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Mass Producing Weapons of Mass Destruction: U.S. Plans for a New Nuclear Weapons Factory and the Global Resurgence of Nuclear Arms

The United States is proposing to build the Modern Pit Facility, a new factory to make plutonium pits, the nuclear explosive “triggers” at the heart of modern thermonuclear weapons. Construction of this facility, now in the early planning and design phase, would begin in 2011 or after. The pit factory could be designed to produce as many as 450 pits per year in normal single shift operation, and considerably more if the government chose to operate a second shift. The government also is considering smaller capacity plants, with single shift capacities of 125 or 250 pits per year. This new factory would add to the pit production facility now being established at the Los Alamos National Laboratory in New Mexico, which has a capacity of 50 or more pits per year.

The Modern Pit Facility is justified by the government as necessary to maintain the existing U.S. nuclear arsenal, and to insure that the U.S. has the ability to build new kinds of nuclear warheads if the government decides that they are needed. This justification relies on a number of assumptions:

Assumption 1: *The United States will need to maintain thousands of nuclear weapons for many decades to come.* Unfortunately, this assumption is consistent with current U.S. nuclear weapons policy, which calls for thousands of powerful, long range nuclear weapons and delivery systems to be deployed indefinitely on hair-trigger alert, along with an undetermined number of “tactical” nuclear weapons (likely to number at least in the hundreds), and many thousands more warheads and components to be kept in varying states of readiness as a “reserve” force. These policies, however, are inconsistent with U.S. obligations

under the Nuclear Non-Proliferation Treaty (NPT), in which the U.S. and the other four original nuclear powers agreed to negotiate in good faith towards the elimination of their nuclear arsenals (see sidebar, “The United States and the Nuclear Nonproliferation Treaty”). Thousands of nuclear warheads on alert across the planet still pose the everyday risk of nuclear catastrophe by accident or miscalculation, and the central role that nuclear weapons play in the military stance of the most powerful country legitimates the possession, or the acquisition, of nuclear weapons by all countries.

The U.S. government, however, views the NPT disarmament obligation as a kind of vague moral imperative, to be achieved, if at all, at a time so distant that it simply has no relevance for policy planning today. This view is explicitly stated in the draft Supplemental Environmental Impact Statement for the Modern Pit Facility:

It must be noted that the NPT does not provide any time period for achieving the ultimate goal of nuclear disarmament nor does it preclude the maintenance of nuclear weapons until their disposition. For this MPF EIS, speculation on the terms and conditions of a “zero level” U.S. stockpile, as some have suggested during the scoping meetings, goes beyond the bounds of the reasonably foreseeable future consistent with the NPR [Nuclear Posture Review].¹

This view of the NPT, however, grows increasingly difficult to reconcile with the interpretation of the Article VI disarmament obligation in 1996 by the International Court of Justice (the judicial arm of the United Nations, and

the most authoritative court in the world on international law questions). The court ruled unanimously that “There exists an obligation to pursue in good faith *and bring to a conclusion* negotiations leading to nuclear disarmament in all its aspects under strict and effective international control.”²

Assumption 2: *The United States needs to be able to design and manufacture nuclear weapons with new kinds of military capabilities.* The new capabilities now being considered by the United States include powerful earth penetrating nuclear warheads intended to destroy underground facilities, “agent defeat” weapons to destroy chemical and biological weapons and support facilities while limiting damage from both release of hazardous materials and the nuclear explosion itself, and new variants of relatively “low-yield” nuclear weapons intended to make nuclear weapons more useable in ordinary warfare. These types of nuclear weapons, however, are likely to be “small” only in comparison to the city-busting bombs and warheads that make up most of the current active nuclear stockpile, and would be

likely to cause widespread death and long lasting environmental damage if used.

Further, these new efforts suggest to the world that nuclear weapons are not an apocalyptic “last resort,” an existential deterrent to nuclear attack, but rather weapons that might be used in a wide variety of circumstances. Since the beginning of the nuclear age, U.S. nuclear weapons have been brandished to discourage conventional attack by the Soviet Union during the Cold War, to intimidate non-nuclear countries in a variety of conflicts, from Korea to Iraq, and to serve as an intimidating “nuclear umbrella” that protects U.S. combat forces at war anywhere in the world. As a current U.S. Air Force planning document states, nuclear forces “act as the AEF [Air Expeditionary Force] topcover, providing the deterrent umbrella under which joint conventional forces operate.”³ In the context of an aggressive U.S. policy that envisions preventive wars against countries that are even suspected of having or seeking to acquire chemical, biological, or nuclear weapons, the push for new kinds of nuclear weapons, even more than the continued possession of substantial parts of the Cold War arsenal, legitimates nuclear weapons as an instrument of state power, and provides arguments for their acquisition by other states. Further, the growing role of nuclear weapons in a variety of U.S. warfighting plans makes it more likely that they will be used again in warfare.

Assumption 3: *The United States needs to be able to mass-produce new nuclear weapons in order to sustain its existing nuclear arsenal.* Once it has been decided politically to keep thousands of nuclear weapons for many decades to come, the “need” to make new pits for nuclear weapons rests on judgments about the stability over time of plutonium and other materials, and on judgments about how “reliable” nuclear weapons must be to fulfill the missions chosen for them. There has never been an open national debate about how reliable nuclear weapons need to be, how certain one must be that a bomb or missile warhead will explode, and with power within a predicted range. This is so in large part because there never has been much public discussion of what U.S. nuclear

World Nuclear Arsenals

United States	10,656
Russia	10,000
China	400
France	350
Israel	200?
United Kingdom	185-200
India	60-90
Pakistan	24-48

Sources: Center for Defense Information, “The World’s Nuclear Arsenals,” September, 2002, Natural Resources Defense Council, Archive of Nuclear Data, 2002.

The Modern Pit Facility and the quest for more useable nuclear weapons

One of the principal requirements claimed for the Modern Pit Facility is the capability “to produce pits of a new design in a timely manner.”⁴ The push by elements inside and outside the government for nuclear weapons with new military capabilities slowed for a brief period after the Cold War, with Congress placing some restrictions on research on nuclear warheads with a yield below 5 kilotons, and an official Clinton administration policy of no “new” nuclear weapons. Despite this policy, the U.S. developed and deployed a nuclear bomb with new earth penetrating capability, the B61-11, in 1997.⁵ This weapon was developed without underground nuclear explosive testing, using the component testing and computer simulation capabilities of the Department of Energy “stockpile stewardship” program.

The goals of these efforts were twofold: to develop capacities to destroy difficult types of targets, and to design nuclear weapons that would be politically feasible to use. A 1999 Department of Defense planning document identified as a priority the ability “to provide national leaders with improved options by increasing the responsiveness of strategic forces and developing more discriminate options, as done most recently with the introduction of the B61-11 earth-penetrating weapons.”⁶ Research on nuclear weapons effects focused on the “need to hold evolving enemy targets at risk using the reduced stockpile, and recognizing greatly increasing political and environmental constraints.”⁷

With the ascendance of the Bush administration, the push for nuclear weapons with new military capabilities has intensified. The 2001 Bush Nuclear Posture Review (NPR), cited in the draft supplemental environmental impact statement for the Modern Pit Facility as a major document setting nuclear weapons requirements, added further support to the quest for new nuclear capabilities. It stated that

There are several nuclear weapon options that might provide important advantages for enhancing the nation's deterrence posture: possible modifications to existing weapons to provide additional yield flexibility in the stockpile; improved earth penetrating weapons (EPWs) to counter the increased use by potential adversaries of hardened and deeply buried facilities; and warheads that reduce collateral damage.⁸

The NPR also indicated that the U.S. was prepared to use nuclear weapons in a wide range of circumstances and against a number of countries, including Iraq, Iran and North Korea. The FY2003 Department of Energy budget request, submitted in the Spring of 2002, called for “advanced warhead concepts teams” at the nuclear weapons laboratories to study various new nuclear weapons ideas.⁹ And the National Nuclear Security Agency requested funding in FY 2003 to begin study of a new or modified “Robust Nuclear Earth Penetrator”¹⁰

Additional nuclear planning documents leaked to the public in early 2003, together with the administration's recent Defense Department bid solicitations and FY2004 budget submissions, reveal that the Robust Nuclear Earth Penetrator is only one of a number of modified or new nuclear weapons under consideration. A January 2003 Pentagon meeting attended by high-ranking officials from the Defense Department and the Energy Department nuclear weapons programs set the agenda for further planning sessions that would evaluate “[r]equirements for low-yield weapons, EPWs, [earth penetrating weapons] enhanced radiation weapons, [and] agent defeat weapons” (weapons intended to destroy chemical or biological agents). Issues to be covered included “[e]ffects modeling capabilities to effectively plan for these weapons,” “testing strategy for weapons more likely to be used in small strikes,” and the “strategy for selecting first “small builds.””¹¹

This spring, both the House of Representatives and the Senate voted to remove restrictions on low-yield nuclear weapons research, and to approve initial funds for research on the robust nuclear earth penetrator (RNEP). According to press reports, the RNEP concept now under consideration calls for a nuclear weapon with a substantial yield, likely to be several times the power of the bombs that destroyed Hiroshima and Nagasaki.¹²

weapons are for, and how military planners envision their use. Reliability requirements are inextricably linked to the purposes for which the weapons will be used. If one imagines that the only purpose of nuclear weapons is to present an adversary with an unacceptable risk of catastrophic retaliation in the event of nuclear attack, “reliability requirements” may be quite different than if one is seeking the ability, for example, to limit the damage to the U.S. in a nuclear war by trying to destroy much of the Russian arsenal before it can be used, or perhaps to use a small number of nuclear weapons on a non-nuclear weapons state, with “reliability” at a premium to assure the goals of the attack can be accomplished with acceptable certainty, given the immense political firestorm that would be sure to follow.

Both the policy and the “science” at the core of setting nuclear weapons “requirements,” furthermore, have for over half a century been constructed behind a veil of secrecy. The effects on policy have been widely acknowledged, with secrecy and Cold War ideology combining to squelch meaningful scrutiny of nuclear weapons policies for decades on end. As described by one close observer, former Strategic Command chief General Lee Butler,

The cold light of dispassionate scrutiny was shuttered in the name of security, doubts dismissed in the name of an acute and unrelenting threat, objections overruled by the incantations of the nuclear priesthood.

The penalties proved to be severe. Vitaly important decisions were routinely taken without adequate understanding, assertions too often prevailed over analysis, requirements took on organizational biases, technological opportunity and corporate profit drove force levels and capability, and political opportunism intruded on calculations of military necessity. Authority and accountability were severed, policy dissociated from planning, and theory invalidated by practice. The narrow concerns of a multitude of powerful

interests intruded on the rightful role of key policymakers, constraining their latitude for decision. Many were simply denied access to critical information essential to the proper exercise of their office.¹³

The “science” relevant to nuclear weapons, unfortunately, is formed in the same crucible of secrecy, ideology, and enormously powerful economic interests. Information about plutonium and its qualities never has been, and hardly can be, the product of open scientific inquiry as it commonly is understood. Almost all existing plutonium has been created artificially, and its role at the core of the most powerful of all weapons of mass destruction make it one of the most tightly controlled substances on earth. It is available for experimentation only to a very limited class of researchers. Almost any judgment, any interpretation of data, concerning the behavior of the plutonium used in nuclear weapons is also an immediate act of political commitment, of taking sides in budget and policy battles in which billions of dollars will or will not be spent, in which many careers may rise or fall. And these judgments—on which the purported “need” for this new nuclear weapons factory will rest in part—will be made in a climate sliding quickly back towards a Cold War-like world of political absolutism, of implacable, inhuman, “evil” enemies, of dangers so unspeakable that no opposing force can be too great, and where questioning the need for ever more military power is akin to heresy.

Assumption 4: *The United States can build and operate a plutonium pit factory in a manner that will avoid the catastrophic environmental contamination characteristic of large scale nuclear weapons production in the past.* The Rocky Flats plant in Colorado, the last to mass-produce pits for the U.S. arsenal, was closed in large part because it had become too contaminated to work in safely. Elevated levels of plutonium from Rocky Flats contaminate the plant site to this day, and could be spread further over time. Plutonium is an inherently dangerous substance. Particles too small to see, for example, if inhaled, can significantly increase cancer risk. When enough

The United States and the Nuclear Nonproliferation Treaty

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control. Treaty on the Non-Proliferation of Nuclear Weapons, Article VI

During the two decades between the entry into force of the Nuclear Nonproliferation Treaty (NPT) in 1970 and the end of the Cold War, the Article VI promise was held hostage to the nuclear standoff between the Western nuclear powers, China, and the Soviet Union. But with the main engine of the nuclear arms race apparently gone, expectations rose world-wide that the long-ignored obligation finally would be fulfilled. The nuclear weapons states only were able to obtain an indefinite extension of the NPT in 1995 by promising to take a number of concrete steps towards nuclear disarmament, the most significant being the completion of a comprehensive nuclear test ban treaty (CTBT) as well a strengthened review process for the future.

Between 1995 and the NPT Review Conference in 2000, the nuclear weapons states, and the U.S. in particular, showed little evidence of “good faith” efforts to eliminate their nuclear arsenals. What progress there was in post-Cold War arms control discussions stagnated. The CTBT, centerpiece of the tacit bargain underlying the 1995 NPT extension, was rejected by the U.S. Senate. The U.S. continued its ambitious program to modernize both its nuclear weapons and its nuclear weapons research and production facilities. Numerous policy documents stated that the U.S. intended to keep thousands of nuclear weapons indefinitely, along with the capacity to reconstitute an even larger arsenal if desired. With the U.S., despite its unprecedented dominance in conventional arms, clearly intending to keep a large and constantly modernized nuclear arsenal for the foreseeable future, there was little chance that the other nuclear weapons states would make meaningful moves towards nuclear disarmament. And in 1998, India and Pakistan declared themselves nuclear weapons states by conducting a round of nuclear tests. Although neither had signed the NPT, this development dramatically demonstrated the fragility of the global norm against nuclear weapons proliferation, and the potential dangers of overlapping regional arms races if the NPT regime collapsed.

Against this background, the non-nuclear weapons states at the 2000 NPT review conference extracted a new set of commitments from the nuclear weapons states to take concrete steps towards nuclear disarmament.¹⁴ These steps included: ratification of the Comprehensive Test Ban Treaty; the principle of irreversibility as applied to nuclear disarmament and related arms control and reduction measures; an unequivocal undertaking to accomplish the total elimination of their nuclear arsenals; preserving and strengthening the Anti-Ballistic Missile (ABM) Treaty; increased transparency regarding nuclear weapons capabilities; concrete measures to reduce the operational status of nuclear weapons (i.e. de-alerting); and a diminishing role for nuclear weapons in security policies.

The current U.S. regime has no interest in doing more to fulfill its end of the NPT bargain, declaring instead that the NPT is “dangerously out of balance,” with disarmament proceeding adequately, but too little action on preventing the spread of nuclear weapons.¹⁵ As evidence for this it points to the Moscow Treaty¹⁶, a toothless agreement that does not require the destruction of a single warhead or delivery system; and dismantlement of obsolete and redundant warheads, agreed to years ago; while still leaving thousands of warheads on alert, enough to destroy any country on earth several times over. At the same time, the U.S. is moving forward on programs that reject almost every disarmament commitment it has made over the past decade. The U.S. has decisively rejected the CTBT, and is moving to increase its ability to resume full scale underground nuclear tests. The U.S. has pulled out of the ABM treaty, and is spending billions on a variety of missile defense programs. Despite its commitment to “[a] diminishing role for nuclear weapons in security policies to minimize the risk that these weapons ever be used and to facilitate the process of their total elimination,” the U.S. is researching new missions and capabilities for nuclear weapons. And despite its commitment to “the principle of irreversibility to apply to nuclear disarmament,” the United States today is proposing to build the Modern Pit Facility, a factory that will allow it to mass produce the core component of nuclear weapons into the second half of the 21st century.

of its surface in proportion to particle size is exposed to oxygen, it will burn readily, particularly in a moist environment, and under such conditions may ignite spontaneously. This increases the risk that plutonium will be mobilized inside a pit factory, and that plutonium in small but potentially dangerous quantities will be released to the environment. Pit production activities inevitably will produce plutonium-contaminated waste, which due to the long half-life of weapons grade plutonium will remain dangerous for thousands of years, posing intractable (and to date unresolved) problems for waste management and disposition.

Here too, the secrecy that has prevailed throughout the nuclear age, and that is being imposed once more, increases the already significant dangers of nuclear warhead production. The imperatives of “serving the mission” routinely have overridden health and safety concerns in the past, and we have no sound reason to believe that things will be different in the future, particularly as the resurgent obsession with “national security” rapidly erodes the fragile, partial mechanisms constructed in recent decades for public oversight of our most powerful and secretive institutions. And here too, the “science” invoked to assure us that our health and our environment are being adequately protected has from the beginning represented a compromise with the officially unquestionable imperatives of war production. As Karl Morgan, one of the founders of the health physics discipline, put it, government health physicists were expected

...to develop safe means to dispose of radioactive waste and to set levels of maximum permissible body burden and acceptable concentrations in air, water, and food for hundreds of new species of isotopes. All this was to be done in a way that would prevent radiation injuries, so far as humanly possible. At the same time, however, we understood that the atomic bomb program could not be impeded. It was like being thrown into a cage of lions and instructed not to injure them because they were being trained to destroy the enemy.¹⁷

At every level, there is no such thing as a ‘safe,’ ‘clean’ way to make or sustain a nuclear arsenal. Nuclear weapons are the most terrible of weapons of mass destruction, made out of some of the most toxic materials known to humankind. We must not allow diversion of our attention to the minutiae of either policy or technical justifications to obscure the fact that we are facing a central choice: our government wants to commit us, and the world, to another half century or more on the nuclear brink.

The Modern Pit Facility: The Road to Hell is Paved with Unexamined Intentions

The terrors of the nuclear stand-off of the 20th century, and the intensifying rounds of warfare that have begun the 21st, should have taught us by now that these weapons of mass destruction are too dangerous to be left in any hands. Further, treating the problem as one of enforcement, with one or another country singled out as somehow a greater danger than others, has proved to be just another opportunity for manipulation and brinkmanship by the world’s most powerful states. And in an amazing inversion of logic, morality, and common sense, the need for disarmament has, in the U.S. “counterproliferation” vision, become the rationale for developing new kinds of nuclear weapons, more weapons of mass destruction as the solution to the problem of weapons of mass destruction. The secrecy that enshrouds everything having to do with weapons of mass destruction allows those who control both weapons and information to conceal as well their own true goals, and to support the public face of their policies with “facts” conveniently born in a secret world forever beyond verification. We long have known that truth is the first casualty of war, but truth, reason, and democracy all are inevitable casualties of endless preparation for wars of annihilation.

We appear to have grown so numb that we easily ignore the way each step deepens the crisis we are in. Our country is proposing to build an immense factory that will be able to make thousands upon thousands of city-destroying weapons. If any other country on earth were proposing to do this, the outcry in the U.S. would be immense. But plans to build a huge new

STOCKPILE STEWARDSHIP: Nuclear Weapons Research and Production for the 21st Century

...[A]n ability to innovate and produce small builds of special purpose weapons, characteristic of a smaller but still vital nuclear infrastructure, would act to convince an adversary that it could not expect to negate U.S. nuclear weapons capabilities. The development and subsequent modification of the B61-7 bomb—converting a few of them into B61-11 earth penetrator weapons—is a case in point. John Gordon, Administrator of the National Nuclear Security Administration (NNSA)¹⁸

The 2001 Nuclear Posture Review called for “revitalized defense infrastructure that will provide new capabilities in a timely fashion to meet emerging threats.”¹⁹ A significant part of this infrastructure is the Department of Energy (DOE)/National Nuclear Security Administration (NNSA) nuclear weapons research, testing, and production facilities. To sustain this vast complex, the U.S. is spending almost six billion dollars a year on the “Stockpile Stewardship program, including billions on new and more advanced nuclear weapons research and production facilities.

These include:

- The National Ignition Facility (NIF), now being built at the Livermore National Laboratory in California. The NIF is a laser driven fusion machine the size of a football stadium, designed to create very brief, contained thermonuclear explosions. It is slated to be used for a wide range of applications from training weapons designers in nuclear weapons science to nuclear weapons effects testing. NIF experiments, together with other fusion research being conducted at the nuclear weapons laboratories, could, in the long run, lead to the development of pure fusion weapons, not requiring plutonium or uranium.
- The Dual Axis Radiographic Hydrotest Facility (DARHT). This facility, near completion at the Los Alamos National Laboratory in New Mexico, will join several already existing facilities where mockups of primaries or “pits”, the first stage of a thermonuclear weapon, are imploded while very fast photographic or x-ray images are generated, thus allowing scientists to “see” inside the implosion. DOE already is developing technology for an even more sophisticated “hydrodynamic testing” facility, the Advanced Hydrotest Facility.
- Pulsed power technologies: Further experiments exploring the extreme conditions created in a nuclear weapon explosion are studied using various types of “pulsed power,” in which a large amount of energy is stored up and then released very quickly in a small space. The energy source can be chemical high explosives or stored electrical energy. Pulsed power facilities at both DOE and Department of Defense laboratories are used to explore nuclear weapons function and effects and directed energy weapons concepts, and could play a role in the development of a wide range of high technology weapons, including new types of nuclear weapons.

The data streams from these and other experimental facilities, along with that from “subcritical” tests which implode nuclear materials but have no measurable nuclear yield and the archived data from over 1000 past U.S. nuclear tests, will be integrated via the Advanced Strategic Computing Program. This multi-billion dollar supercomputing program reaches beyond the weapons laboratories, seeking to incorporate the nation’s leading universities into an effort to attract and train yet another generation of nuclear weapons designers. Finally, smaller, modernized nuclear weapons production processes are being developed to allow flexible, small lot manufacturing, with planning underway for a new plutonium pit factory for large-scale production. New production of tritium also is planned.

In addition to the Modern Pit Facility, the DOE is pursuing a wide range of programs to modernize its nuclear weapons production infrastructure. These range from a smaller pit manufacturing capability at Los Alamos National Laboratory in New Mexico to upgraded nuclear weapon component manufacturing facilities at Oak Ridge National Laboratory and tritium facilities at Savannah River, Georgia. In addition, the government will be producing tritium for nuclear weapons at civilian nuclear power plants operated by the Tennessee Valley Authority (TVA).

weapons of mass destruction plant right here at home in the United States draws less attention from a jingoistic media and a docile Congress than every rumor from “intelligence sources” that a thimbleful of anthrax may fall into hostile hands somewhere, sometime.

The Path to a More Peaceful World

It is time to bring this spiral of insanity to an end, before it ends us. We must begin by recognizing—by remembering—that nuclear weapons are the pre-eminent threat to human civilization, the only way we can destroy ourselves in a few hours or days. Nuclear weapons are in this way *different*, and no claim that they are “useful” to deter this or that “threat” can be reconciled with this fact. People everywhere should demand that global negotiations begin immediately for the elimination of all nuclear arsenals, along with the means for their manufacture and maintenance. These negotiations should also, of course, work for drastic improvements in intrusive international monitoring of all nuclear materials and technologies everywhere, including those held by the existing nuclear powers. This will reduce the danger that more states will acquire nuclear weapons, now offered as the most viscerally appealing surface justification for “useable” nuclear weapons and a proliferating assortment of other “counterproliferation” weaponry, and also will improve confidence that nuclear arsenals can be irreversibly reduced and eventually eliminated. All governments having nuclear weapons have concealed information about their nuclear programs from the world and from their own peoples. None is entitled to a privileged role in the long and dangerous work of disassembling institutions built on foundations of mortal fear and mutual suspicion, and in every nuclear state to a greater or lesser degree by factional quests for wealth and political power.

For the United States and the other four original nuclear weapons states, this would be nothing more than fulfillment of their Non-Proliferation Treaty Article VI disarmament obligation. For the other countries with large nuclear arsenals, India, Israel, and Pakistan, aside from being a sane step away from the twin nuclear risks of genocide and suicide,

this would represent adherence to—and help to cement—an emerging global norm against not only nuclear weapons use, but possession. This norm was partially manifest in the NPT itself, which outlawed nuclear weapons for most countries that did not yet have them, in exchange for a promise from those that had nuclear weapons to someday eliminate them forever.

That day is long past due. The two-tier world of nuclear and non-nuclear weapons states was a reality that the entire structure of the NPT acknowledged—not as a workable world order to be “legalized” by the treaty, but rather as an unacceptable state of affairs that the Treaty was explicitly intended, over time, to bring to an end. But despite sustained efforts by the nuclear weapons states, and particularly by the U.S. and its allies, to use the NPT instead to permanently institutionalize this two-tier world, it is inherently unsustainable. As the Canberra Commission on the Elimination of Nuclear Weapons recognized in 1996,

Nuclear weapons are held by a handful of states which insist that these weapons provide unique security benefits, and yet reserve uniquely to themselves the right to own them. This situation is highly discriminatory and thus unstable; it cannot be sustained. The possession of nuclear weapons by any state is a constant stimulus to other states to acquire them.²⁰

The post Cold-War decade of the 1990's, which should have been a time of great opportunity for progress on nuclear disarmament, instead saw continued insistence on special nuclear privileges by the original nuclear weapons states, and the emergence of two new declared nuclear weapons states, India and Pakistan. South Asian nuclear weapons advocates explicitly cited active U.S. programs, clearly not winding down towards disarmament, as a justification for nuclear arms as a legitimate “security” tool. And with the United States now threatening to attack other states that dare to acquire—or even seem to be preparing to acquire—nuclear, chemical, or biological weapons, target states are responding instead by insisting on their own sovereign right to “defend” themselves,

Effects of Nuclear Weapons Use

A number of studies have estimated the effects of nuclear attack. They show that a few hundred nuclear weapons can devastate any country on earth, and that even the accidental launch of a small number of nuclear weapons would be a catastrophe of unprecedented magnitude, and that even the first atomic bombs, far less powerful than those that exist by the thousands today, could destroy entire cities in an instant:

“A total of 500 deliverable U.S. retaliatory warheads, for instance, could destroy ‘most [Russian] petrochemical, metallurgical, and heavy-machinery industry; all major [CIS] storage sites for ammunition, fuel, and other military supplies; all major tactical airfields; some troop concentrations; and all major [Russian] transportation nodes and choke points en route to the European and Far Eastern theaters,’ all garrisons for mobile strategic missiles; all primary strategic bomber bases and submarine pens; most strategic bomber dispersal bases; and most major fixed and mobile command posts. A comparable number of survivable Russian strategic warheads could wreak no less comprehensive devastation on the United States.” Bruce Blair, *The Logic of Accidental Nuclear War* (The Brookings Institution, Washington, D.C., 1993), citing U.S. Congressional Budget Office, *The START Treaty and Beyond* (1991) pp.14-15, 21.

“As a conservative estimate, an accidental intermediate- sized launch of weapons from a single Russian submarine would result in the deaths of 6,838,000 persons from firestorms in eight U.S.cities. Millions of other people would probably be exposed to potentially lethal radiation from fallout.” Lachlan Farrow, et al., “Accidental Nuclear War: A Post--Cold War Assessment,” *New England Journal of Medicine*, v.338 no.18, pp.1326-1331, at 1326.

“The atomic bombs dropped on Hiroshima and Nagasaki shattered all war precedent. The mind-numbing damage these nuclear weapons wrought shook the foundations of human existence....

Beneath the atomic bomb’s mushroom cloud, human skin was burned raw. Crying for water, human beings died in desperate agony. *With thoughts of these victims as the starting point, it is incumbent upon us to think about the nuclear age and the relationship between human beings and nuclear weapons....* [emphasis added]

The unique characteristic of the atomic bombing was that the enormous destruction was instantaneous and universal. Old, young, male, female, soldier, civilian—the killing was utterly indiscriminate. The entire city was exposed to the compound and devastating effects of thermal rays, shock wave blast, and radiation...” November 1995 Testimony of Takashi Hiraoka, Mayor of Hiroshima, before the International Court of Justice in the case *Legality of the Threat or Use of Nuclear Weapons*, General List No. 95 (Advisory Opinion of 8 July 1996).

“Based on the available population data, the historical experiences of Hiroshima and Nagasaki and different physical models, we have estimated short-term casualties from a hypothetical explosion over Bombay. For a 15 kiloton explosion [approximately the explosive yield of the Hiroshima bomb], the number of deaths would range between 160,000 to 866,000. A 150 kiloton weapon could cause somewhere between 736,000 and 8,660,000 deaths. In addition, there would be several hundreds of thousands of people who would suffer from injuries or burns. Many of them may die without prompt medical aid, which is quite unlikely. These estimates are conservative and there are a number of reasons to expect that the actual numbers would be much higher. Further, these estimates do not include the long-term effects like cancers that would afflict thousands of people in the following years or genetic mutations that would affect future generations.” M.V. Ramana, *Bombing Bombay? Effects of Nuclear Weapons and a Case Study of a Hypothetical Explosion*, International Physicians for the Prevention of Nuclear War, 1999, p. 38.

if they choose, in the same manner as the United States—with nuclear arms, the ultimate terror weapons. As North Korea put it in a statement concerning its threat to extract weapons-useable plutonium from its spent nuclear fuel,

The Iraqi war teaches a lesson that in order to prevent a war and defend the security of a country and the sovereignty of a nation it is necessary to have a powerful physical deterrent force only.²¹

Iran is pursuing a more subtle course, insisting on its right to develop fully its own indigenous “peaceful” nuclear technologies at a level approaching that of the nuclear weapons states. This entails development of an extensive nuclear materials establishment and the institutions and trained personnel to administer it. This path that would leave it only a few steps short of a nuclear weapons program—which also is true of every other country in the world with a sophisticated nuclear industry. Protests by the Western nuclear weapons states that such a nuclear industry is “not necessary” for a particular sovereign state reveals the contradictions, and the hypocrisy, at the heart of the second key NPT bargain, the assurance that non-nuclear weapons states parties would be provided unfettered access to nuclear technology, and assistance in its development. Having purchased decades of grudging assent to their own arsenals in part through subsidized proliferation of nuclear technologies (while at the same time using selective technology transfer to advance their geopolitical goals), the nuclear weapons states now are forced to acknowledge the inextricable link between “peaceful” nuclear capacities and nuclear weapons. An increasing number of countries, now nearing the point where they can have nuclear weapons of their own, are in a position to either call in the NPT disarmament bargain, or to declare it void as it

becomes ever more evident that at least some of the original nuclear weapons states never intended to hold up their end of the bargain.

The United States could take a simple, easy step to slow the looming 21st century arms race it has done so much to start. The government could announce, right now, that it will not build a new plutonium pit factory. This would not be a large step. From any perspective not distorted by the fantasies of absolute control implicit in a “need” for assurance that all the thousands of U.S. nuclear weapons will explode exactly as predicted twenty or more years from now, it would entail no meaningful risk. It would be a statement that the United States believes that by the second quarter of this century, it might not feel the need to threaten hundreds of millions of people with extermination every minute of every day, and to subject its own people to the same threat. At a time when the growing global perception of the United States is of a country that seeks to dominate the world by force of arms for decades to come, it would suggest that we can imagine a future where international disputes can be resolved peacefully, through multilateral institutions in which we claim no privileged place. At a time when every military, every violent faction in every country on earth can justify their own ambitions by pointing to the unremitting pursuit of more military power by the most powerful military the world has ever known, it would be a small acknowledgment that the perfection of violence is not the answer to every political question. Failing to take such a small step for peace, when the benefit for the path to peace may be great, will be instead an unambiguous commitment to the way of war.

Information Bulletin for WSLF and LASG by Andrew M. Lichterman, with contributions from Greg Mello and Jacqueline Cabasso

Notes

1. U.S. Department of Energy, *Draft Supplemental Programmatic Environmental Impact Statement on Stockpile Stewardship and Management for a Modern Pit Facility*, 2003, p.S-17
2. International Court of Justice, *Legality of the Threat or Use of Nuclear Weapons*, General List No.95 (Advisory Opinion of 8 July 1996), sec. 105F, (emphasis added).
3. U.S. Air Force, HQ USAF/XPXT, Transformation Division, *The USAF Transformation Flight Plan FY03-07*

4. U.S. Department of Energy, *Draft Supplemental Programmatic Environmental Impact Statement on Stockpile Stewardship and Management for a Modern Pit Facility*, 2003, p.S1
5. For more information on the B61-11 and other research on nuclear weapons with new capabilities during the 1990's, see Greg Mello, "New bomb, No Mission," *The Bulletin of Atomic Scientists*, May/June 1997, and Andrew Lichterman, *Looking for New Ways to Use Nuclear Weapons: U.S. Counterproliferation Programs, Weapons Effects Research, and "Mini-Nuke" Development*, Western States Legal Foundation Information Bulletin, Winter 2001, <http://www.wslfweb.org/docs/mininuke.pdf>.
6. U.S. Department of Defense, Deputy Under Secretary of Defense (Science and Technology), *Defense Technology Area Plan*, (2000), p.XI-7, obtained by Western States Legal Foundation under the Freedom of Information Act. Full document available at <http://www.wslfweb.org/docs/dstp2000/dtappdf/contents.pdf>
7. U.S. Department of Defense, Deputy Under Secretary of Defense (Science and Technology), *Defense Technology Objectives for Defense Technology Area Plan*, (2000), "Nuclear Phenomenology," p. II-372, obtained by Western States Legal Foundation under the Freedom of Information Act. (Emphasis added) The full document can be found on the WSLF web site at <http://www.wslfweb.org/docs/dstp2000/dtopdf/24-NT.pdf>
8. Nuclear Posture Review, pp. 34-35, provided in "Nuclear Posture Review Excerpts," Globalsecurity.org, at <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm> (hereafter *Nuclear Posture Review*). For a more detailed analysis of the Nuclear Posture Review and current U.S. nuclear weapons policies and their relationship to other high-tech weapons programs, see Andrew Lichterman and Jacqueline Cabasso, *The Shape of Things to Come: The Nuclear Posture Review, Missile Defense, and the Dangers of a New Arms Race*, WSLF Special Report, April 2002, <http://www.wslfweb.org/docs/shape.pdf> For additional information from a variety of sources about the Nuclear Posture Review, see the WSLF NPR information page at <http://www.wslfweb.org/nukes/npr.htm>
9. *Nuclear Posture Review* pp.34-35
10. U.S. Department of Energy FY2003 Congressional Budget Request, National Nuclear Security Administration, Weapons Activities, Executive Summary p.10 (pdf file pagination)
11. "Stockpile Stewardship Conference Planning Meeting Minutes," 10 January 2003, Attachment 2, "Panels: Draft Topics Lists and Members." Obtained by the Los Alamos Study Group, www.lasg.org, full document available at <http://www.lasg.org/StockpileStewardshipReview%5b1%5d.htm>
12. See Walter Pincus, "Pentagon Pursues Nuclear Earth Penetrator," *The Washington Post*, March 7, 2003, p.A25.
13. General Lee Butler, "The Risks of Nuclear Deterrence: From Superpowers to Rogue Leaders," address to the National Press Club, February 2, 1998
14. 2000 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons, Final Document, NPT/CONF.2000/28, 22 May 2000.
15. "Statement by Assistant Secretary of State John S. Wolf, Representative of the United States of American to the Second Session of the Preparatory Committee for the 2005 Review Conference of the Parties to the Treaty on the Non-Proliferation of Nuclear Weapons," Geneva, Switzerland, April 28, 2003
16. The Strategic Offensive Reductions Treaty (SORT), signed on May 24, 2002 by President George W. Bush, and approved by the Senate on March 6, 2003, terminated the START II and START III process with the Russian Federation, and undermined the path to de-nuclearization by omitting any requirements for the destruction of warheads and delivery systems, and by failing to provide for a verification process.
17. Karl Z. Morgan and Ken M. Peterson, *The Angry Genie: One Man's Walk through the Nuclear Age*, (University of Oklahoma Press, 1999), pp.17-18

18. John A. Gordon, Administrator of the National Nuclear Security Administration (NNSA), Written Statement to the Committee on Armed Services, U.S. Senate, February 14, 2002.

19. U.S. Department of Defense, "Nuclear Posture Review Report: Forward," January 8, 2002, <http://www.globalsecurity.org/wmd/library/policy/dod/npr.htm>

20. Report of the Canberra Commission on the Elimination of Nuclear Weapons, Canberra Australia, Commonwealth of Australia, 1996. The Canberra Commission, an international, multidisciplinary group of experts, was convened by the Australian government following the indefinite extension of the NPT in 1995.

21. Korean Central News Agency, "Spokesman for DPRK Foreign Ministry on expected DPRK-U.S. talks," April 18, 2003.

WEB RESOURCES

U.S. Nuclear Weapons Policies and Programs

For additional information on plutonium pits and related issues, see Greg Mello, Los Alamos Study Group, "Why Make More Plutonium Pits?" November 2002, <http://www.lasg.org/AlbJournalPitArticle.htm> and Greg Mello, Declaration on Plutonium Pit Production in Stockpile Stewardship and Management Law Suit brought by 39 organizations against the Department of Energy, at http://www.lasg.org/pitaffidavit_b.html

For more information on U.S. nuclear weapons programs, see *Sliding Towards the Brink: More Useable Nuclear Weapons and the Dangerous Illusions of High-Tech War*, WSLF information Bulletin, March 2003, <http://www.wslfweb.org/docs/nucpreppdf.pdf> and *The Shape of Things to Come: The Nuclear Posture Review, Missile Defense, and the Dangers of a New Arms Race*, WSLF Special Report, April, 2002, <http://www.wslfweb.org/docs/shape.pdf>

For details on the Pentagon planning process for developing and building nuclear weapons for "small strikes," see documents obtained by the Los Alamos Study Group at <http://www.lasg.org/NuclearWeaponsConference.htm>

For additional publications on U.S. nuclear weapons programs and policies, see the **Western States Legal Foundation on-line documents library** at <http://www.wslfweb.org/doclib.htm> and the **Los Alamos Study Group Web Site** at <http://www.lasg.org>

For links to a wide range of government and non-government resources on nuclear weapons, see the **Western States Legal Foundation web resource guide** at <http://www.wslfweb.org/links.htm>

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