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**MEMORANDUM OF AGREEMENT
BETWEEN
THE DEPARTMENT OF DEFENSE
AND
THE DEPARTMENT OF ENERGY
CONCERNING
MODERNIZATION OF THE U.S. NUCLEAR INFRASTRUCTURE**

I. Introduction

Consistent with the recommendations from the 2010 Nuclear Posture Review (NPR), the Secretaries of the Department of Defense (DoD) and the Department of Energy (DOE) agree that it is necessary to modernize the nuclear weapons infrastructure of the United States. This infrastructure is maintained by the National Nuclear Security Administration (NNSA) – an organization located within DOE. Modernization of the infrastructure is needed to ensure safe, secure, sustainable and cost-effective operations in support of scientific and manufacturing activities. It is also necessary to bolster key scientific, technical and manufacturing capabilities needed to ensure that the U.S. nuclear weapons stockpile remains safe and effective while avoiding the requirement for new nuclear tests. Finally, a strengthened stockpile management program is needed to address known technical problems and to help ensure support for ratification of the New Strategic Arms Reduction Treaty and Comprehensive Test Ban Treaty.

This Memorandum of Agreement (MOA) documents the program and budgeting commitments made by DOE and the DoD (collectively herein the “Parties”) in connection with this initiative. The MOA also specifies annual reviews of the program to be carried out jointly by the two Departments under the auspices of the Nuclear Weapons Council (NWC).

II. Statutory Authority

1. DoD enters into this MOA under the authority of 10 U.S.C 113.
2. DOE enters into this MOA under the authority of section 646 of the Department of Energy Organization Act (Pub. L. 95-91), as amended; 42 U.S.C. § 7256.

III. Agreements

1. DoD agrees to work with the Office of Management and Budget to transfer to DOE \$5.7 billion of budget authority in Fiscal Years 2011-15 for NNSA’s nuclear weapons and Naval Reactors programs. This includes a transfer of \$4.5 billion of budget authority to the Weapons Activities/Nuclear Security Enterprise appropriation, including \$561 million in FY 11. This also includes transfer of an additional \$145 million of budget authority to the Weapons Activities/Nuclear Security Enterprise appropriation for science, technology and engineering activities in the Enhanced Stockpile Stewardship program in FY 12-15 to match an identical DOE investment. If the transfer of budget authority is approved, the modernization activities identified in Attachment 1, which is attached to and constitutes an

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integral part of this MOA, will be fully funded through 2015 within the base NNSA budget plus this transfer. Separate from nuclear weapons program activities, DoD intends to transfer an additional \$1.1 billion of budget authority for FY 11-15 for Naval Reactors, including \$80.6 million in FY 11. These transfers of budget authority are intended to be reflected in the President's Budget for FY 11-15. Attachment 1 details the transfers by year and program.

2. As noted in Attachment 1, DOE agrees to use this transferred budget authority to supplement NNSA funding in order to fully fund the following:
 - Complete the design and begin construction of the Chemistry and Metallurgy Research Facility Replacement (CMRR) nuclear facility (NF) at Los Alamos National Laboratory (LANL) – a facility that conducts plutonium research and development and provides analytical capabilities in support of pit surveillance and production. Plan and program to complete construction by 2020, and ramp up to full operations in 2022.
 - Increase pit production capacity and capability at the adjoining PF-4 facility (part of the main plutonium facility) at LANL to demonstrate pit reuse by 2017 and production by 2018-2020. Plan and program to ramp up to a minimum of 50-80 pits/year in 2022.
 - Complete the design and begin construction of the Uranium Processing Facility (UPF) at Y-12 to support production and surveillance of highly-enriched uranium components. Plan and program to complete construction by 2020; ramp up to a minimum of 50-80 Canned Sub Assemblies (CSAs) per year in 2022.
 - Complete the ongoing Life Extension Program (LEP) for the W76 warhead (to be completed by 2017) and LEP for the B61 bomb (first production unit [FPU] by 2017). Completion will free up capacity for other life extension programs.
 - Ensure that capabilities are available so that future warhead life extension programs will allow for increased margin and enhanced warhead safety, security and control.
 - Begin LEP study by FY 11 to explore the path forward for the W78 and the W88 systems (anticipated FPU following the completion of the B61 LEP, currently scheduled for 2020)—one option for which is a common ICBM/SLBM warhead.
3. DOE agrees to provide the resources necessary to fund at sufficient levels scientific, technical and engineering activities related to maintenance assessment and certification capabilities for the stockpile. All budget authority will be identified and designated for this use prior to submission of the President's Budget for FY 2011. Among other things, this budget authority will be prioritized to:
 - Restore sufficient funds for warhead surveillance and for the science and technology that support stockpile assessment and certification in the absence of nuclear testing.
 - Adequately fund directed stockpile work including maintenance, assembly, disassembly and dismantlement activities.
 - Protect the human capital base at U.S. nuclear weapons laboratories—including the ability to design nuclear warheads as well as development and engineering expertise and capabilities—through a stockpile stewardship program that fully exercises these capabilities.

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4. Naval Reactors will use \$1.1 billion in increased FY 11-15 budget authority to:
 - Design/develop the new reactor plant for the OHIO Class submarine replacement,
 - Design/construct a reactor core and refuel the DOE Land Based Prototype Reactor Plant in New York with technologies and capabilities planned for OHIO replacement core— this will test the manufacturability of the replacement reactor and thereby mitigate technical, cost and schedule risks.
5. DOE also agrees to strictly limit the use of transferred budget authority to support only those elements identified in Attachment 1 in its budget throughout the period from FY 11-15. The DoD target transferred budget authority will become part of the baseline funding for (1) Weapons Activities/National Security Enterprise appropriation aligned to programs in Directed Stockpile Work, Campaigns and Readiness in the Technical Base and Facilities, and (2) Naval Reactors appropriations. Both DoD and DOE agree to make every effort to ensure that Congress appropriates the funds in the amounts and for the purposes identified in this agreement.
6. DOE agrees that the transfer of budget authority from DoD is planned to be a one-time transfer during the period FY 2011-2015 consistent with the 2010 NPR recommendations. During this period, no additional transfer from DoD to DOE for purposes of this MOA shall be effected. NNSA's budget for FY 11-15 reflects planning for these recommendations approved by the President. If future Presidential decisions do not support the activities specified, then this MOA will be revised accordingly. Funding requirements for budgets submitted beyond FY 2015 will be negotiated as needed.
7. NNSA will not require additional resources during this period from DoD to meet the requirements of the NPR, so long as those requirements remain as stated in this MOA. If available funds fall below target amounts, or if costs grow, DOE agrees to work with DoD to adjust target dates so as to carry out the intent of these initiatives as quickly as possible but without any additional DoD funds.

IV. Reviews

1. In order to implement this agreement, and ensure its effective operation, the two Secretaries agree to direct their staffs to conduct and participate in the following reviews:
 - Semi-annual programmatic reviews by the NWC,
 - Annual NNSA programming and budgeting reviews which are conducted at the weapons program element level and include the items in this MOA. Specifically, NNSA will engage the NWC regarding its program of work for the items in Attachment 1, and the annual proposed funding necessary to support this work, to ensure agreement that the commitments of this MOA are being fulfilled. Any disagreements identified by the NWC will be brought to the attention of the Secretaries of Defense and Energy and will be resolved jointly.

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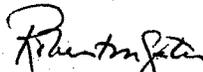
2. The Secretary of Defense designates the Under Secretary of Defense (AT&L) as the senior staff contact for carrying out this agreement, in coordination with the Under Secretaries of Defense for Comptroller and for Policy. The Secretary of Energy designates the Under Secretary for Nuclear Security as the senior staff contact for carrying out this agreement, assisted by the Chief Financial Officer.
3. The Secretaries of Defense and Energy agree that the modernization of the U.S. nuclear infrastructure and effective support to the nuclear stockpile are critical to achieving President Obama's vision for a safe, secure and effective nuclear deterrent. The Secretaries fully support this agreement, which represents a key step toward accomplishing required modernization and advancing the national security of the United States.

V. General Provisions

1. This MOA in no way restricts either Party from participating in any activity with other public or private agencies, organizations, or individuals.
2. This MOA is neither a fiscal nor a funds obligation document. Nothing in this MOA authorizes or is intended to obligate the Parties to expend, exchange, or reimburse funds, services, or supplies, or transfer or receive anything of value.
3. This MOA is strictly for internal management purposes for each Party. It is not legally enforceable and shall not be construed to create any legal obligations on the part of either Party. This MOA shall not be construed to provide a private right or cause of action for or by any person or entity.
4. All agreements herein are subject to, and will be carried out in conformance with, all applicable laws, regulations and other legal requirements.
5. This MOA enters into effect upon signature. It may be modified by mutual agreement of the Parties in writing.
6. The Parties may discontinue participation in this MOA in writing at any time.

Signed in duplicate.

FOR THE DEPARTMENT OF DEFENSE:


 Robert M. Gates
 Secretary of Defense
 Date: MAY 3 2010

FOR THE DEPARTMENT OF ENERGY:


 Steven Chu
 Secretary of Energy
 Date: APR -1 2010

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Attachment 1

DoD Budget Authority Target Transfer to NNSA

| Item | Added Funding Above NNSA Base (S millions) | | | | | Total |
|---|---|--------------|----------------|----------------|----------------|----------------|
| | FY 2011 | FY 2012 | FY 2013 | FY 2014 | FY 2015 | |
| <u>Weapons Activities/Nuclear Security</u> | | | | | | |
| <u>Enterprise Appropriation</u> | | | | | | |
| Infrastructure | | | | | | |
| CMRR-NF | 151.4 | 255.0 | 260.0 | 242.2 | 300.0 | 1,208.6 |
| Uranium Processing Facility | 59.8 | 55.4 | 135.9 | 193.4 | 320.0 | 764.5 |
| High Explosive Pressing Facility | 30.0 | 30.4 | - | - | - | 60.4 |
| Neutrons for Material/ Nuclear Science | - | - | - | - | - | - |
| Life Extension Programs (LEPs) | | | | | | |
| B61 Bomb Stockpile Systems | 160.0 | 131.0 | 133.0 | 169.0 | 192.0 | 785.0 |
| Follow-on LEP | 26.0 | 56.0 | 102.0 | 300.0 | 300.0 | 784.0 |
| W76-1 Warhead Quantities | 40.0 | 46.0 | 46.0 | 46.0 | 46.0 | 224.0 |
| Plutonium Sustainment | 36.0 | 38.0 | 38.0 | 39.0 | 30.0 | 181.0 |
| Advanced Certification | 57.8 | 85.6 | 110.6 | 111.3 | 79.6 | 444.9 |
| Enhanced Stockpile Stewardship | 0 | 39.0 | 33.0 | 48.0 | 25.0 | 145.0 |
| Subtotal, Transfer to Weapons Activities/Nuclear Security Enterprise | 561.0 | 736.4 | 858.5 | 1,148.9 | 1,292.6 | 4,597.4 |
| <u>Naval Reactors Appropriation</u> | | | | | | |
| Reactor Design and Development | | | | | | |
| Trident Replacement Reactor | 45.4 | 83.0 | 122.7 | 153.8 | 192.9 | 597.8 |
| Land-based prototype | 35.2 | 67.9 | 101.0 | 125.0 | 158.0 | 487.1 |
| Subtotal, Transfer to Naval Reactors | 80.6 | 150.9 | 223.7 | 278.8 | 350.9 | 1,084.9 |
| Total DOD transfer to NNSA | 641.6 | 887.3 | 1,082.2 | 1,427.7 | 1,643.5 | 5,682.3 |

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