



Toward Nuclear Sanity

A RESPONSE TO

“Differentiation and Defense:
An Agenda for the Nuclear Weapons Program”

APRIL 2003

Forward

The role for nuclear weapons in U.S. security policy has changed dramatically since the end of the Cold War. While the nuclear threat is still the greatest danger to the United States, a deliberate, massive Russian attack is almost unthinkable today. A limited, accidental but nonetheless disastrous attack from Russian nuclear missile forces on high alert is more plausible than before. Most likely, however, is a boat or truck-delivered attack by a country or terrorist group using stolen or purchased nuclear weapons or materials.

To address these threats, the United States should adopt a new nuclear policy that directly enhances U.S. national security and that promotes and strengthens the nonproliferation regime. The key is a cooperative and preventive approach.

The House Policy Committee's Subcommittee on National Security and Foreign Affairs recently published a proposal for U.S. nuclear policy, entitled, *Differentiation and Defense: An Agenda for the Nuclear Weapons Program* (February 2003).¹ On the whole, it proposes a dangerous, aggressive and counterproductive policy that would increase the likelihood of nuclear proliferation while doing little to increase U.S. security. (Note that, despite its non-partisan name, the House Policy Committee is a Republican Party organization.)

Toward Nuclear Sanity provides a response to key proposals and concepts in *Differentiation and Defense*. Some sections, on *Homeland Defense* and *Preventing Proliferation*, are largely non-controversial and not included here, but most sections get detailed responses. In the text, *italicized, bolded* sections are extracts from *Differentiation and Defense*, while our commentary appears in plain text.

Toward Nuclear Sanity does not provide a comprehensive proposal for U.S. nuclear policy, but that policy should undoubtedly include:

- As a priority U.S. goal, a clear commitment to and work toward the complete elimination of nuclear weapons, including bringing all the current nuclear armed states into a nuclear disarmament regime.
- An expanded program to reduce the likelihood of nuclear weapons and materials falling into terrorist hands, focused on bolstering efforts to account for, control and reduce those weapons and materials.
- A rejection of rapid-launch options, changing deployment policies to supply survivable launch options within hours and days rather than minutes.
- A commitment to the indefinite extension of the current nuclear testing moratorium and to implementation of the Comprehensive Nuclear Test Ban Treaty.

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A New World

With the United States building new relationships with the democracies of the former Soviet empire, the risk of deliberate attack by Russia is lower than ever.

As *Differentiation and Defense* later acknowledges, the Russian nuclear arsenal remains the only force capable of destroying the United States. It is true that the risk of deliberate attack from Russia has declined, but changing world dynamics could reverse that. Also, the risk of accidental nuclear war increases as Russia's infrastructure continues to suffer, a threat that must be addressed.

The risk of disorder and loss of control of nuclear weapons from Russia's still enormous nuclear arsenal continues to be a grave concern.

This is true, which makes the failure of key leaders to support dramatic steps to reduce this threat hard to understand. Cooperative threat reduction and non-proliferation programs, sometimes known collectively as Nunn-Lugar programs, are key to preventing terrorists from gaining control of nuclear weapons and materials, yet the Bush Administration has done far too little to improve or expand these efforts; in fact it initially sought to cut them.

Our efforts to prevent the proliferation of nuclear weapons have been successful largely where they have been least needed. Twelve nations are known or suspected of having nuclear weapons programs and many are developing ballistic missiles to deliver them.

This is akin to saying there should be no laws because some people are criminals. In fact, the 1970 nuclear Non-Proliferation Treaty (NPT) and its associated non-proliferation regime have been enormously successful. Those twelve nations — and many others — might already have nuclear weapons (rather than “suspected programs”) if the regime did not exist.

With 188 nation-signatories, more countries belong to the NPT than any other arms control agreement. It commits the United States and the four other recognized nuclear weapons states to nuclear disarmament, in return for other nations' agreement not to seek nuclear

weapons. Efforts promoted in *Differentiation and Defense* to develop new nuclear weapons, move toward resuming nuclear testing, and increase the U.S. capability to build nuclear weapons undermine both our commitments under the NPT and U.S. security overall.

Likewise, a new and virulent form of terrorism threatens the United States and our way of life. These sub-state and non-state entities have few of the inhibitions of states. They are fanatics, determined to kill and destroy. There is little question that terrorist elements wish to acquire nuclear materials and nuclear devices.

This is true, but the military approach to preventing nuclear terrorism is severely limited. In particular, U.S. nuclear forces have no role to play, if for no other reason than the difficulties in locating appropriate, identifiable targets. Preventing nuclear terrorism requires international cooperation to eliminate terror networks, to limit terrorist access to nuclear weapons and materials, and to reduce terrorism's root causes.

While the United States is a dominant military power, we operate in a much more complex environment than we did during the Cold War. There are more nations armed with nuclear weapons. There are multiple potential opponents and sources of conflict that could affect America's vital interests.

There are few international security threats that cannot be met with a mix of pragmatic diplomacy and arms control, backed by successful policies for economic and democratic development. If the United States hunkers down in a “Fortress America” policy, relying on military power to crush potential and real weapons of mass destruction (WMD) threats, it will face an uncooperative world while fueling the hatred and terrorism it is attempting to stop. Alternatively, the United States can lead the world to reduce and eliminate nuclear, biological and chemical weapons threats through the implementation of a tough, effective non-proliferation regime. In the rare instances that these preventive strategies fall short, the international community would act.

Deterrence in a Changed World

Russia today is the only nation that has the capability to threaten the continued existence of the United States. While we assess the likelihood of their doing so to be much diminished, the futility of challenging our military capability probably discourages the resurgence of any anti-U.S. military policy in Russia and encourages Russia's continued pro-western evolution.

On the contrary, current U.S. policy encourages Russia to maintain an unnecessarily large nuclear force, the war on Iraq has worsened U.S.-Russian relations, and "futility" promotes asymmetrical challenges to U.S. power.

Nations including China, North Korea, Iran and Iraq, which have or are developing weapons of mass destruction, continue to pursue foreign policies ranging from potentially threatening to openly hostile.

The current aggressive U.S. international policy only encourages states to pursue nuclear weapons as a counter to U.S. military superiority. Moreover, the threat of use of U.S. nuclear weapons is unnecessary and hinders our non-proliferation goals. The way to deal with emerging WMD threats is through the international non-proliferation regime. It will require a tough inspection system that can only be effectively implemented if all countries are equally subject to it.

Differentiation

What do the leaders of each country with weapons of mass destruction value most and how can we hold those things at risk so as to deter the use of weapons of mass destruction against us or our allies? The answer to this question will be different in each case and will require a variety of capabilities and options, developed in advance, for the President to have at his disposal. By having them at his disposal, the United States will be more likely to avoid war,

control the escalation of a conflict, or end a conflict on terms acceptable to us.

The President has a wealth of tools available, including diplomacy, international cooperation, treaty regimes, economic trade, foreign aid, sanctions and deterrence, in addition to a range of military options. *Differentiation and Deterrence's* implied point, later spelled out, that the President needs additional nuclear options, ignores both the adverse implications of pursuing those options and the growing number of conventional alternatives the U.S. military already maintains. Some counterproliferation measures, employed with the sanction of the United Nations, have a place in U.S. policy as a last resort. We must first use every non-military tool we have.

Defense

While we may still be unable to envision an impermeable shield against a massive assault on the United States, we should be capable of protecting ourselves against an accidental or rogue attack, or an attack by an emerging power... The ability to parry and respond by means of our own choosing is a strong element of an effective deterrent against a multitude of potential enemies.

Missile defenses against short-range missiles, which remain in the atmosphere, move comparatively slowly, and can deploy few countermeasures, are nearing workability, as reports of the Patriot's success in Iraq may demonstrate. However, real-world defense against long-range missiles remains expensive and unproven. Spending billions to deploy such defenses, as the Bush Administration plans, is a poor use of resources, particularly when we are vulnerable to far more likely threats, such as cargo ships carrying hidden weapons of mass destruction.

Offense and Defense

We are less than two years away from fielding the first elements of land and sea based missile defense systems. We are within five years of an operational Airborne Laser system capable of shooting down missiles in boost phase.

This ignores that fact that the Bush Administration is rushing ahead without regard to whether these systems work. The ground-based system is years away from operational testing; the sea-based system has never been tested against the kind of targets it would face; and the Airborne Laser faces continuing weight and air turbulence problems.

Preemption

Possession of weapons of mass destruction alone is insufficient justification for military action. Possession combined with evidence of the intent to use those weapons is sufficient... There is a limited right of anticipatory self-defense in some circumstances, even if it is not certain that a strike is imminent. With these weapons, imminence is imperceptible and the risk of inaction is incalculable.

The Bush Administration's policy calls for military attack based on the suspicion of possession of weapons of mass destruction, even if there is no evidence of intent to use those weapons against U.S. interests. This policy has no foundation in accepted international law. It is also counterproductive, encouraging states like North Korea to pursue nuclear weapons as quickly as possible to deter a U.S. attack. Finally, this policy encourages other governments to bypass the United Nations and launch unilateral strikes against their foes.

Force Size and Composition

The Administration believes that a much smaller level of between 1,700 and 2,200 deployed strategic nuclear warheads is sufficient to provide for American security.

An arsenal of this size attempts to retain the ability to target all Russia's nuclear forces, contradicting the Bush

Administration's declaration that U.S. nuclear forces no longer need to be sized based on Russia. In the next 5-8 years, the United States could safely reduce its total nuclear arsenal, deployed and reserve, strategic and tactical, to 1,000 nuclear weapons or less.

We should retain sufficient sizes and types of weapons to reliably hold at risk targets of value to potential adversaries possessing weapons of mass destruction.

The U.S. conventional military already holds at risk the vast majority of potential "targets of value." Any intended military "advantage" gained by nuclear options is overwhelmed both by the adverse implications of U.S. nuclear use and the complications, e.g., irradiating the battlefield. If the United States breaks the nuclear taboo established for the last 50 years, it will destroy the non-proliferation regime, creating nuclear anarchy.

There has been unwarranted criticism of the Moscow Treaty because it does not require that nuclear warheads be destroyed. No arms control agreement has ever had such a requirement or even a requirement to stop production of associated nuclear warheads. It isn't verifiable because the level of intrusion would compromise design details.

The improvement in U.S.-Russian relations creates opportunities for new arms control that must be seized. The 1997 START III framework agreement, a draft nuclear arms control treaty agreed by President Clinton and Russian President Yeltsin, included the intent to negotiate measures relating to the transparency of strategic nuclear warhead inventories and the destruction of strategic nuclear warheads.

The Department of Energy (DOE) has already done extensive work on verifying warhead destruction without excessive intrusiveness. The gravest danger the United States faces is a terrorist group obtaining a nuclear weapon. Preventing that through the verified destruction and safe disposition of nuclear weapons and materials should be the President's highest priority.

Nuclear Test Readiness

Since 1993, U.S. policy has posited the resumption of nuclear testing within three years of a Presidential decision to do so The timeframe to be prepared to conduct an underground nuclear test must be reduced to no more than 18 months and possibly as low as 12 months.

The United States has conducted over 1,000 nuclear tests, allowing it to develop both an enormous, sophisticated nuclear arsenal and an unparalleled knowledge base. Resuming testing would lead other countries to test, eroding the U.S. advantage. The proliferation of more sophisticated arsenals in China, India and Pakistan or other countries would damage U.S. security. Moreover, even after 10 years of not testing, the U.S. nuclear stockpile has been consistently certified as safe and reliable, and our stewardship capabilities are only increasing. Dr. Everett Beckner, the National Nuclear Security Administration's (NNSA) Deputy Administrator for Defense Programs has stated: "We are aware of no issue that would currently require a test."²

[T]hree years for test readiness is in itself too long . . . the National Nuclear Security Administration (NNSA) now has a plan for reaching the 18 month goal over several years."

Rather than setting an arbitrary test readiness posture, Congress should evaluate alternatives for that posture as required by the FY 2003 Defense Authorization Act. Any test readiness posture must allow adequate time for the Congress to evaluate and reject or approve a plan for resuming testing as well as for making technical diagnostic preparations.

Imagine telling a President we have a problem that requires testing, but we won't be able to test for another three years.

The vast majority of U.S. tests have been to develop new weapons, not for warhead safety or reliability. It is highly unlikely that the United States would be required to urgently test a nuclear weapon to maintain the stockpile, particularly as stockpile surveillance capabilities improve.

Hard and Deeply Buried Targets

Deep underground facilities, including hardened bunkers and hard-rock tunnels, provide effective haven from attack. . . Our current weapons systems cannot destroy targets that are deeply buried in tunnels.

According to Dr. Sidney Drell, emeritus professor of physics at Stanford University, "Low-yield nuclear weapons have limited effectiveness against buried targets and they would disperse significant amounts of radioactivity."³ That is, a nuclear weapon cannot bury itself deeply enough to contain the inevitable radiation release caused by the explosion.

Attacking a bunker containing chemical or biological agents with a nuclear weapon could release those agents into the air rather than destroying them, potentially causing further catastrophe. While higher-yield nuclear weapons increase the capability to destroy bunkers and incinerate agents inside, they also increase the fallout, and the likelihood of large numbers of civilian casualties while impeding movement of troops.

The Pentagon already has conventional bombs capable of defeating hardened targets deep below the earth's surface, including the ability to destroy silo-based long-range nuclear missiles. Finally, countries can build bunkers so deep and reinforced that even a high-yield nuclear weapon could not destroy it with high confidence.

An advanced development program will attract and train the next generation of scientists and engineers who will be responsible for maintaining the reliability, safety, and capability of the stockpile... The absence of exploring new ideas negatively affects the capabilities of this critical function in a time of growing concern of proliferation.

The key task facing the DOE is maintaining our nation's existing nuclear weapons stockpile. Developing new nuclear weapons or new types of weapons is unnecessary for that task. For comparison, the United States no longer develops chemical or biological weapons, yet this does not hinder research in preventing and detecting chemical/biological weapons proliferation. Moreover, as

Linton Brooks, Acting Administrator of the NNSA, has repeatedly testified, there is no military requirement for developing new nuclear weapons.⁴ Finally, developing

new nuclear weapons and new uses for them encourages proliferation, pushing other countries to pursue the nuclear option.

Ballistic Missile Defense

Ballistic missile intercept testing has demonstrated the technical capability to shoot down missiles. It is time to begin deployment of a layered missile defense system to counter the threat of a limited strike on the U.S. or its allies.

The testing program has not demonstrated the ability to shoot down a long-range missile under real world conditions, and is years away from such operational testing. The Pentagon's Director of Operational Testing and Evaluation reported in February 2003 that the ground-based missile defense system the Bush Administration plans to deploy "has yet to demonstrate significant operational capability."⁵

The U.S. should deploy a system scoped to destroying a limited attack from rogue states or accidental launches against the U.S., our troops overseas, and our allies.

The U.S. should only deploy missile defenses if they improve U.S. security overall. A system that does not work does not meet that criterion. Because it cannot discriminate between warheads and readily available decoys and other countermeasures, the ground-based midcourse system is unlikely to ever provide even a modestly effective defense.

Establishing a layered ballistic missile defense system is a long-term commitment. The technology will mature and change over time. Just as we've upgraded and improved our offensive forces (bombers, submarines, and missiles) we will do the same with our defenses. Initial implementation is a starting point to be built upon.

Deployment of such technological dead ends like the ground-based midcourse system does very little to improve U.S. security or provide a starting point for further work.

Maintaining the Weapons Complex

The U.S. is currently unable to produce a new nuclear weapon. . . with the exception of very limited capability at Los Alamos National Laboratory.

The current capacity at Los Alamos, matched with weapons stored at Pantex, provide an enormous hedge more than sufficient to meet any possible threat. Moreover, Los Alamos is scheduled to spend over \$1 billion to upgrade its plutonium pit fabrication facilities. Estimates for production capacity range from 20-50 pits per year. The Moscow Treaty's reductions in deployed warheads call into question the need for a new pit facility capable of producing 125-500 pits per year and costing \$3-\$5 billion to construct. The only conceivable reason to build a new pit facility is to produce an arsenal of new types of weapons or to rebuild a Cold War-sized arsenal.

The successful licensing of the Watts Bar Nuclear Station of the Tennessee Valley Authority... reestablishes a do-

mestic tritium production source, essential for the maintenance of the nuclear stockpile.

According to current estimates, the United States' current tritium inventory will remain sufficient to support the Moscow Treaty-level of 1,700-2,200 deployed warheads until 2045. The DOE's FY04 budget acknowledges that the treaty will reduce tritium needs, but it has not correspondingly adjusted production plans. Instead, plans call for producing enough tritium in commercial reactors to supply tens of thousands of nuclear weapons. Postponing this program could save several hundred million dollars.

The Science Based Stockpile Stewardship program was conceived to dramatically enhance the fundamental knowledge and simulation capability of the physics of nuclear weapons performance... [forming] the basis for the future annual certification of the stockpile (and, if needed, new weapons) in the absence of underground nuclear tests.

Surveillance programs to ensure the safety and reliability of nuclear weapons without testing comprise a relatively modest amount of the Stockpile Stewardship program.

Exotic scientific facilities, such as the National Ignition Facility, are not critical to stockpile certification and are hugely expensive.

The End of Arms Control?

The era of arms control with the former Soviet empire is over.

Arms control is still highly relevant, but must reflect the changed world. Current security concerns focus not solely on the past buildup of Russia's arsenal, but on the possible spread of nuclear warheads and materials to states or terrorist groups by theft or trade.

The United States must still engage Russia in agreements to pare down the immense Cold War-sized arsenals with thousands of weapons on hair-trigger alert and safely dismantle and dispose of those weapons. The Moscow Treaty is a partial step, only requiring weapons to be removed from deployment, not dismantled or destroyed. Future efforts must include: verification measures, which would confirm that reductions made on either side are done so safely and irreversibly; cuts in tactical nuclear weapons, which are not credibly accounted for in Russia and have not been included in prior nuclear reductions agreements; stronger safety and security measures to ensure that nuclear weapons or materials do not fall into terrorist hands; and verified limits on tactical warheads, which currently number in the thousands.

Nunn-Lugar programs have been instrumental in strengthening the security of nuclear materials and accelerating the destruction of missiles, bombers and submarines in the former Soviet Union. Since the programs' implementation in 1992, over 6,000 warheads have been deactivated and over 2,000 nuclear weapons delivery systems have been eliminated. Yet fewer than half of the

weapons and materials under the programs' purview have been secured. Much more must be done.

There are limited opportunities for strengthening arms control regimes...But these efforts [such as bolstering IAEA inspections or export control regimes]...cannot be relied upon to significantly increase America's security.

Arms control measures are the first line of defense for the United States and have a tremendously successful — though not perfect — history. While these efforts alone cannot ensure U.S. or international security, they help compel countries to adhere to widely agreed principles and promises.

The Bush Administration has voiced some support for key regimes such as the NPT and the Chemical Weapons Convention. It acknowledges that multilateral regimes to support arms control are essential components for global security today. However, the United States must work to improve — not undermine — these and other regimes to enhance overall international security. These include a strengthened Biological Weapons Convention, which would enact verification and enforcement measures; the Comprehensive Test Ban Treaty, which upon entry into force would further help limit nuclear weapons development capabilities worldwide; and regional agreements such as nuclear-weapon-free zones, which with U.S. support would limit transport and acquisition of nuclear weapons technologies, thus stymieing efforts of “rogue” parties to develop nuclear capabilities.

ENDNOTES

1. Available at <http://wilson.house.gov/NewsAction.asp?FormMode=Releases&ID=569>
2. Beckner, E.H., Memo on DOE/IG Draft Report on National Nuclear Security Administration's Test Readiness Program forwarded on July 12, 2002.
3. Sidney Drell, Raymond Jeanloz and Bob Peurifoy, “A Little Math Nukes Bunker Buster Myth,” *Albuquerque Journal*, March 31, 2002.
4. For example, National Nuclear Security Administration, *Testimony Before the Senate Armed Service Committee, As Given by Acting Administrator, Linton Brooks*, February 27, 2003.
5. Director, Operational Test & Evaluation, *FY2002 Annual Report*, February 2003.