Complex 2030: U.S. Plans for "Nukes Forever"

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The only *good* thing about "Complex 2030," the publicly announced United States plan to modernize its nuclear weapons complex and replace its entire nuclear arsenal with new "Reliable Replacement Warheads" by the year 2030, is that it's *visible*. Other than that, the proposed project, which could cost more than $150 *billion* over 25 years, is tantamount to a U.S. declaration of "nukes forever," and a repudiation of its obligation under Article VI of the Nuclear Non-Proliferation Treaty (NPT) to end the arms race "at an early date" and to negotiate "in good faith" the *elimination* of its nuclear arsenal.

The Manhattan Project in the 21st Century

As described in the current Department of Energy (DOE) Strategic plan, the DOE "has a rich and diverse history with its lineage tracing back to the Manhattan Project and the race to develop an atomic bomb during World War II."[1] Today, the DOE's Los Alamos National Laboratory (LANL) in New Mexico and Lawrence Livermore National Laboratory (LLNL) in California – *the direct descendants of the Manhattan Project* – are engaged in a *new* arms race. The Livermore Lab was founded in 1952 to compete with Los Alamos - the original home of the Manhattan Project - to develop a hydrogen bomb, orders of magnitude more powerful than the U.S. atomic bombs that destroyed Hiroshima and Nagasaki in 1945. Now the Labs are working on competing designs for a replacement for the 100-kiloton W76 warhead (some 1,600 of which are currently deployed on Trident II D-5 submarine-launched ballistic missiles).[2] The DOE's National Nuclear Security Administration (NNSA)[3] is expected to select the winning design before the end of 2006, sending the program into its next phase. A recently uncovered Department of Defense (DoD) chart outlining the future of the nuclear stockpile, forecasts that the U.S. will "develop warheads for next-generation delivery systems" between 2010 and 2020. Titled "Stockpile Transformation," the chart also has a "long term vision" that includes "possible new DoD platforms and delivery systems." In addition, the "long-term vision" includes "2-4 types of RRW's" (reliable replacement warheads), while most media coverage to date has suggested that there will be only be two RRW designs, one to be developed by Livermore and one by Los Alamos.[4]

Fewer But Newer: Nukes Forever

During the Cold War years, a weapons designer at the Livermore Lab reportedly said, "*Remember: the Soviets are the competition. Los Alamos is the enemy*." In testimony to Congress earlier this year, Thomas D'Agostino, Deputy Director for Defense Programs at the NNSA bragged:

> "Progress on RRW has been remarkable. Last year, the DoD and DOE jointly initiated an RRW competition in which two independent design teams from our nuclear weapons laboratories—LLNL and LANL both in partnership with Sandia and the production complex—are exploring RRW options. A competition of this sort has not taken place in over 20 years, and *the process is providing a unique opportunity to train the next generation of nuclear weapons designers and engineers*. Both teams are confident that their designs will meet established requirements and be certifiable and producible without

> nuclear testing. The program is on schedule—preliminary designs are being completed. An intensive, in-depth peer review process is underway that will lead to selection of a preferred option for engineering development."[5]

This testimony was proffered in support of the NNSA's "Complex 2030" plan for the future of the nuclear weapons complex. Under this proposal, rolled out in April 2006, "NNSA's future path is to establish a smaller, more efficient Nuclear Weapons Complex that is able to respond to changing national and global security challenges."[6] The RRW Program is identified as a principal element of Complex 2030, "to ensure the long-term reliability and safety of the nuclear weapons stockpile and enable a more responsive supporting infrastructure while reducing the possibility that the United States would ever need to return to underground testing."[7] While the NNSA claims that "RRW is not a new weapon providing new or different military capabilities and/or missions,"[8] NNSA chief Linton Brooks has been very clear that this possibility remains on the table.

> "In 2030, our Responsive Infrastructure can also produce weapons with different or modified military requirements as required. The weapons design community that was revitalized by the RRW program can adapt an existing weapon within 18 months and design, develop and begin production of the new design within 3-4 years of a decision to enter engineering development... goals that were established in 2004. Thus, if Congress and the President direct, we can respond quickly to changing military requirements."[9]

According to the NNSA, "Once it is demonstrated that replacement warheads can be produced on a timescale in which geopolitical threats could emerge, or the nuclear weapons complex can respond in a timely way to technical problems in the stockpile, further reductions can be made in reducing on-deployed warheads."[10] *This approach renders the disarmament objective implicit in further reductions meaningless.*

Brooks spelled out the purpose of the "responsive infrastructure, "The current nuclear weapons complex was built in the 1950s and 60s for the Cold War. Unless this infrastructure is improved, we will not be suited for 21st century challenges. As outlined in the 2001 *Nuclear Posture Review*, we are moving towards a nuclear deterrent that is smaller, more capable and better able to respond to changing needs. Our *Complex 2030* plan... puts NNSA on a path to achieve this necessary national security goal.... In short, I see a future world where a smaller, safer, more secure and more reliable stockpile is backed up by a robust industrial and design capability to better respond to changing technical, geopolitical or military needs."[11]

The Clinton Legacy: Stockpile Stewardship

In August 1995, citing the promise made in connection with indefinite extension of the NPT earlier that year, President Clinton announced his support for a Comprehensive Test Ban Treaty by 1996, in order to "reduce the danger posed by nuclear weapons proliferation." He also announced the U.S. intent, "as part of our national security strategy," to "retain strategic nuclear forces. . . In this regard," he stated, "I consider the maintenance of a safe and reliable nuclear stockpile to be a supreme national interest of the United States." Clinton strongly endorsed the nuclear weapons labs' "Science Based Stockpile Stewardship" program as a means of

maintaining the U.S. "nuclear deterrent" without nuclear testing, and he appealed to Congress for bipartisan support for the program *"over the next decade and beyond."*[12]

Congress provided that support and just over ten years later, in October 2006, the NNSA announced its intention to prepare an Environmental Impact Statement (EIS) for Complex 2030 as a supplement to the Stockpile Stewardship and Management EIS completed in 1996. Under the National Environmental Policy Act, the initial phase of this process provides for public input into the "scope" of the environmental review, which must, by law, analyze "reasonable alternatives." Scoping meetings on Complex 2030 are being held at a dozen locations around the United States, in communities near nuclear weapons facilities and in Washington, DC. According to the Notice of Intent, published in the Federal Register, the EIS will "analyze the environmental impacts from the continued transformation of the United States' nuclear weapons complex by implementing NNSA's vision of the complex as it would exist in 2030... as well as alternatives."[13] That "vision" is spelled out in a planning scenario with four long-term strategic components:

> "(1) In partnership with the Department of Defense, transform the nuclear stockpile through development of Reliable Replacement Warheads, refurbishment of limited numbers of legacy designs, and accelerated dismantlement of the Cold War stockpile;
> (2) Transform to a modernized, cost-effective nuclear weapons complex;
> (3) Create a fully integrated and interdependent nuclear weapons complex; and,
> (4) Drive the science and technology base essential for long-term national security.
>
> These strategies are complemented by near-term actions to build confidence in the transformation process."[14]

Indeed, this work is already in progress under the Stockpile Stewardship program. The FY 2007 NNSA budget request confirms that "Life Extension Programs," to render the U.S. nuclear arsenal reliable for decades to come, are underway for the B61 bomb, the W76 SLBM (Sea Launched Ballistic Missile), and the W80 Cruise Missile.[15] The budget's official policy guidance is the once-secret 2001 Nuclear Posture Review (NPR), widely dismissed by arms control analysts as a mere "wish list" when it was leaked to the New York Times in early 2002. With the stated goal of establishing "a nuclear weapons infrastructure responsive to future needs" - the same language that appears in the subsequent Complex 2030 plan - the proposed budget provides increased funding for the RRW program. Under this program, virtually every warhead component will be redesigned, most likely including the physics packages – the spherical plutonium cores, commonly referred to as "pits." These new warheads are not supposed to require full-scale explosive testing, but just in case, funding is included to maintain the Nevada Test Site in a state of readiness. The budget also provides for demonstrating the ability to produce tritium – radioactive hydrogen, the "H" in H-bomb – by 2007. Indeed, on December 4, NNSA announced that its new Tritium Extraction Facility at the Savannah River Site in South Carolina "has begun operations and tritium can now be extracted from target rods, ensuring a sustainable supply of tritium for the nation's nuclear weapons stockpile."[16] Tritium production in the United States was halted in 1988, and plutonium pit production in 1989, due to environmental and public health hazards.

It's the Pits - Or is it?

Los Alamos Lab, in April 2003, announced that is had successfully manufactured the first plutonium pit in 14 years that meets specifications for the U.S. stockpile. The newly-made pit was for the 475 kiloton W88 warhead, carried on the Trident II D5 Submarine-Launched Ballistic Missile, and described in the Los Alamos press release as "a cornerstone of the U.S. nuclear deterrent."[17] Now, the NNSA plans to raise production at Los Alamos to 30 to 40 pits per year. In its FY 2007 budget request, NNSA states that five-year funding will be used to further "increase capacity at LANL or at a long-term manufacturing facility." The budget request also boosts funding for plutonium pit manufacture and certification at the Livermore Lab, in line with DOE's recent decision to double the plutonium storage limit at Livermore and use the site to develop new techniques for pit manufacturing.[18] Meanwhile more than 12,000 pits from dismantled weapons languish at the Pantex nuclear weapons assembly/disassembly Plant in Texas, available for reuse, if desired by the weaponeers.[19] The Los Alamos Lab is one of five sites under consideration in Complex 2030 for a consolidated plutonium center for long-term research and development, surveillance and pit manufacturing operations, with a baseline capacity of 125 "qualified" pits per year. Other actions proposed in the Notice of Intent to "transform to a more modern, cost-effective nuclear weapons complex (Complex 2030)" include consolidating duplicative facilities and programs in order to improve operating efficiencies, including those for tritium research and development, high-explosives testing and nuclear materials storage. Additional priorities include identifying sites for joint flight testing operations in which "NNSA and DOD hardware is tested to assure compatibility between NNSA and DOD hardware interfaces for current and *future* gravity weapons,"[20] and accelerated dismantlement activities. In other words, "*fewer but newer*" nukes forever. The "No Action Alternative," according to the Notice of Intent, "represents the status quo as it exists today and is presently planned." In other words, it also means "*nukes forever*."

At the same time, the Pentagon and its contractors are poised to begin development of a new generation of long range delivery systems, capable of carrying either conventional or nuclear warheads**.** Such systems, intended primarily to increase the already formidable U.S. advantage in conventional weapons, may in the long run be more dangerous than proposed improvements in nuclear warheads. The U.S. government is also considering options for replacement of the intercontinental ballistic missiles that are the core of the U.S. nuclear arsenal. New delivery systems for nuclear weapons would involve many of the same technologies that would be developed for long-range missiles carrying non-nuclear payloads. These technologies could provide the building blocks for new nuclear capabilities, particularly in combination with warhead modifications now in progress or under consideration.[21]

A government study on plutonium aging, released on November 29, created a flurry of national media attention. The study, conducted by nuclear scientists at the Livermore and Los Alamos Labs and reviewed by an outside panel of nuclear weapons experts known as the JASONs, concluded that plutonium pits degrade at a much slower rate than was previously believed. The study found that plutonium in the U.S. nuclear arsenal remains viable for as long as 100 years, more than twice as long as had been thought. Some critics of Complex 2030 seized on the report, claiming that it "proved" a new pit factory and new warheads are "completely unnecessary" because the existing warheads will last for a century.[22] However, the Democratic Congressional Representative whose district includes the Livermore Lab welcomed the study, claiming that plutonium aging is a "side matter" that will not influence the RRW decision, which she characterized as "an opportunity to rejuvenate the complex" and attract the "smartest scientists in the world" to the weapons labs.[23] Indeed, the NNSA issued a press release two days

later, reaffirming its commitment to the RRW program as the best strategy "for sustaining the nation's nuclear weapons stockpile for the long-term without underground nuclear testing."[24]

The Only Reasonable Alternative: Nuclear Abolition

It is too easy to fall into the trap of thinking that Complex 2030 is merely a "make work" program for scientists and engineers. Or, to think that the nuclear weapons we already have are not "useable." Consider the following passage from an August 2006 DOD planning document:

> "Within Global Strike, US nuclear forces contribute uniquely and fundamentally to deterrence—through their ability to threaten to impose costs and deny benefits to an adversary in an exceedingly rapid and devastating manner. *Nuclear weapons provide the President with the ultimate means to terminate conflict promptly on terms favorable to the US*.... Nuclear weapons threaten destruction of an adversary's most highly valued assets, including adversary WMD capabilities, critical industries, key resources, and means of political organization and control (including the adversary leadership itself). This includes destruction of targets otherwise invulnerable to conventional attack, e.g., hard and deeply buried facilities, "location uncertainty" targets, etc. Nuclear weapons reduce adversary decision-makers' confidence in their ability to control wartime escalation."[25]

Maintenance of a nuclear arsenal for another hundred years, whether in the form of existing or "new" weapons, by the only country that has so far used nuclear weapons, is an "unreasonable," unacceptable, and unlawful alternative. It is long past time for us to break out of the confines of clever technical arguments against the "need" for replacement warheads, and instead to demand the *only* reasonable alternative, nuclear abolition. The United States, in compliance with its obligation under the NPT, should commit to the elimination of nuclear weapons *no later than 2030*, by initiating negotiations leading to conclusion of a verifiable treaty, under strict and effective international control.

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[1] U.S. Department of Energy, Strategic Plan, October 2, 2006, p. 6; http://www.doe.gov/media/2006_DOE_Strategic_Plan.pdf.

[2] Stephen I. Schwartz, Nukes: Betcha Can't Make Just One! July 27, 2006, http://www.defensetech.org/archives/002613.html

[3] The National Nuclear Security Administration (NNSA) was established in 2000 as a new element within the Department of Energy in response to a Congressional mandate to "reinvigorate the security posture throughout the nuclear weapons program and reaffirm the Nation's commitment to maintaining the nuclear deterrence capabilities of the United States." DOE Strategic Plan, *supra*, p. 14.

[4]Pentagon Envisions New Warheads for New Delivery Systems, Andrew Lichterman, July 27, 2006, http://disarmamentactivist.org/2006/07/27/pentagon-envisions-new-warheads-for-new-delivery-systems/

[5] Statement of Thomas P. D'Agostino, Deputy Administrator for Defense Programs, National Nuclear Security Administration Before the House Armed Services Committee Subcommittee on Strategic Forces, April 5, 2006, p. 9, http://www.nnsa.doe.gov/docs/congressional/2006/2006-04-05_HASC_Transformation_Hearing_Statement_(DAgostino).pdf

[6] National Nuclear Security Administration, Future of the Nuclear Weapons Complex, http://www.nnsa.doe.gov/future_of_the_nuclear_weapons_complex.htm

[7] Id.

[8] NNSA Factsheet, *NNSA's Reliable Replacement Warhead (RRW) Program; Modernizing the Nuclear Weapons Complex Today To Make It More Responsive to the Challenges of Tomorrow*, http://www.nnsa.doe.gov/docs/factsheets/2006/NA-06_FS03.pdf

[9] Ambassador Linton F. Brooks, Administrator, National Nuclear Security Administration Speech to the East Tennessee Economic Council March 3, 2006, p. 4, http://www.nnsa.doe.gov/docs/speeches/2006/speech_Brooks_East-Tenn-Economic-Council-03Mar06.pdf#search=%22Linton%20Brooks%20Reliable%20Replacement%20Warhead%20Tennessee%22

[10] NNSA Factsheet, ibid.

[11] NNSA press release*, NNSA Establishes New Office to Lead Future of Nuclear Weapons Complex*, June 28,2006, http://www.nnsa.doe.gov/docs/newsreleases/2006/PR_2006-06-28_NA-06-20.htm

[12] Statement by the President, Comprehensive Test Ban Treaty, The White House, Office of the Press Secretary, August 11, 1995.

[13] Department of Energy, Notice of Intent To Prepare a Supplement to the Stockpile Stewardship and Management Programmatic Environmental Impact Statement—Complex 2030, Federal Register / Vol. 71, No. 202 / Thursday, October 19, 2006 / Notices, p. 61731, http://www.complex2030peis.com/NOI%20Oct%2019%2006.pdf

[14] Complex 2030, An Infrastructure Planning Scenario for a Nuclear Weapons Complex Able to Meet the Threats of the 21st Century, "Getting the Job Done," October 23, 2006, p. 2, Office of Defense Programs, National Nuclear Security Administration, U.S. Department of Energy, http://www.complex2030peis.com/Complex%202030%20-%20October%2023%202006.pdf

[15] The Stockpile Life Extension Program extends the lifetime of existing nuclear weapons by identifying and correcting potential technical issues and refurbishing and replacing certain components within each weapon. The Life Extension program can also give existing weapons new or enhanced military capabilities. For example, under this program the W76 warhead missile is being given a capacity to destroy "hard targets" with a "ground burst" by modifying a sub-system in its reentry vehicle. The W76 is also the first warhead being redesigned under the Reliable Replacement Warhead Program, with the intention of manufacturing entirely new warheads..

[16] *NNSA Marks Major Milestone For Tritium Production;Tritium Extraction Facility Up and Running at Savannah River Site*, Official Press Release, December 4, 2006, http://www.nnsa.doe.gov/docs/newsreleases/2006/PR_2006-12-04_NA-06-48.htm

[17] "Los Alamos restores U.S. ability to make nuclear weapons," official news release from Los Alamos National Laboratory, April 22, 2003.

[18]*More Plutonium Pits: Expensive, Unneeded, Dangerous*, 2006 Fact Sheet, Alliance for Nuclear Accountability, http://www.ananuclear.org/dc_days06/PitProduction2006.pdf

[19] Robert S. Norris and Hans M. Kristensen, Global nuclear stockpiles, 1945-2006, Bulletin of the Atomic Scientists, July/August 2006 pp. 64-66 (vol. 62, no. 4), http://www.thebulletin.org/article_nn.php?art_ofn=ja06norris

[20] Joint Flight Test Program, National Nuclear Security Administration, http://www.complex2030peis.com/Flight%20Test%20Program.pdf

[21] For an in-depth analysis of new developments in U.S. delivery systems and their implications see *Missiles of Empire: America's 21st Century Global Legions*, Western States Legal Foundation Information Bulletin Fall 2003, by Andrew M. Lichterman, http://www.wslfweb.org/docs/missiles03.pdf

[22] See, for example, H. Josef Hebert, Associated Press Writer, *Study: Warhead plutonium long-lasting*, November 29, 2006, http://p107.news.scd.yahoo.com/s/ap/20061130/ap_on_sc/plutonium_weapons

[23] Ian Hoffman, *Report: Nukes not so rusty, New information on plutonium's lifespan undermines Bush's plan,* Oakland Tribune, November 29, 2006, http://www.insidebayarea.com/search/ci_4738283

[24] NNSA News, *Nuclear Weapons Officials Agree to Pursue RRW Strategy,* December 1, 2006, http://www.nnsa.doe.gov/docs/newsreleases/2006/PR_2006-12-01_NA-06-47.pdf

[25] Final Draft, *Deterrent Operations Joint Operating Concept*, Department of Defense, United States of America, Version 2.0, August 2006, pp. 39-40, http://www.dtic.mil/futurejointwarfare/concepts/do_joc_v20.doc