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THE END OF DISARMAMENT AND THE ARMS RACES TO COME

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"Somehow we must transform the dynamics of the world power struggle from the negative nuclear arms race which no one can win to a positive contest to harness man's creative genius for the purpose of making peace and prosperity a reality for all of the nations of the world. In short, we must shift the arms race into a 'peace race'." -- Martin Luther King Jr. (King, 1964)

The decade that has passed since the end of the Cold War represents an historically unprecedented period of squandered opportunity. Prospects for a new era of cooperative global security have been replaced by the reality of an increasingly unilateral and aggressive U.S. foreign policy, in which the potential use of nuclear weapons is again becoming "thinkable." Moreover, U.S. behavior in the international arena is eroding the network of security treaties that has helped to stem the spread of nuclear, chemical and biological weapons, thus contributing to the creation of conditions which threaten to spark new arms races.[1]

Nuclear Arms Racing: Destructive Power "Off the Human Scale"

The United States was the first and is still the only county to have used nuclear weapons in war. The estimated number of "acute" deaths (within two to four months) resulting from the explosions and fire storms generated by the two atomic bombs dropped on Hiroshima and Nagasaki in 1945 is as high as 220,000 (RERF, 2002). As awesome and terrible as the destruction caused by those first bombs was, it is miniscule compared to the destructive power of today's nuclear arsenals. The U.S. atomic bombings of Hiroshima and Nagasaki signaled the start of an entirely new kind of arms race, an arms race that according to Theodore Taylor, a prominent early nuclear weapons designer, "moved the human capacity for destruction clear off the human scale."[2] Herbert York, the first director of the

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[1] For a comprehensive analysis of the record of U.S. compliance with respect to the security-related treaties it has ratified, as well as the effects of its refusal to enter into other treaties, see *Rule of Power or Rule of Law? An Assessment of U.S. Policies and Actions Regarding Security-Related Treaties*, Institute for Energy and Environmental Research and Lawyers' Committee on Nuclear Policy, April 2002, available online at http://www.ieer.org and http://www.clnp.org.

[2] Taylor later became a passionate advocate for the abolition of both nuclear weapons and nuclear power. He frequently invokes the phrase "clear off the human scale" in describing the destructive power of nuclear weapons. See for example, *Thoughts About the Signing of the Comprehensive Nuclear Test Ban Treaty*, Theodore B. Taylor,

Lawrence Livermore National (nuclear weapons) Laboratory, estimates that "by 1950 the nuclear-arms race had reached a point such that we could duplicate the destruction of World War II by using nuclear weapons, except that while that conflict had lasted for more than five years, the devastation could now be reproduced in a single day" (York, 1970: 33).

The subsequent development of the hydrogen bomb resulted in a thousand-fold increase in explosive yield. According to York, by the beginning of the 1960's, the nuclear weapons in the U.S. stockpile had reached "the energy equivalent of some ten thousand World War IIs, most of which could be released in a matter of hours. We had reached a level of supersaturation that some writers characterized by the word 'overkill,' an understatement in my opinion" (York, 1970: 42).

More powerful and sophisticated delivery systems accompanied the development of more powerful and sophisticated nuclear warheads. The Soviet Union's successful launch of Sputnik in 1957 began a space race that also fueled fears of a Soviet-led "missile gap." John F. Kennedy exploited these fears during the 1960 Presidential campaign, although−as it turned out, the missile gap favored the United States. The U.S. went ahead anyway with an accelerated deployment of nuclear missiles, provoking the Soviets to engage in a new missile race.[3]

By the time the Partial Test Ban Treaty (PTBT), which banned atmospheric nuclear testing, was negotiated in 1963, there were more than 34,000 nuclear weapons in the world – nearly 30,000 of them in the U.S. arsenal (*The Bulletin of the Atomic Scientists*, 1997). The PTBT raised hopes that the nuclear arms race would be curtailed. But in the end, it turned out to be primarily an environmental health measure, in that it protected populations from exposure to radioactive fallout from testing. In the U.S., under pressure from the politically powerful nuclear weapons laboratories (the heirs to the Manhattan Project) and their allies, underground nuclear testing was expanded, and the arms race continued, unabated.

At the same time, determined non-nuclear weapon states led new international efforts to stem the arms race. The Nuclear Non Proliferation Treaty, (NPT), which entered into force in 1970, aimed to stop the spread of nuclear weapons by brokering a deal between Nuclear Weapon States and Non Nuclear Weapon States.[4] The nuclear weapons states (NWS) pledged to end the arms race and negotiate disarmament, while the non-nuclear weapons states (NNWS) pledged not to acquire nuclear weapons.[5]

September 24, 1996, available on line at http://prop1.org/2000/tedtctbt.htm

[3] According to Herbert York, "By the time a strategically significant number of missiles had been deployed, the missile gap was in our favor, and it took the Russians almost a decade to catch up." *Race to Oblivion*, p. 144

[4] The United States, the United Kingdom, and the Soviet Union signed the NPT as Nuclear Weapon States in 1968. Both China and France later joined the Treaty, which then encompassed all five of the original nuclear powers. Most of the world's states subsequently joined the NPT as Non Nuclear Weapon States. The NPT now has 187 states parties, leaving only Israel, India, Pakistan, (all now armed with nuclear weapons), and Cuba outside the NPT regime.

[5] Article VI of the Treaty on the Non-Proliferation of Nuclear Weapons reads: "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, July 1, 1968. The NPT represents the only

The NPT not withstanding, the arms race continued. The global arsenal peaked in 1990 – the same year the Cold War ended -- at more than 60,000 nuclear weapons (*The Bulletin of the Atomic Scientists*, 1997).

Soon after the fall of the Berlin wall, U.S. nuclear weapons strategists began to justify a continuing need for nuclear weapons by painting a picture of a world still full of dangerous adversaries. By 1990, the Joint Chiefs of Staff were invoking "increasingly dangerous Third World Threats" as a rationale for retaining both strategic and non-strategic nuclear weapons.[6] By the mid-1990's, use of nuclear weapons against a broad range of potential weapons of mass destruction – nuclear, chemical and biological -- targets was being discussed in detail in the nuclear weapons doctrine documents of the U.S. military services, and the use of nuclear weapons to threaten nations suspected of possessing weapons of mass destruction (WMD) became part of U.S. "counterproliferation" policy.[7] Presidential Decision Directive-60 (PDD-60), signed by Bill Clinton in 1997, reaffirmed the U.S. policies of threatened first use and threatened massive retaliation and recommitted the U.S. to nuclear weapons as the "cornerstone" of its national security. PDD-60 also further institutionalized a policy shift that had been underway for some time: nuclear weapons would now be used to "deter" a range of threats including not only nuclear, but also chemical and biological weapons.[8]

In May 2000, at the conclusion of the first NPT Review Conference since the Treaty's indefinite extension in 1995,[9] the non-nuclear weapons states extracted a new set of commitments from

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binding commitment in a multilateral treaty to the goal of disarmament by the nuclear-weapon States. It is also the only security agreement that permits two classes of member states: those acknowledged to possess nuclear weapons while negotiating their elimination, and those barred from acquiring them.

[6] See Hans Kristensen, *Nuclear Futures: Proliferation of Weapons of Mass Destruction and U.S. Nuclear Strategy,* British American Security Information Council (BASIC) report 98.2 p. 10. This report provides a detailed account of the shift in U.S. nuclear weapons targeting policy towards greater emphasis on broadly defined "weapons of mass destruction" threats" during the 1990's.

[7] For more detail on this point, see *Looking for New Ways to Use Nuclear Weapons: U.S. Counterproliferation Programs, Weapons Effects Research, and "Mini-Nuke" Development,* WSLF Information Bulletin, Winter 2000, available at http://www.wslfweb.org/docs/mininukes.pdf

[8] Although PDD-60 itself was secret, its existence and general focus were reported in the media. Robert Bell, then Special Assistant to the President and Senior Director for Defense Policy, National Security Council, told the Washington Post that "Clinton's nuclear targeting directive reflects 'much greater sensitivity to threats posed by chemical and biological attacks since the previous directive was issued [in 1981.'" R. Jeffrey Smith, "Clinton Directive Changes Strategy on Nuclear Arms," *Washington Post,* December 7, 1997, p.10.quoted in J. Medalia, "Nuclear Weapons Production Capability Issues," CRS Report to Congress, Jun 1998, p. CRS-14.

[9] The NPT's initial duration was 25 years. In 1995 it was extended indefinitely, with a review conference to be held every five years. At the 1995 Review and Extension Conference there were deep divisions between the nuclear weapon States (NWS) and the non-nuclear weapons States (NNWS) about the terms for extension of the treaty. The NNWS felt that the NWS had not lived up to their end of the bargain: that the nuclear arms race had not ended, and that the NWS had not demonstrated a meaningful commitment to disarmament. They felt that the NPT was being used by the NWS as a mechanism for perpetuating a hypocritical international double standard. In order to make the deal palatable to the NNWS the extension decision was coupled with a package containing nonbinding Principles

the nuclear weapons states. The agreement called for the systematic implementation of Article VI of the NPT, which requires the NWS to negotiate in good faith the cessation of the nuclear arms race and nuclear disarmament. These steps include: ratification of the Comprehensive Test Ban Treaty (CTBT); 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 its nuclear arsenal; full implementation of START II and conclusion of START III strategic arms agreements as soon as possible while 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; and a diminishing role for nuclear weapons in security policies (Parties to the Treaty of the Non-Proliferation of Nuclear Weapons, 2000: pp. 13 – 15).

Today, more than 2,000 U.S. "strategic" (long range) nuclear warheads remain on hair-trigger alert, ready to instantly target locations around the globe. Land based nuclear missiles are ready to launch their deadly payloads within two minutes. And U.S. Trident submarines continue to patrol the seas at Cold War levels, ready to fire hundreds more of the most destructive and precise weapons ever conceived, on fifteen minutes notice.[10]

The 2002 Nuclear Posture Review

The January 2002 Nuclear Posture Review (NPR)[11] revealed that the United States intends to keep thousands of nuclear weapons for the foreseeable future. While unilateral cuts in deployed U.S. strategic arms[12] are anticipated over the next 10 years, the ability to rapidly reconstitute the arsenal size is

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and Objectives for Nonproliferation and Disarmament and a strengthened review process. See *The Nuclear Non-Proliferation Treaty 2000 Review Conference: Turning Point on the Road to Nuclear Disarmament, Western States Legal Foundation* Information Bulletin, Winter/Spring 2000, at http://www.wslfweb.org/docs/nptbull1.pdf

In 1996, under growing international pressure, the International Court of Justice, the judicial arm of the United Nations and the highest court in the world on questions of international law, issued an authoritative interpretation of Article VI . The Court found unanimously) that an obligation exists to *conclude* negotiations on the elimination of nuclear weapons. For an in-depth analysis of the Court's opinion see *The Legality of Threat or Use of Nuclear Weapons; A Guide to the Historic Opinion of the International Court of Justice,* John Burroughs, International Association Of Lawyers Against Nuclear Arms, Lit Verlag, Munster, 1997; Transaction, Piscataway, NJ, 1998. Ordering information is available on line at http://www.lcnp.org/wcourt/Adlegality.htm

[10] See Bruce Blair, *Trapped in the Nuclear Math*, New York Times OP.Ed. June 12, 2000. Available online at http://www.cdi.org/issues/proliferation/blairnytimes6.12.00.html For a detailed analysis of current U.S. nuclear forces see "U.S. Nuclear Forces, 2002," NRDC Nuclear Notebook, in *The Bulletin of the Atomic Scientists*, May/June 2002, pp. 70 – 75, available online at http://www.thebulletin.org/issues/nukenotes/mj02nukenote.pdf

[11] The broad outlines of the classified Nuclear Posture Review (NPR) were presented to the public at a January 9, 2002 Defense Department briefing. Copies of the classified document were subsequently obtained by the New York Times and the Los Angeles Times and reported on March 10. Excerpts from the classified NPR are available online at http://www.Globalsecurity.org Publicly available government documents and Congressional testimony on the NPR as well as newspaper articles, relevant publications and other NPR resources are available on the Western States Legal Foundation Nuclear Posture Review Information Page at http://www.wslfweb.org/nukes/npr.htm

[12] This includes nuclear warheads placed on long-range delivery systems including land-based intercontinental ballistic

emphasized. The capability to modify existing nuclear weapons or develop new weapon types will be retained, along with an upgraded capacity to resume full scale underground nuclear tests.

Maintained weapons-retained capacity

The U.S--Russia strategic nuclear arms treaty, announced with much fanfare in May 2002, will do nothing to limit any of the nuclear weapons programs envisioned in the NPR. The Treaty does not require the destruction of a single warhead or delivery system, and places no limits on the development or deployment of new kinds of nuclear weapons.[13] At best, it could be argued that the NPR "cuts" – to 1700 to 2200 deployed strategic warheads-- will reduce the operational status of a significant number of nuclear weapons. However, instead of being destroyed, many of the warheads withdrawn from deployment will be retained as part of a "responsive force" of nuclear armaments, enabling the U.S. to re-deploy an expanded nuclear arsenal far into the future. Thousands more are likely to be retained on "inactive reserve" status or as stored components, capable of being reassembled into nuclear weapons. The 2002 U.S. Russia arms pact sets limits only on "deployed, strategic" nuclear warheads– and those limits are the same 1700-2200 number already envisioned in the NPR. The warheads no longer "deployed"-- many of which likely could be returned to active service in a few weeks or months – are not included in this figure. Also uncounted are nuclear weapons that were designated as "tactical" for Cold War arms control purposes.[14] The proposed reductions still will leave stockpiles consisting of thousands of warheads with explosive power sufficient to destroy any country several times over, leaving much of the planet a radioactive wasteland.

"Credible-use" of nuclear weapons

One of the main goals of the policies and programs endorsed by the NPR is to make U.S. threats of force, including nuclear threats, more credible. U.S. military planners have decided to solve the credibility problem by approaching it from both ends: more powerful conventional forces for use where nuclear weapons would be untenable, and more useable nuclear weapons where nothing else has sufficient power to intimidate or destroy. Nuclear weapons would not be segregated either operationally or doctrinally from conventional weapons; "nuclear forces will be integrated with, rather than treated in isolation from, other military capabilities." (Feith, 2002: 5) These will include both missile defenses and new military systems

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missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and long-range bombers. Not included are tactical or short-range nuclear weapons, which include artillery shells, bombs, and short-range missiles, deployed for use in battlefield operations. The Nuclear Threat Initiative has prepared a comprehensive glossary of terms related to weapons of mass destruction (WMDs), available on line at http://www.nti.org/f_wmd411/gloss.html#s

[13] See Office of the Press Secretary, the White House, Press release, "Text of Strategic Offensive Reductions Treaty," May 24, 2002, http://www.whitehouse.gov/news/releases/2002/05/print/20020524-3.html

[14] An authoritative independent source estimates that the U.S. nuclear arsenal *after* the proposed "reductions" may total nearly 15,000 nuclear warheads, including "deployed, strategic" warheads, "nonstrategic" bombs and warheads, strategic and non-strategic "responsive" forces, "spare" warheads, an "inactive reserve" stockpile, and some 5,000 stored plutonium and/or uranium "primary" and "secondary" components that could be reassembled into weapons. *Faking Nuclear Restraint: The Bush Administration's Secret Plan for Strengthening U.S. Nuclear Forces*, Natural Resources Defense Council, February 2002

ranging from more sophisticated long range, accurate conventional missiles to weapons designed to disrupt or destroy electronic command, control, and air defense systems. The NPR also envisions modernization of the research and production facilities needed to design and build new nuclear warheads and other strategic weapons.

The "New Strategic Triad"

The NPR adds new non-nuclear weapons capabilities to the "old" Cold War strategic triad, which consisted of submarine-based ballistic missiles, land-based intercontinental missiles and strategic bombers. The NPRgives this category a new name – "[o]ffensive strike systems" – and locates it within a "new" strategic triad. The other legs of this new triad are "[d]efenses (both active and passive)," and a "revitalized defense infrastructure that will provide new capabilities in a timely fashion to meet emerging threats." These three elements are bound together by "enhanced command and control" and "intelligence systems" (U.S. Department of Defense Nuclear Posture Review, 2002: p. 1).[15]

Taken together, this "New Triad" will entail a massive, broad high-tech weapons build-up by the United States. Such a program is likely to erode what remains of the fragile and limited arms control accomplishments of the last three decades. Faced with overwhelming U.S. conventional forces, a constantly modernized nuclear arsenal, and an emerging array of next generation high-tech systems of which missile defenses are only one part, nuclear weapons states are likely to hold on to their existing arsenals or build more.

Repudiation of arms control treaties

At the same time, the NPR repudiated most of the existing and pending treaties whose purpose is to prevent further nuclear arms competition. The NPR reiterated Administration plans to oppose ratification of the Comprehensive Test Ban Treaty and to proceed with development of missile defenses not permitted by the Anti-Ballistic Missile (ABM) Treaty.[16] It also indicated that any nuclear arms reductions would be

[15] See also Special Briefing on the Nuclear Posture Review, DoD News Briefing, January 9, 2002, slide 9, available online at http://usinfo.state.gov/topical/pol/arms/stories/review.htm

[16] The ABM Treaty, which was terminated by President George W. Bush on June 13, 2002 over Russia's objections, was widely considered to be a fundamental building block of the arms control regime. Signed by President Richard Nixon and General Secretary Leonid Brezhnev and ratified by the Senate and the Duma in 1972 , it was negotiated by the U.S. and the Soviet Union during a period of rapidly expanding nuclear arsenals and new technological capabilities that made a crippling surprise first strike by one side against the other increasingly possible. This led to a drive for defensive systems that would enable the country that had first launched its nuclear warheads to prevent a successful retaliation by its opponent. "Second strike" capability (i.e. the ability to strike back) is central to the theory of nuclear "deterrence." Thus, one country would have an incentive to build up its offensive nuclear strike forces in order to overwhelm the defensive capability of its opponent. An uncontrollable and increasingly unstable arms race, blurring the distinction between "offenses" and "defenses" would likely result. In this context, the ABM Treaty was designed to preserve the balance of terror between the U.S. and the U.S.S.R. by enshrining the Cold War doctrine of "Mutually Assured Destruction" (MAD). Somewhat paradoxically, in the interests of preserving MAD, the ABM Treaty is the only arms control treaty that prospectively limited the development of an entire category of weaponry. The Treaty set strict limits on the deployment of ground based missile interceptors and prohibited the

achieved without the "requirement for Cold War-style treaties." (DoD, 2002) Once the new U.S.–Russia strategic nuclear arms treaty enters into force, the "Cold War style" arms reduction process will be, for all intents and purposes, dead. START I Treaty provisions remain in effect until 2009, but mandate no further reductions from current warhead levels.[17] The START II Treaty,[18] which both called for verifiable reductions in warhead numbers and destruction of some delivery systems to be achieved by 2007, will not enter into force. The new treaty instead sets a target date of 2012 for reductions in deployed strategic nuclear warheads only. It has neither requirements for destruction of warheads or delivery systems, nor provisions for verification. It expires in 2012 unless renewed by the U.S. and Russia. And in the meantime, both countries can field whatever kind of nuclear arsenals they desire (consistent until 2009 with the START I agreement), even increasing their forces temporarily, as long as the limited reductions in strategic nuclear deployments are achieved by 2012. And with the leading nuclear power continuing to ignore its Nuclear Non Proliferation Treaty (NPT) obligation to end arms racing and mover toward nuclear disarmament, that treaty too will be severely undermined, pushing the world closer to a new, unrestrained, and unpredictable arms race.

"Stockpile Stewardship": New Name, Same Old Game

The NPR also calls for the modernization of the U.S. nuclear weapons complex. Under the euphemism, "Stockpile Stewardship," work is already underway at the weapons labs to build facilities to produce current and new design plutonium pits (the atomic triggers at the core of modern thermonuclear weapons) without underground testing. Plans are on the drawing board for a larger pit factory to be built in the future (*The Bulletin of the Atomic Scientists*, 2002). As a central part of stockpile stewardship, the U.S. also is building an array of new nuclear weapons research facilities of unprecedented sophistication. These facilities will allow the U.S. to continue testing many aspects of nuclear weapons function in the laboratory, even setting off small thermonuclear explosions in containment vessels. Together with the world's most powerful super-computers, these devices will allow the U.S. to train a new generation of nuclear weapons designers and to explore new weapons concepts despite the moratorium on full scale underground nuclear testing.[19]

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development, testing, or deployment of sea-based, air-based, space-based, or mobile land-based ABM systems. For detailed background and analysis on the ABM Treaty see *Rule of Power or Rule of Law?* pp. 73 – 79 and the Federation of American Scientists web page on the Anti-Ballistic Missile Treaty at http://www.fas.org/nuke/control/abmt/

[17] START I required U.S. and the Soviet Union to reduce deployed strategic warheads to 6,000 warheads on 1,600 delivery vehicles, with the numbers calculated using counting rules set forth in the Treaty itself. Treaty Between the United States of America And the Union of Soviet Socialist Republics on the Reduction And Limitation of Strategic Offensive Arms, July 31, 1991. A good summary of U.S.–Russia arms control agreements and their current status can be found in *Arms Control Today* (Internet edition), June 2002, http://www.armscontrol.org/act/2002_06/factfilejune02.asp

[18] Treaty Between the United States of America and the Russian Federation on Further Reduction And Limitation of Strategic Offensive Arms, January 3, 1993.

[19] For an in-depth analysis of the Stockpile Stewardship program, see *Faustian Bargain 2000: Why 'Stockpile Stewardship' is Fundamentally Incompatible with the Process of Nuclear Disarmament*, Western States Legal Foundation, available at http://www.wslfweb.org/docs/fb2000.pdf

Reprising the deal struck at the time of the 1963 PTBT, the enormous stockpile stewardship program was the price exacted by the nuclear weapon laboratories, the nuclear forces in the military, and their allies in Congress, in exchange for their acquiescence to the 1996 CTBT. The promise by the nuclear weapon states to complete negotiations on the CTBT was the most tangible outcome of the contentious 1995 agreement by the states parties to indefinitely extend the NPT. Historically, in the view of most of the nations of the world, the CTBT was supposed to be, first and foremost, a disarmament treaty. Symbolically and practically, the CTBT was intended to cut off the modernization and development of nuclear weapons and lead to their deterioration and eventual elimination. However, in its failed bid for Senate ratification of the Treaty, the Clinton Administration portrayed the CTBT not as a step towards nuclear disarmament, but rather as a means to preserve the decisive technological advantage in nuclear weaponry held by the U.S. and as a means to prevent non-nuclear weapon states from acquiring nuclear weapons. At a White House press briefing, just a few days before the October 1999 Senate vote against ratification, Under Secretary of State for Arms Control John Holum, summed up the Administration's view: "*The treaty bans the bang, not the bomb*" (Holum, 1999). This position was reaffirmed by Secretary of State Madeline Albright a month after the vote: "We simply do not need to test nuclear weapons to protect our security. On the other hand, would-be proliferators and modernizers must test if they are to develop the kind of advanced nuclear designs that are most threatening. *Thus, the CTBT would go far to lock in a technological status quo that is highly favorable to us*" (Albright, 1999). And thus, the U.S. separated nonproliferation from disarmament. The Senate vote not to ratify the CTBT, marked a watershed moment in the history of arms control, strongly signaling to the world that the United States has little interest in eliminating nuclear weapons.

The initiatives proposed in the NPR will not have to start from scratch. Research continued throughout the 1990's on new capabilities for nuclear weapons and on targeting techniques to make nuclear weapons more useful, particularly against deeply buried targets and against chemical and biological weapons facilities. One such weapon, the B61-11 earth penetrator bomb, was developed in the mid-90's – after the Gulf War -- by modifying an existing design without a nuclear explosive test, using the existing warhead component testing and simulation capabilities of the U.S. weapons labs.[20] At the same time, the experimental facilities and computing capabilities used to design nuclear weapons also have been upgraded, culminating recently in the first "full-system three-dimensional simulations of a nuclear weapon explosion."(National Nuclear Security Administration, 2002). And the military already is working to improve "understanding of weapons outputs and target interactions without underground testing," and to "apply this understanding to update effects calculational capabilities and develop innovative targeting techniques to defeat increasingly clever enemies—both national and terrorist" (U.S. Department of Defense, Deputy Under Secretary of Defense (Science and Technology), 2000: p. II-372).

The NPR is not just an abstract expression of policy. In its $5.9 billion request to Congress for

[20] For an in-depth account of recent efforts to make nuclear weapons more useable, see *Looking for New Ways to Use Nuclear Weapons: U.S. Counterproliferation Programs, Weapons Effects Research, and "Mini-Nuke" Development*, WSLF Information Bulletin, Winter 2000, available at http://www.wslfweb.org/docs/mininuke.pdf

nuclear weapons activities (not including delivery systems) in Fiscal Year (FY) 2003, the National Nuclear Security Administration relied on the NPR as a primary justification.

> "...the flexibility to sustain our enduring nuclear weapons stockpile, to adapt current weapons to new missions, or to field new weapons, if required, depends on a healthy program for stockpile stewardship... as well as a robust infrastructure for nuclear weapons production.... Most importantly, this review [the NPR] reemphasizes the importance of nuclear weapons to deter the threats of weapons of mass destruction, to assure allies of U.S. security commitments, to hold at risk an adversary's assets and capabilities that cannot be countered through non-nuclear means and to dissuade potential adversaries from developing large-scale nuclear or conventional threats." (U.S. Department of Energy, FY2003 Budget Request, 2002: p. 5 (pdf pagination))

Blurring the Threshold: The Search for More Missions and More Useable Nuclear Weapons

"Desired capabilities for nuclear weapons systems in flexible, adaptable strike plans include options for variable and reduced yields, high accuracy, and timely employment. These capabilities would help deter enemy use of WMD [weapons of mass destruction] or limit collateral damage, should the United States have to defeat enemy WMD capabilities." -- The Nuclear Posture Review. (U.S. Department of Defense Nuclear Posture Review, 2002: p. 48)

The widespread surprise at the latest NPR revelations mainly manifests how effective the nuclear weapons establishment has been in recent years at keeping its programs, policies, and plans out of the spotlight. The NPR push for new nuclear weapons capabilities did not come out of nowhere. Rather, it added impetus and resources to an idea that long has been advocated by some weapons designers and nuclear strategists: that in order to make nuclear threats more "credible," the United States should make nuclear weapons more useable.

The powerful nuclear weapons laboratories have successfully argued that new designs are needed precisely to make nuclear weapons use easier to contemplate. For example, Paul Robinson, the Director of Sandia National Laboratories, one of the three principal U.S. nuclear weapons labs has asserted that

> ". . . . The US will undoubtedly require a new nuclear weapon, either for a different delivery mode or vehicle, or quite likely, because it is realized that the yields of the weapons left over from the Cold War are too high for addressing the deterrence requirements of a multipolar, widely proliferated world. Without rectifying that situation
> we would end up being self-deterred." (Robinson, 2000)

Use of nuclear weapons to threaten nations suspected of possessing weapons of mass destruction (nuclear, biological, or chemical weapons) already is part of U.S. nuclear weapons policy. It is generally acknowledged that the United States threatened to use nuclear weapons against Iraq in the1990-91 Gulf

War.[21] The U.S. made ambiguous threats to use nuclear weapons against Iraq again in early 1998, in response to allegations by UNSCOM Chief Inspector Richard Butler that Iraq possessed biological weapons.[22] Defense Department officials also raised the possibility of nuclear weapon use against an alleged Libyan underground chemical weapons plant in 1996. In this instance, as in the 1998 brandishing of nuclear weapons against Iraq, defense department officials referred to a nuclear warhead with a new earth penetrating capacity as a possible weapon for use against alleged WMD facilities (Sloyan, 1998). The weapon was the B61-11.[23] After the September 11 terrorist attacks, a number of politicians and administration officials threatened possible U.S. nuclear retaliation. For example, Arizona Senator John Kyle warned that:

> "During the Cold War, we always said that if we were attacked with nuclear weapons we would respond with nuclear weapons. The same thing is true here. If a weapon of mass destruction is used against us, the perpetrators should expect a similar response from us."[24]

U.S. nuclear weapons doctrine goes further, contemplating the use of nuclear weapons to destroy the weapons of mass destruction of an adversary, even before they can be used.[25] And U.S. doctrine also explicitly provides for nuclear weapons use against "non-state actors"-- commonly called "terrorists" by government officials when speaking to the public.[26]

To support such "counterproliferation" strategies, the NPR calls for intensified research on

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[21] See, for example, "New Nuke Policy by Clinton directive allows atomic retaliation against Hussein," Newsday, February 1, 1998, p. A07. This article also goes into considerable detail concerning U.S. nuclear posturing by the U.S. in the January-February 1998 Iraq crisis.

[22] See Department of Defense News Briefing Transcript, January 27, 1998, Kenneth Bacon, presenter.

[23] For more detail on the B61-11 and its development, see Greg Mello, "New Bomb, No Mission," *The Bulletin of the Atomic Scientists*, May/June 1997.

[24] C.T. Revere, "Kyle Expects Second – Possibly More Deadly - Strike," Tucson Citizen (internet edition), September 28, 2001. For more discussion on this point see *Nuclear Weapons in a Changed World: the Hidden Dangers of the Rush to War*, Western States Legal Foundation Emergency Information Bulletin, Fall 2001, available online at http://www.wslfweb.org/docs/nukesincontext.pdf

[25] "While there will certainly be long-term effects from the use of a nuclear device against any target, counterforce strategy focuses on the more immediate operational effect. Nuclear weapons might be used to destroy enemy WMD before they can be used, or they may be used against enemy conventional forces if other means to stop them have proven ineffective. This can reduce the threat to the United States and its forces and could, through the destruction of enemy forces, bring an end to the conflict." *Nuclear Operations,* Air Force Doctrine Document 2-1.5, 15 (July 1998), pp. 8-9

[26] "Enemy combat forces and facilities that may be likely targets for nuclear strikes include WMD and their delivery systems, ground combat units, air defense facilities, naval installations, combat vessels, *nonstate actors*, and underground facilities." United States Joint Chiefs of Staff, *Doctrine for Joint Theater Nuclear Operations*, Joint Pub 3-12.1 (February 1996), p. viii, emphasis added , obtained by Western States Legal Foundation under the Freedom of Information Act.

nuclear weapons with new military capabilities. It recommends re-establishment of "advanced warhead concepts teams" at the nuclear weapons laboratories to study various new nuclear weapons ideas (U.S. Department of Defense, Nuclear Posture Review, 2002: pp. 34-35). And the National Nuclear Security Agency is requesting funding in FY 2003 to begin study of a new or modified "Robust Nuclear Earth Penetrator" (U.S. Department of Energy, FY2003 Congressional Budget Request, 2002: p. 10 (pdf pagination)), more effective than the B61-11 --yet more evidence that contrary to Bush Administration "spin," the NPR is not a mere "contingency plan," but rather a program for action.

The New Strategic Triad: Making the Unthinkable Possible

As previously described, the NPR calls for a "New Triad" to replace the Cold War triad of nuclear-armed land-based missiles, ballistic missile submarines, and long-range bombers. None of these Cold War forces would be taken out of service, however– they would instead be augmented by missile defenses, a robust array of weapons testing and production facilities, and a variety of non-nuclear offensive weapons, ranging from highly accurate conventional missiles to exotic new devices that will impair or destroy electronic equipment. Missile defenses have received a good deal of attention in nuclear strategy and arms control debates, although it has focused almost exclusively on the national missile defense interceptors currently undergoing initial flight tests-- only one of many missile defense technologies being researched. The burgeoning assortment of stealthy, precise conventional weapons under development by the United States, however, is likely to have an effect on the strategic calculations of existing and potential nuclear weapons states at least as great as missile defenses.

Despite the already enormous U.S. advantage in high-tech weapons, it is continuing with plans to deploy next-generation aircraft, including the stealthy, supersonic (and super-expensive) F-22 and the Joint Strike Fighter. An assortment of additional highly accurate and destructive conventional weapons that can be delivered by ship, submarine, or airplane are either being actively developed or are on the drawing boards, ranging from improved non-nuclear earth penetrator bombs to supersonic cruise missiles.[27]

The U.S. also is planning conventional systems that can strike on the other side of the globe, delivering a variety of weapons through or from space. There will, for example, be funding in the Bush Administration budget request for "the modification of a strategic ballistic missile system to enable the deployment of a non-nuclear payload" (Feith, 2002: p. 10). One option of this kind already being explored is a "common aero vehicle,"(CAV) a maneuverable re-entry vehicle that can travel through space aboard a variety of delivery systems.[28]

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[27] A recent report to the U.S. Congress on "Defeat of Hard and Deeply Buried Targets" summarized these and other of weapons programs intended to increase U.S. conventional precision strike capabilities. See *Report to Congress on the Defeat of Hard and Deeply Buried Targets,* Submitted by the Secretary of Defense in Conjunction with the Secretary of Energy in response to Section 1044 of the Floyd D. Spence National Defense Authorization Act for the Year 2001, PL 106-398, July 2001, pp.16-18. The unclassified content of the report can be found at http://www.nukewatch.org/nwd/HiRes_Report_to_Congress_on_the_Defeat.pdf

[28] "CAV will provide warfighting forces with a Conventional Strike capability with near-global range, prompt response time from launch to target, penetration of hostile natural or man-made terrestrial and atmospheric environments and enemy defense avoidance. The CAV system will be capable of dispensing a variety of munitions against ground targets

In addition to these new ways to deliver conventional weapons accurately with global reach, the U.S. military is developing new weapons and methods to deceive, impair or destroy electronic equipment, communications, command systems, air defenses, and other military systems. The purposes of such systems range from interference with the operation of computers via (largely classified) "information warfare" techniques to destruction of electronics by high-power microwave devices.[29]

Over the long term, a variety of more speculative weapons programs could lead to an intensified arms race, both on earth and in space. These programs range from research on hypersonic flight, which could lead to military applications ranging from supersonic standoff missiles to air/space vehicles with global range that can strike with a variety of weapons from near space, to laser weapons research. Directed energy weapons of various kinds are in the long range plans of U.S. military space strategists, who see systems like the Space-Based Laser as offering potential both for missile defense and for an offensive capability with global reach against space and airborne targets.[30] According to the U.S. Space Command Long Range Plan,

> Many of the systems and concepts for Missile Defense may have applicability to Force Application. This concept envisions holding a finite number of targets at risk anywhere, anytime with nearly instantaneous attack from space-based assets (U.S. Space Command, 1998: p. 6-65).

Some of these programs have been proceeding for a number of years, although often as relatively low-level concept development and feasibility studies. But with the Bush Administration's enthusiasm for military space programs, huge increases in the defense budget, and no visible Congressional opposition, a number of these programs are likely to accelerate.

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to include WMD storage sites, C2 [command and control] facilities, maritime forces and massed ground forces." *Air Force Space Command Strategic Master Plan for FY02 and Beyond,* February 9, 2000, section 6.2.2, available online at http://www.spacecom.af.mil/hqafspc/library/AFSPCPAOffice/2000smp.html

[29] See, for example on High Power Microwave (HPM applications U.S. Department of Defense, *In-House RDT&E Activities FY2000 Management Analysis Report,* Air Force Research Laboratory, Directed Energy Directorate, pp.4-49-4-50. For an overview of electronic and information warfare techniques being explored by the U.S. military, and their emerging role in strategic operations in combination with nuclear weapons and long-range precision conventional weapons, see Andrew. F. Krepinovich and Robert C. Martinage, *The Transformation of Strategic Strike Operations,* (Washington: Center for Strategic and Budgetary Assessments, 2001), pp. 24 et seq.

[30] See Air Force Space Command, *Strategic Master Plan for FY02 and Beyond,* February 9, 2000, section 6.2.3, http://www.spacecom.af.mil/hqafspc/library/AFSPCPAOffice/2000smp.html For an overview of U.S. military laser programs, see Office of the Under Secretary of Defense For Acquisition, Technology, and Logistics, *Defense Science Board Task Force on High Energy Laser Weapon Systems Applications Report* June 2001, http://www.acq.osd.mil/dsb/rephel.pdf; and for a look at hypersonic weapons concepts currently being explored, ranging from hypersonic missiles to global strike space craft, see United States Air Force Scientific Advisory Board, *Report on Why and Whither Hypersonics Research in the US Air Force,* December 2000, http://www.sab.hq.af.mil/archives/reports/2000/Hypersonics-Report.PDF

Missile Defenses: One Weapon Among Many

It is in this broader context of an intensive hi-tech weapons build-up, given new impetus by the Bush Administration's enormous military spending increases, that we must consider the impacts of the last element of the NPR's "New Triad," ballistic missile defense.[31] Ballistic Missile Defense (BMD) programs encompass far more than efforts to protect the U.S. from incoming intercontinental ballistic missiles (called "National Missile Defense" prior to Bush administration reorganization). The limited public debate in the U.S. over missile defense has focused almost entirely on a single National Missile Defense technology, mid-course ground-based interceptors. But ballistic missile defense efforts also include a wide range of programs (formerly called "Theater Missile Defense" or TMD) intended to protect "forward deployed" U.S. troops and bases, U.S. allies, or other U.S. "interests" against missiles of shorter range. Both types of missile defense programs are exploring a range of technologies, from a variety of ground and sea-based interceptors to air-borne and space-based lasers. By the time most of the anticipated missile defense systems are deployed, a decade or more from now, they will be accompanied by a variety new U.S. offensive capabilities whose particulars are difficult to predict, but that will likely far outstrip all competitors.

Missile defense isn't about defending the United States against a "bolt from the blue" attack, either from our Cold War adversaries or from some other state that may someday develop missiles of sufficient range. The fear is not that there will be a surprise attack on the U.S. but rather that when either threatened or under attack by U.S. forces, an adversary might be able to prevent an attack or force a U.S. withdrawal by using weapons of mass destruction against U.S. or allied troops, or against U.S. or allied civilian populations. In the Nuclear Posture Review, as in numerous think-tank studies and planning documents, the main purpose of missile defense travels under the euphemism of "freedom of action:"

> Advances in defensive technologies will allow U.S. non-nuclear and nuclear capabilities to be coupled with active and passive defenses to help provide deterrence and protection against attack, preserve U.S. freedom of action, and strengthen the credibility of U.S. alliance, commitments (U.S. Department of Defense, Nuclear Posture Review, 2002: p. 7).

What this means is that the United States wants to be able to send its forces anywhere on earth without risking casualties that would make a military operation overseas unsustainable at home. Missile defenses, working together with overwhelming U.S. air power, global surveillance and communications networks, and long-range precision conventional weapons, are designed in large part to make military action abroad more politically feasible. In the words of the NPR, "Defense of the U.S. homeland and protection of forward bases increase the ability of the United States to counteract WMD-backed coercive

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[31] The Bush Administration has requested $396.1 billion for the military in fiscal year 2003 ($379.3 billion for the Defense Department and $16.8 billion for Department of Energy nuclear weapons programs), the biggest funding increase in 20 years. This amount is larger than the military budgets of the next 26 countries combined. Detailed information on the military budget is available from the Center for Defense Information, online at http://www.cdi.org/issues/budget At a June 25, 2002 Defense Department briefing, Air Force Lt. General Ronald T. Kadish, director of the Missile Defense Agency estimated that research and development *alone* for the ballistic missile defense program would reach $48 billion over the next five years. A transcript is available online at http://www.defenselink.mil/news/Jun2002/t06252002_t0625kadish.html

threats and to use its power projection forces in the defense of allies and friends" (U.S. Department of Defense, Nuclear Posture Review, 2002: p. 13). The aim is to eliminate the limits to U.S. use of force that a regional adversary might be able to impose if it has chemical, biological, or nuclear weapons, and is willing to run risks for interests it sees as vital, while seeing the U.S. as "an over-the-horizon power that often makes the choice to disengage when costs begin to outweigh interests" (Roberts, 2000: p. 4).

Most worrisome to military planners in their efforts to defend their ability to attack are short and medium range missiles, already in the arsenals of many countries that the United States sees as potential adversaries.[32] It is for these reasons that many in the military see defenses against short and medium range missiles as a more pressing priority than national missile defense: the possibility of the U.S. fighting wars against countries with shorter range, relatively unsophisticated missiles is far greater than any of the strategic threats that national missile defenses are purported to counter. As the recently retired Commander of U.S. Joint Forces Command stated in the fall of 2000,

> This issue's been studied by panel after panel after panel and we got it—Our current policy is one that I support and understand. The priority is lower tier theater ballistic missile defense systems first, upper tier systems second, national missile defense third. That's the way the threat is arrayed (Gelman, 2000).

The enhanced "overall offensive capability" that theater missile defense implies threatens not only regional powers seeking some way to counter overwhelming U.S. conventional forces, but Russia and China as well. The extensive array of new space-based sensing systems being developed to support global missile defense systems also is likely to have additional applications that further increase U.S. advantages in targeting and coordinating precision offensive weapons, both conventional and nuclear.[33] At the same time, U.S. nuclear warheads, delivery systems, and supporting infrastructure continue to be modernized.

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[32] "Ballistic missiles with ranges from 200 to over 1,000 miles are proliferating among large and small nations around the world. Even if they do not deliver the weapons of mass destruction that they are capable of delivering, their use with conventional warheads--and often even their presence alone--can have a profound political as well as military impact on regional conflict..... The theater missile defense (TMD) systems will ultimately cover the gamut of defense possibilities, from finding and destroying command centers and launchers, through destruction of missiles in boost and ascent phase to prevent dispersal of chemical and bacteriological submunitions and to prevent damage by nuclear warheads either detonating within damage range or following purely ballistic trajectories to their targets after intercept, to terminal defense against weapons that leak through. The imperative of preventing effective attacks by ballistic missiles that may carry warheads of mass destruction leads to the concept of placing a 'cap' over an aggressor state to prevent such attacks from reaching beyond the aggressor's borders, with terminal defense as final 'insurance.' In this sense, TMD enhances overall offensive capability." National Research Council, Naval Studies Board, Commission on Physical Sciences, Mathematics, and Applications, Post Cold War Conflict Deterrence, Chapter 3 (Washington, D.C.: National Academy Press, 1997) Available online at http://www.nap.edu/html/pcw/Dt-3.htm

[33] See on this point John Steinbruner, "National Missile Defense: Collision in Progress," Arms Control Today, Vol. 29 No. 7, November 1999, p. 4, 5.

China, with its small number of nuclear missiles capable of reaching the United States, may see the combination of missile defense and the broader U.S. high-tech weapons build up as capable of nullifying its nuclear deterrent. China may see the U.S. to be aiming for the ability to destroy all or most of its command structure and nuclear arsenal, and a multi-tiered missile defense system needing to be only effective enough to deal with the possibility that a few missiles may make it off the ground. All of this is occurring in a context where the NPR lists China as a country that could be involved in an "immediate or potential contingency," in particular a conflict over Taiwan (U.S. Department of Defense, Nuclear Posture Review, 2000: p. 16).

How Arms Races Begin

Ballistic missile defenses and other advanced weapons systems do not have to "work" as advertised to trigger a new arms race. Further, when tens of billions are spent on weapons research, new kinds of weapons will be developed, even if not of the precise kind originally envisioned. With the U.S. retaining and modernizing thousands of nuclear weapons, building missile defenses, and drastically expanding its spending for a wide variety of other high-tech armaments, while issuing military threats against a number of countries almost on a daily basis, any state that sees the possibility of conflict with the U.S. will likely maintain or expand its weapons spending. The military establishments of other states understand that the course of technological development is unpredictable, and it takes many years to develop complex modern weapons. And they will use this argument to justify starting development of new systems now to assure that they will be able to overwhelm or evade U.S. missile defenses in the future. For their part, U.S. Defense Department officials, viewing the world from the pinnacle of perhaps the greatest position of military advantage in history, demand more, arguing that any capability that an adversary "might possess must be countered. As U.S. Undersecretary of Defense Douglas Feith told the Senate Armed Services Committee:

> "...[B]ecause we know something about technology and we know something about capabilities of potential adversaries, we can anticipate that we're going to have to confront certain capabilities and then we need the capabilities to respond to the capabilities that our enemies might have." (Feith, 2002: p. 28)

Imagine for a moment the shape of the future if every government that sees the U.S. as a "potential adversary" seeks to counter the military capabilities the United States "might have." This is the kind of thinking that creates and sustains arms races.[34]

Redefining Security

The Nuclear Posture Review amounts to an unequivocal rejection by the U.S. of most of the steps it committed to just two years ago at the NPT Review Conference, as well as of nuclear disarmament itself.

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[34] For more in-depth analysis, see *The Shape of Things to Come: The Nuclear Posture Review, Missile Defense, and the Dangers of a New Arms Race*, Western States Legal Foundation, Special Report, April 2002, available online at http://www.wslfweb.org/docs/shape.pdf

The entire thrust of the NPR is not to make weapons reductions "irreversible," but rather to assure for many decades to come that an enormous force of nuclear warheads and delivery systems can be reconstituted, and that new and improved nuclear weapons can be produced.

If the programs and policies advocated in the NPR go forward, they will doom hopes for real progress on arms control and disarmament for the foreseeable future, and will add to the increasingly unstable global security environment. The U.S. and Russia will retain arsenals large enough to destroy each other, or any other nation on Earth. China is likely to modernize and expand its own relatively small nuclear forces. And, in this kind of global security environment, India and Pakistan will probably follow suit. Moreover, the viability of the NPT, which has limited the spread of nuclear weapons, will be endangered. If, more than 10 years after the end of the Cold War, the world's most powerful nation continues to assert that it needs nuclear weapons to ensure its national security, why shouldn't we expect other countries to follow suit? As responsible global citizens, we must insist on a more sustainable concept of human security.

Responding to the Nuclear Posture Review, United Nations Under Secretary General for Disarmament Affairs, Jayantha Dhanapala, called for a different kind of "triad," a global effort aimed at "eradicating poverty, preventing conflict, and promoting democracy;"

> This is the "triad" that will genuinely serve the interests of international peace and security. And in the realm of preventing conflict, the goals of disarmament, arms control, and the peaceful settlement of disputes must remain the triad within the triad. Let us put an end to the debate whether arms cause conflicts or vice versa and recognize that each continues to affect the other, as they have from time immemorial. Let us dedicate our triads to productive, not destructive uses (Dhanapala, 2002).

What Should (and Could) be Done

Countering the dangers of new arms races implicit in current U.S. "national security" policies, while implementing the long-term goals of disarmament, arms control and the peaceful settlement of disputes is a daunting task. However, identifying some of the interim steps that should be taken is relatively easy. Non-Governmental Organizations (NGOs) have developed exhaustive lists of recommendations to show the way. Disarmament advocacy groups the world over have attempted to address these difficult issues head on by articulating a vision of a world without nuclear weapons, and by promoting a means to get there.

The Abolition 2000 Global Network to Eliminate Nuclear Weapons, made up of more than 2000 NGOs and municipalities in over 90 countries, began in 1995 by calling for immediate commencement of negotiations on a treaty to eliminate nuclear weapons within a timebound framework. Abolition 2000 challenges "stockpile stewardship" (and the NPR's call for a modernized nuclear weapons research and development infrastructure) directly. The 1995 11-point Abolition 2000 Statement calls for a "truly comprehensive test ban treaty" with a prohibition on "nuclear weapons research, design, development, and testing through laboratory experiments," and insists that all nuclear weapons laboratories be subject to

international monitoring, while all nuclear test sites are closed."[35] To further its principal goal of a treaty, an Abolition 2000 working group including prominent international lawyers and scientists produced a Model Nuclear Weapons Convention, which was introduced in 1997 as an official United Nations document by Costa Rica.[36] Recently, a complementary NGO initiative, "Moving Beyond Missile Defense" (MBMD) has emerged. MBMD is promoting an end to missile and anti-missile testing and deployment and calling for negotiations for an international treaty banning missiles and space weapons.[37] A group of MBMD participants has outlined a "framework" agreement to restrict the development, testing, and deployment of all ballistic missiles and missile defenses.[38]

What's lacking is political will to make these changes on the part of the world's most powerful State. The United States should, as a start, rethink its Nuclear Posture Review and instead make good on its NPT commitments. In the interests of real security -- human, national and global --, the U.S. should:

- Immediately halt all efforts aimed at "improving" the military capabilities of its nuclear arsenal, including research and development for "mini" nukes and the "robust nuclear earth penetrator"

- Halt plans for upgrades to existing weapons research and production facilities and forgo building new facilities, including those for plutonium pit manufacturing and tritium (radioactive hydrogen) production

- Together with Russia take all nuclear weapons off hair-trigger alert

- Ratify the Comprehensive Test Ban Treaty and close the Nevada Test Site

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[35] The Abolition 2000 Statement is the basis of agreement among the participating groups. The Statement and additional information about Abolition 2000 are available online at http://www.abolition2000.org

[36] Model Nuclear Weapons Convention: Convention on the Prohibition of the Development, Testing, Production, Stockpiling, Transfer, Use and Threat of Use of Nuclear Weapons and on Their Elimination, UN Document A/C.1/52/7 An analysis of the Model Nuclear Weapons Convention, with commentary and responses by a variety of activists and experts, can be found in *Security and Survival: The Case for a Model Nuclear Weapons Convention* (1999), a joint publication of International Physicians for the Prevention of Nuclear War, International Association of Lawyers Against Nuclear Arms, and the International Network of Engineers and Scientists Against Proliferation (INESAP). The Model Nuclear Weapons Convention and Security and Survival are available online at http://www.ippnw.org

[37] Moving Beyond Missile Defense is a joint project of INESAP and the Nuclear Age Peace Foundation. For more information see http://www.mbmd.org

[38] See *Beyond Missile Defense*, INESAP Briefing Paper No. 8, March 2002, Andrew Lichterman, Zia Mian, M.V. Ramana, and Jürgen Scheffran is available online at http://www. http://www.wslfweb.org/docs/missilecontrol.pdf

- Initiate sweeping, verifiable, real reductions in both strategic and tactical nuclear weapons and their delivery systems

- Initiate multilateral negotiations to eliminate nuclear weapons worldwide

- Halt development of ballistic missile defenses including theater missile defenses

- Initiate multilateral negotiations to eliminate ballistic missiles, with a flight test ban as a first step

- Support the Russian-Chinese initiative to ban weapons in outer space[39]

- Support the strengthening of verification and inspection protocols of the Biological and Chemical Weapons Conventions to foster primary prevention of the possible use of such WMD, and oppose WMD "counterproliferation" strategies, including those employing nuclear weapons.

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[39] In response to U.S. plans to develop ballistic missile defenses, Russia and China have recently introduced a proposal in the United Nations Conference on Disarmament for a new international treaty to ban weapons in outer space. However, according to U.S. negotiator Eric M. Javits, in a speech to the conference: "The United States sees no need for anew outer space arms control agreements and opposes the idea of negotiating a new outer space treaty." *Russia, China Seek to Ban Space Arms*, June 27, 2002, by Clare Nullis, Associated Press

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WEB RESOURCES

U.S. Nuclear Weapons Policies

For a collection of government documents, links, and commentary on the Nuclear Posture Review, see http://www.wslfweb.org/nukes/npr.htm

For more information on U.S. low-yield nuclear weapons research, see ***Looking for New Ways to Use Nuclear Weapons: U.S. Counterproliferation Programs, Weapons Effects Research, and "Mini-Nuke" Development,*** WSLF Information Bulletin, Winter 2000, available at http://www.wslfweb.org/docs/mininuke.pdf

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

Worldwide Nuclear Arsenals: Basic Information

Center for Defense Information, Current World Nuclear Arsenals http://www.cdi.org/issues/nukef&f/database/nukestab.html

Stockholm International Peace Research Institute, Nuclear Forces and Arms Control (SIPRI) http://projects.sipri.se/nuclear/index.html

Missile Defenses, Efforts to Control Ballistic Missiles, and the Militarization of Space

"Moving Beyond Missile Defense," an initiative which brings together experts and activists from across the globe to consider alternatives to missile defenses, including measures to control ballistic missiles. http://mbmd.org

The Global Network Against Weapons and Nuclear Power in Space provides both information and comprehensive organizing resources at http://www.globenet.free-online.co.uk/

For more information on U.S. programs to further militarize space, see the **Western States Legal Foundation** page on ballistic missile defense and space at http://www.wslfweb.org/space.htm, and our library of U.S. government planning documents and links at http://www.wslfweb.org/space/spacedocs.htm

Organizing for the Abolition of Nuclear Weapons

Abolition 2000 Global Network for the Elimination of Nuclear Weapons, a network of over 2000 groups in more than 90 countries http://www.abolition2000.org/

Reaching Critical Will, a project of the Women's International League for Peace and Freedom, coordinates NGO activities at United Nations disarmament events. Web site has extensive disarmament resources and links, from both from the UN and from a variety of NGO's http://www.reachingcriticalwill.org