fielded bombs in the United States and abroad.

The nuclear authorization and reprogramming of supporting funding will allow the B61 6.2/2A Study to extend beyond the limited non-nuclear replacement options for vacuum tube radars, neutron generators, and power sources and address comprehensive system design concepts for a non-nuclear and nuclear life extension program. The Phase 6.2/6.2A study will include non-nuclear component redesign to address long-term aging, reliability, safety and improve aircraft compatibility. Due to the number and complexity of the non-nuclear technologies involved, additional technology maturation funding is required to accelerate readiness levels in FY 2010 to support a FY 2017 FPU. A total of \$9,280,000 is identified for technology maturation of non-nuclear technology at Sandia National Laboratories. This funding has been identified as "nuclear," because replacement of this technology would involve work within the nuclear explosive package. This funding will not be used to study replacement of nuclear components. The options will evaluate the feasibility of incorporating enhanced surety technologies such as direct optical initiation systems.

The nuclear approval and associated funding will also enable development and assessment of options to extend the life of the nuclear explosive package to assure long-term viability of the nuclear deterrent. The nuclear options will explore reuse of the existing B61 pit type and reuse or remanufacture of the B61 canned subassembly design. A final element of the authorized

nuclear scope will include an option to consolidate the B61 -3,-4, -7, and-10 mods into a single variant.

Technology maturation does not include maturation to the higher levels of technology readiness which would occur under Phase 6.3 Engineering Development and Phase 6.4 Production Engineering. As technology matures and aligns with programmatic needs and schedules, the funding source transitions from activities that support multiple weapons systems to the individual weapons system funding profiles under a formal Life Extension Program.

The table below summarizes the funding required to complete the study and also breaks out technology maturation requirements which support the completion date of September 2011.

Funding Requirements for the B61 Phase 6.2/6.2a study

(dollars in thousands)

	Current Stockpile Systems B61 Phase 6.2/2A study		FY 2010 External Reprogramming			FY 2011 Stockpile Systems Request
	FY 2010 Appropriation	FY 2010 Non-nuclear Notification ^a	B61 Study	Services Tech Maturation	Total	B61 Study
Non-nuclear	32,500	15,000	0	20,294	20,294	177,747
Nuclear	0	0	10,000	9,280	19,280	73,864
Total	32,500	15,000	10,000	29,574	39,574	251,611

Directed Stockpile Work

Stockpile Systems (B61 Phase 6.2/2A Refurbishment Study) +\$10,000,000

Funding enables development of nuclear design concepts that will extend the life of the B61 to meet military service life requirements. The concepts include rebuild of the B61 primary, reusing an existing B61 pit type and reuse or remanufacture of a B61 canned subassembly. Options to implement enhanced surety will be assessed by both the Sandia National Laboratories (SNL) and the Los Alamos National Laboratory (LANL). Funding also supports development of draft certification plans, initiation of independent peer review process and joint coordination of nuclear concepts and study results with the Air Force.

Without the nuclear funding, the nuclear portion of the study will either be delayed until authorized and funded in FY 2011 which would impact ability to meet a 2017 FPU or NNSA, in coordination with the Department of Defense (DoD), will limit the study scope to non-nuclear components. A limited scope study would prevent NNSA from meeting extended service life requirements, implementing enhanced surety features, and consolidating B61 bomb-types (B61-3, -4, -7, and -10).

^a The Energy and Water Development and Related Agencies Appropriations Act, 2010 (Public Law 111-85) authorized an additional \$15,000,000 following release of the Nuclear Posture Review. The reallocation and its required Notification to Congress were completed in April 2010.

Stockpile Systems (Other Systems)

+\$14,082,753

Largely restores funding used as a source for the \$15,000,000 reallocation to support the non-nuclear refurbishment requirements. Funding would enable the NNSA to meet key deliverables associated with the stockpile surveillance and stockpile maintenance programs. Funding would be allocated to stockpile systems (B61, W76, W78, W80, B83, W87 and W88) to conduct system and component level testing and analysis to reduce the gap in assessment data utilized for the annual assessment process. This includes critical surveillance and aging assessment activities for the B61 which will support life extension decisions. Further, funding would be applied to ensure neutron generator development for the W87, W80, and B83 remains on schedule to maintain operationally-deployed weapons consistent with national directives. Without restoration of the stockpile systems funds, surveillance and maintenance activities will be curtailed for the remaining portion of FY 2010 including B61 aging studies support which might impact reuse versus remanufacture decisions. The remaining \$917,247 has been internally reallocated from unearned fee in the Stockpile Systems line to fully restore the \$15,000,000.

Stockpile Services

+\$22,650,554

Funding will allow maturation of non-nuclear and nuclear technologies at SNL to readiness levels required to meet the B61 FY 2017 FPU. The non-nuclear and nuclear technologies being matured will also support future follow-on Life Extension Programs. The B61 technology maturation areas include firing and safing subsystems, arming and fuzing subsystems, surety technologies, and initiation capabilities. Delaying technology maturation for the B61 until the FY 2011 or beyond would impact the ability to make down select decisions and either delay completion of the study until FY 2012 or increase costs to carry multiple technologies into Phase 6.3 engineering development. The primary impact will be to put at risk the insertion of improved surety features and NNSA's ability to meet the FY 2017 FPU.

Readiness Campaign

Non-nuclear Readiness

+\$6,923,818

Funding would enable the Kansas City Plant (KCP) to conduct concurrent engineering activities necessary to support a B61 FY 2017 FPU. The funding would enable retention of key technical skills to continue maturation of technology and manufacturing processes for B61 non-nuclear and nuclear components. These efforts also support other bomb refurbishments and re-entry type weapons. Specific activities for FY 2010 additional funding are: radar development, high power transmitter development, materials evaluations for foam replacement, cover coat replacement, characterization of structural foams, surety components, direct optical initiation, and a new production testing capability. Delaying B61 related readiness activities at KCP will increase risk and time required for production engineering resulting in increase costs for rework and may jeopardize NNSA's ability to meet the FY 2017 FPU.

SOURCES:

Unearned Management and Operating (M&O) Contractor 2009 Fee -\$9,705,127

The NNSA assesses the performance of its management and operations contractors on an annual basis and awards performance fees. The awards are determined by the NNSA Administrator after a formal review of contractor performance in relation to expectations set for the year. Funding equal to the potential full fee was collected during FY 2009 through indirect cost pools. The source of funds reflects a portion of the funds collected, but not earned by the M&O contractors as follows: KCP \$762,834, LANL \$2,629,902, Lawrence Livermore National Laboratory \$2,700,025, Nevada Test Site \$499,659, Pantex Plant \$668,969, SNL \$300,191, and Y-12 Plant \$2,143,547. This funding is available for reprogramming without programmatic impact.

Prior Year Unobligated or Uncosted Obligations -\$1,951,998

Funding is available without programmatic impact by redeploying prior year unobligated or uncosted balances. The funds have been deobligated from contracts that are no longer active, have been closed out, or were never executed.

Defense Nuclear Security -\$2,000,000

Funding has been made available by deferring infrastructure and modernization upgrades to security systems at SNL in the current fiscal year. No impact to the security mission will occur from the deobligation and reprogramming of this funding. Funding in this amount for infrastructure and modernization upgrades to security systems will be required within the FYNSP to sustain the physical security posture.

Readiness in Technical Base and Facilities

Operations of Facilities, Kansas City Plant \$40,000,000

This funding is available from within the Readiness in Technical Base and Facilities, Operations of Facilities account for the KCP. The funding will not be utilized in FY 2010 due to a lawsuit challenging the National Environmental Policy Act Record of Decision and a subsequent appeal (later withdrawn in February 2010) which delayed the Kansas City Responsive Infrastructure Manufacturing and Sourcing (KCRIMS) project by approximately two years.

Ongoing activities in FY 2010 include preliminary planning activities for the relocation of the facility to the new location and the start of construction of the new facility during the third quarter of FY 2010. Construction completion is scheduled for the fourth quarter of FY 2012. Relocation activities will begin in the first quarter of FY 2013 and are scheduled to be complete by mid-FY 2014.

The funding can be provided without programmatic impact to FY 2010 activities, as the balance remaining is sufficient to execute planned KCRIMS activities for FY 2010. The outyear impact for KCRIMS will be a request for new appropriations spread across FY 2012 and FY 2013 to replace the \$40,000,000.