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U.S. Nuclear Deterrence in the 21st Century

Getting it Right

A White Paper By:
The New Deterrent Working Group

Foreword By:
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July 2009

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Key Insights
Concerning
Nuclear Deterrence
in the 21st Century

“The United States requires a stockpile of nuclear weapons that is safe, secure, and reliable, and whose threatened use in military conflict would be credible...The conditions that might make the elimination of nuclear weapons possible are not present today and establishing such conditions would require a fundamental transformation of the world political order.”

THE COMMISSION ON THE STRATEGIC
POSTURE OF THE UNITED STATES, MAY 2009

“Other declared nuclear powers continue to modernize their nuclear weapons, delivery platforms, and infrastructure. Conversely, the US has effectively eliminated its nuclear weapons production capacity and allowed its infrastructure to atrophy. We no longer produce successive generations of nuclear weapons and we have discontinued underground testing.”

GENERAL KEVIN P. CHILTON, COMMANDER,
UNITED STATES STRATEGIC COMMAND,
MARCH 2008

“To be blunt, there is absolutely no way we can maintain a credible deterrent and reduce the number of weapons in our stockpile without either resorting to testing our stockpile or pursuing a modernization program.”

SECRETARY OF DEFENSE GATES,
OCTOBER 2008

“...A safe, secure and reliable U.S. nuclear deterrent, credibly extended to our allies, supports U.S. non-proliferation efforts because allies confident in U.S. extended nuclear deterrence guarantees will not be motivated to pursue their own nuclear forces. This non-proliferation role of U.S. nuclear weapons is often underestimated. Indeed, the nuclear weapon programs of North Korea and Iran have made our nuclear guarantees to allies such as Turkey, South Korea and Japan take on renewed importance.”

NATIONAL NUCLEAR SECURITY
ADMINISTRATION ADMINISTRATOR
THOMAS P. D’AGOSTINO, FEBRUARY 2008

“Strengthening the credibility of our nuclear deterrent should begin at the White House.”

REPORT OF THE SECRETARY OF DEFENSE
TASK FORCE ON DOD NUCLEAR WEAPONS
MANAGEMENT; PHASE II: REVIEW OF THE
DOD NUCLEAR MISSION, DECEMBER 2008

FOREWORD

This Briefing Book represents a collective effort to present important facts and analyses about nuclear deterrence at a very critical juncture. Its publication comes as the Obama administration seeks to advance policies with respect to nuclear weapons that, for reasons described in the following pages, are potentially perilous for America and the many nations around the world that rely upon the credibility of our nuclear deterrent.

Some of these policies are rooted in the President's stated ambition to rid the world of nuclear weapons. As a matter of long-term idealism, once there is a fundamental transformation in the world's politics (192 peace-loving democracies that recognize human rights and threaten no one), such a goal may be in order. But as a near-term reason for us to forgo nuclear modernization while enemies and potential enemies busy themselves at such efforts, it is most unwise.

The effort to rid the world of nuclear weapons is sometimes stated as the equivalent of an effort by the nations of the world to reach, collectively, a base camp in order to organize for the final cooperative effort to reach the summit of nuclear abolition. But there is a fundamental problem with this analogy. Einstein once said "Raffiniert ist der Herr Gott, aber boshaft ist Er nicht." (God may be sophisticated, but he's not plain mean.) Since to Einstein God and Nature were much the same

thing this is usually taken to mean that when one is contending against nature – discovering $E=MC^2$ or climbing a mountain – the problem may be complex, but there is no enemy trying to defeat, even kill, you while you are at work.

But in the case of, for example, the Iranian regime's nuclear weapons program, this is not the case. We have enemies in the world who might profess to want to climb the mountain alongside us but who, in fact, are continually searching for a crevasse to shove us down. We have to find them, protect ourselves, and defeat them or transform them before we can climb alongside them.

Thus, although the long-term dream of nuclear abolition is not, in and of itself, necessarily a danger to our security, it would indeed be damaging if it – or anything else – led us to sign on to, say, a Comprehensive Test Ban Treaty in which we were barred from testing of a sort that was permitted to other parties.

Long-term idealism is not our principal problem, inaction is. But we must take care to ensure that our dreams do not lead us astray.

As the authors of this Briefing Book and the numerous experts, studies and commissions they cite make clear, among the world's nations are a number that are either determinedly seeking to acquire their own nuclear weapons or upgrading

the ones they already have. The more secretive and despotic the regime, the more improbable are the prospects that they will permanently and reliably abandon such ambitions.

In the face of this reality, the United States cannot safely persist in the nearly two-decades-long unilateral nuclear freeze documented by this analysis. Neither can we responsibly believe that, by setting an example of restraint -- if that is defined as neglecting the modernization and reliability improvements our nuclear forces require -- we will create international conditions in which other nuclear powers or wannabes will follow our lead.

To take just one example: As America refrains from modernizing its deterrent, Russia is demonstrably relying ever more heavily on its nuclear forces, which are being systematically built up. One should not be deceived by Russian enthusiasm for some START Treaty reductions in strategic nuclear delivery vehicles -- they are working hard on a range of nuclear improvements and also on consolidating their advantage in short-range weapons in order to dominate their neighbors. The Kremlin is simultaneously engaging in more and more direct nuclear threats against our allies, eroding confidence in the United States' extended deterrent. And Moscow is irrefutably doing hydronuclear and hydrodynamic experiments at Novaya Zemlya, underground nuclear testing of a sort the United States claims is impermissible under the Comprehensive Test Ban Treaty and that it has, as a signatory (albeit not a state party to the treaty) forsworn.

These are conditions that seriously risk making the world a more dangerous place rather than a safer and more stable one. It is, therefore, enormously valuable to have the arguments for a return to more prudent and time-tested deterrent policies laid out as clearly and authoritatively as has been done by the New Deterrent Working Group in this briefing book. Whether or not one agrees with every statement or recommendation, it is a valu-

able contribution to the debate about the future of U.S. nuclear deterrence -- a debate that will become even more necessary in the wake of President Obama's meetings with Russian leaders at the beginning of July.

R. James Woolsey
Palo Alto, California
24 June 2009

AUTHORS' NOTE

This Briefing Book was prepared by members of the New Deterrent Working Group – an informal team of defense and arms control experts with a combined total of decades of experience in the U.S. government, military service and nuclear weapons policy and programs. This report is the product of substantial study and discussion of the present state and future needs of America's nuclear deterrent. It draws extensively from a number of valuable resources, including the findings and recommendations of the U.S. Commission on the Strategic Posture Final Report of May, 2009. It is a consensus document, reflecting the views of the undersigned authors and others.

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EXECUTIVE SUMMARY

The scheduled expiration of the 1991 Strategic Arms Reduction Treaty (START) in December of 2009 and that of the 2002 Moscow Treaty (also known as the Strategic Offensive Reduction Treaty, or SORT) in 2012 is impelling the Obama administration to pursue new negotiations with Russia with regard to an agreement that would extend, or possibly replace, START and SORT.¹ The old adage seems to apply: “You want it bad, you’ll get it bad.”

Of particular concern is the fact that President Obama’s negotiators are reportedly preparing a treaty that would make dramatic changes in the U.S. strategic force posture even though the administration has scarcely begun two major, congressionally mandated studies scheduled for completion by year’s end: the Nuclear Posture Review (NPR) and Quadrennial Defense Review (QDR). These important internal planning exercises are intended to inform decisions about the U.S. deterrent force structure and capabilities. It appears, instead, that whatever U.S.-Russian arms control agreement can be hastily fashioned to limit our deterrent will guide the NPR and QDR, rather than the other way around.

No less troubling is the administration’s apparent inattention in the pursuit of a START follow-on agreement to the findings and

recommendations of the bipartisan Congressional Commission on the Strategic Posture of the United States (the Strategic Posture Commission) – or even to the views of its own senior officials charged with maintaining and operating our nuclear forces.

This briefing book is designed to distill in a convenient form the most important of these inputs and to draw the appropriate conclusions about what a START follow-on treaty should *and should not* entail. It is meant to provide constructive advice to the negotiators and to inform members of the United States Senate who must approve ratification of any future treaty the diplomats might produce.

The bottom line is that any follow-on agreement must ensure the continued effectiveness and credibility of the U.S. strategic posture sufficient to maintain America’s own security and that of its allies through extended nuclear deterrence. Among other conclusions, the agreement should not *de facto* establish Russian strategic superiority by focusing entirely on strategic nuclear forces and ignoring the thousands of Russian theater and tactical nuclear weapons. In light of the now all-too-frequent, high-level Russian direct and indirect nuclear threats against U.S. allies, the treaty should take into account the

The available evidence suggests that an American nuclear deterrent that is either qualitatively or quantitatively insufficient will have the effect of encouraging the very proliferation of nuclear forces we seek to prevent.

requirement for extended deterrence. It must be verifiable and we must insist on Russian compliance, which has not been the case with previous arms control agreements.

Any limitations on warheads and delivery systems, and related verification protocols, must meet the tests of reliability, credibility, and effectiveness essential to maintaining America's strategic nuclear deterrent. Negotiations that fail to take these requirements into account will risk an outcome that will *invite* – not prevent – nuclear proliferation, intimidation, and regional instability, to the detriment of the United States and our allies.

The U.S. has over four decades of arms control experience with Russia and the former U.S.S.R. One lesson we should have learned by now is that even the most comprehensive inspection arrangements acceptable to the United States cannot assure Kremlin compliance with

international agreements. Another lesson is that arms control agreements are not worth the paper on which they are written unless they advance larger strategic objectives of the United States.

We do not need a new agreement with Russia simply for the sake of having an agreement. In particular, with the Cold War behind us, it is in our interest to ensure that such an agreement does not actually leave Moscow in a stronger position to threaten and coerce the independent states of the former Soviet Union and our allies on the Russian littoral.

As the following pages make clear, tending to the abiding requirements of our nuclear deterrent is at least as important to American security as any arms control treaty the Russians might accept. For reasons detailed below, subordinating the former to the latter may well make the world and the Nation substantially less safe.

The Need for a Credible U.S. Nuclear Deterrent

U.S. nuclear weapons continue to play a vital role in today's strategic environment. They serve as a deterrent to attacks on the United States from countries armed with nuclear and other weapons of mass destruction, such as biological and chemical weapons. For example, U.S. nuclear forces provide a hedge against a resurgent Russia, which deploys thousands of strategic and tactical nuclear weapons, has placed increasing emphasis on its nuclear forces in its military doctrine, and continues to modernize its nuclear weaponry in concert with its pursuit of a more anti-American foreign policy. They serve as a deterrent to China, which is also pursuing its own extensive military modernization program. They can also dissuade other nuclear and non-nuclear powers from adopting more belligerent policies that threaten U.S. interests.

Importantly, U.S. nuclear forces provide a “nuclear umbrella” to allies, historically acting as the ultimate guarantor of their security. In a number of cases, a robust American nuclear arsenal has proven to be effective not only in deterring attacks on the United States and its allies from adversaries using weapons of mass destruction. This “extended deterrent” has also allowed our allies and friends to forgo pursuit of their own nuclear arsenals. It follows that as uncertainty increases about the reliability and/or effectiveness of our deterrent, those under our “umbrella” will feel a heightened obligation to seek independent nuclear arsenals.

U.S. Strategic Force Reductions and Proliferation

We have already seen evidence that cuts in the American nuclear arsenal do not translate into lessened proliferation of nuclear weapons around the world. U.S. warhead levels have been dramatically reduced – from 12,000 deployed weapons in 1981 to roughly 2,200 in 2009. Yet, concerns about nuclear proliferation are, if anything, more acute than they were at the time of the signing of the 1968 Non-Proliferation Treaty (NPT).

This disconnect has been particularly evident in the past decade. According to **Thomas P. D’Agostino**, the Administrator of the National Nuclear Security Administration: “As of the end of 2007, the total [U.S.] stockpile was almost 50 percent below what it was at the start of this millennium... On December 18, 2007, a decision was announced to further reduce the nuclear weapons stockpile by another fifteen percent by 2012. This means the U.S. nuclear stockpile will be less than one-quarter of its size at the end of the Cold War—the smallest stockpile in more than 50 years.”²

Nonetheless, more countries now have nuclear arsenals than ever, and still more are poised to

acquire them. Although Libya and Iraq are no longer pursuing nuclear arsenals, North Korea has a small stockpile of such weapons, Iran is striving to develop them, and the situation in Pakistan is unstable. Given the nature of the latter regimes, it strains credulity to argue that a robust American nuclear deterrent has been the driving force behind their nuclear buildups. The trends suggest, to the contrary, that an American deterrent posture perceived as inadequate translates into greater proliferation than does a strong one.

As the Strategic Posture Commission pointed out in its final report issued in May, 2009, as U.S. nuclear forces have declined in number and quality over the past decade, Russia has made numerous nuclear threats against our allies. These direct threats have been made from the level of senior generals all the way up to that of the Russian president, and they have continued despite high-level protests from the Bush administration. In addition to the numerous threats of direct targeting, Russia has also used the forward deployment of nuclear missiles, provocative “combat patrols” by its long-range bombers and an aggressive nuclear build-up as instruments of foreign policy. Russia has also announced the lowest nuclear weapons-use threshold in the world.

Meantime, China, while officially professing a doctrine of “no first use”, is modernizing and expanding its nuclear forces. Nuclear threats have also been periodically made by senior Chinese generals.

In recent years, even lesser powers have conducted themselves in ever more aggressive ways. North Korea publically threatens to turn the cities of our ally South Korea into a “nuclear sea of fire.” Although Iran is not yet believed to have acquired nuclear weapons, its leadership has repeatedly threatened to “wipe Israel off the map” and bring about “a world without America.” These threats simply cannot be ignored.

In short, the available evidence suggests that an American nuclear deterrent that is either

qualitatively or quantitatively insufficient will have the effect of encouraging the very proliferation of nuclear forces we seek to prevent. The prospect of the continued emergence of grave new threats and perhaps ever-more-aggressive behavior on the part of newly empowered and emboldened adversaries obliges us to attend to the condition of the U.S. nuclear arsenal and its supporting industrial base.

Our Neglected Nuclear Enterprise

Given the importance of the American nuclear deterrent to our national security and to international stability, it is imperative that the Nation makes a sustained commitment to assuring the requisite technical talent, competent managers and financial resources to maintain both the strategic “Triad” of bombers, submarines and land-based missiles and the infrastructure upon which the nuclear enterprise rests.

Such a commitment is not in evidence at this time. The key elements of a robust deterrent are under extreme stress today and will be imperiled further by a presidential determination to pursue a “world without nuclear weapons” and the attendant policy of not investing in modernization of the stockpile. Although there are long-range plans to build a follow-on submarine to replace the current, aging Trident fleet, and while the service-life of the Minuteman III has been extended to at least 2020, any decision to manufacture a new strategic bomber has been put on hold until completion of the Nuclear Posture Review. To put a fine point on it, the United States has no active, let alone comprehensive, modernization program for its strategic Triad.

Even the adequacy of the *maintenance* program for our strategic forces is open to question. Thanks to a lack of investment in the human and physical infrastructure on which the U.S. nuclear enterprise relies, the future viability

of the deterrent will increasingly become problematic.

Of particular concern in this regard is our atrophying ability to test our nuclear weapons in order to ensure their future safety, reliability and credibility. A continued failure to rectify this shortfall threatens to negate the effect of such other resources as might be applied to maintain an effective nuclear deterrent. Banning all non-computer testing has been a goal of de-nuclearizers for decades, for the simple reason that it ultimately assures the desired goal – namely, that without underground testing, a nation like ours, with an arsenal comprised of highly complex and obsolescing weapons, will inexorably be unable to assure the viability of its nuclear stockpile. Others, however, may be inclined to cheat.

An open-ended moratorium on such testing therefore translates into unilateral de-nuclearization by default; it requires no negotiations or global consensus. Even worse would be U.S. accession to a treaty like the Comprehensive Nuclear Test Ban Treaty (CTBT), which would permanently prohibit American underground testing. Consequently, the Senate should stand by its 1999 rejection of that accord, which was defeated then by a vote of 51-48.

Deterrence Capability is Indispensable to START/SORT Negotiations

The United States should commit itself to the principle of maintaining an effective, reliable, and credible nuclear deterrent as it negotiates any agreement that may follow the impending December, 2009 expiration of START. Nuclear arms control should be pursued as an element of national security policy, not as an ideological crusade. We should not set unreasonable deadlines for the conclusion of a new agreement,

lest those deadlines translate into artificial pressures to accede to Russian positions, to the detriment of our strategic posture and interests. As a practical matter, nothing will happen on December 5, 2009, other than the expiration of the START verification regime. The Moscow Treaty of 2002 will continue until December 2012.

It is only with an appreciation of – and attention to – the abiding requirements for the U.S. nuclear deterrent capability that we have any hope of achieving an agreement with Russia that actually is compatible with our goal of desire to strengthen our security and preserve global stability. The alternative – an accord that either *appears* to or in fact *does* leave the United States without a nuclear arsenal sufficiently robust to deter attacks on us, our interests and our allies, and to discourage proliferation – will leave the world substantially worse off, rather than more stable and secure.

Findings and Recommendations

Accordingly, the New Deterrent Working Group believes the following should guide U.S. nuclear weapons policies and programs:

- ❖ A safe, credible, secure and reliable U.S. nuclear deterrent requires a modern infrastructure and strategic force structure, no matter what level of nuclear weapons we deploy.
- ❖ A robust deterrent requires maintaining an enduring Triad of submarines, land based missiles and bombers, and a robust and layered missile defense architecture. To be credible, our forces must be maintained in a ready and useable status. That does not mean they are on “hair trigger alert” and it is irresponsible to characterize them as such.
- ❖ Equally important, it requires nuclear weapons laboratories capable of attracting

and retaining top-flight personnel to work on relevant scientific endeavors, a properly funded and effective stockpile stewardship program, and ongoing life-extension and modernization programs for weapons and delivery systems.

- ❖ Nuclear deterrence is required not only to protect U.S. security but also to extend a nuclear umbrella or extended deterrent to our allies, many of whom are concerned with nuclear threats to their security not the least of which is the significant Russian advantage in deployed tactical nuclear weapons.
- ❖ There is no evidence that U.S. “restraint” in the modernization of our nuclear deterrent results in any reciprocal behavior on the part of peer or near-peer states, let alone rogue regimes. Today, the United States is the only nuclear power not currently modernizing its deterrent. Indeed, historical experience suggests that perceived U.S. neglect of its nuclear deterrent enterprise could very well encourage proliferation as allies worry about the seriousness of our extended deterrent commitments and adversaries seek to increase their nuclear weapons stockpiles, and even become peer competitors.
- ❖ Terrorist groups and their state sponsors, whether separately or together, will not stop their quest for nuclear weapons because the United States reduces its nuclear deterrent capabilities, whether unilaterally or in cooperation with Russia through additional arms control agreements.
- ❖ International cooperation is needed to prevent the use of nuclear weapons by a terrorist group or state sponsor of terror. But such cooperation is more likely to be forthcoming if the United States is demonstrating international leadership and resolve by, among other things,

communicating its willingness to meet longstanding deterrent commitments than if it is neglecting them.

With respect to the START follow-on negotiations, the New Deterrent Working Group recommends the following:

- ❖ The treaty must be structured so as to ensure that the United States remains able to deter effectively, and if necessary, to defeat projected threats to our national security, while hedging against potential changes in the forecasted security environment.
- ❖ At least until such time as a new Nuclear Posture Review (NPR) has been completed and its adequacy assessed by the Congress, no START follow-on agreement should be contemplated that would involve reductions that could impinge upon, let alone preclude, the continued operational deployment of the currently sized Triad of American strategic forces. Those forces must remain capable of significant and continuous at-sea deterrence and maintain undiminished alert rates for the ICBM force.
- ❖ A competently conducted NPR would affirm, for reasons cited above and developed at greater length elsewhere in this briefing book, that reductions below 1,700 operationally deployed warheads are unacceptable under present and foreseeable circumstances. Even that level would represent a 23% reduction from the 2002 Moscow Treaty limit of 2,200.
- ❖ The number and character of the forces the United States can deploy under any START follow-on treaty must also be sufficient to continue effectively to meet the Nation's security commitments to allies through extended nuclear deterrence.
- ❖ Any agreed limitations in a future U.S.-Russian arms control agreement should apply only to *operationally deployed* strategic nuclear warheads, not to the currently deployed delivery platforms or reserve warheads. The United States should retain maximum latitude to decide the nature and composition of its delivery platforms.
- ❖ A follow-on START agreement must not preclude the United States from maintaining a sizeable stockpile of non-deployed weapons. This is particularly critical in these early years, when the U.S. has no nuclear weapons production capability. Once we have established the "Responsive Infrastructure" required by the current NPR as the third leg of the Triad, this reserve stockpile may be safely reduced.
- ❖ It would be particularly ill-advised to consider cuts below the 1,700 level in light of the immense advantage the Kremlin enjoys in non-strategic nuclear weapons and the threat they pose to the former Soviet republics and American allies on Russia's littoral. Any future arms reduction treaty must take into account Russian tactical and theater nuclear weapons.
- ❖ Current START "counting rules" over-count U.S. warheads by more than a factor of two. Any START follow-on agreement that imposes still deeper cuts in warhead levels must rectify these attribution arrangements so as to avoid reductions in American delivery systems that would otherwise be unnecessary and are certainly undesirable.
- ❖ Correcting this problem will be all the more challenging given the unacceptability of the intrusive inspections that would be involved in physically counting warheads and the alternative of forcing the United States to engage in what amounts to rebuilding of its missiles so as to make them unable to carry more than the attributed number of warheads. These considerations add further weight to the argument against making deeper reductions in a new bilateral arms control accord.

- ❖ Any new U.S.-Russian arms control treaty must be linked to U.S. strategic force modernization. The United States must not only retain the latitude regularly to refurbish and replace U.S. strategic forces. It must actually *undertake* the design and development of a new intercontinental-range bomber, ICBM, strategic submarines and submarine-launched ballistic missiles and new warheads needed to sustain a viable deterrent force for the foreseeable future.
- ❖ Any agreement on nuclear forces must not restrict *conventionally armed* strategic weapons. This is an area of potentially considerable U.S. advantage and could become considerably more so if warhead numbers decline further.
- ❖ The United States must preserve the freedom it currently enjoys to develop and deploy whatever missile defenses are deemed necessary. The need for anti-missile systems capable of protecting against ballistic missiles of every range seems likely only to grow in the future.
- ❖ Finally, the continued credibility and effectiveness of the U.S. nuclear deterrent precludes de-mating of warheads on operational systems or otherwise reducing the alert rates or alert status of U.S. forces.

Regrettably, those leading the negotiations with Russia on a follow-on to the expiring START Treaty appear unprepared to adhere to virtually *any* of the foregoing principles. President Obama seems determined instead to pursue an arms control agenda shaped by his embrace of the “Global Zero” vision of a “world without nuclear weapons.”

Indeed, at this writing, the U.S. negotiating team is said to be preparing the groundwork for a precipitous, far-reaching arms reduction agreement with Russia in advance of high-level meetings scheduled between Presidents Obama

and Medvedev in July, 2009. There seems little chance that the resulting agreement will make the United States or its allies safer as it is rooted in a specious arms control paradigm unsuited to this dangerous world, namely one that prioritizes U.S. stockpile reductions above all else.

America’s Founders entrusted to the U.S. Senate the responsibility to provide quality control on treaties negotiated by the executive branch. If the impending START follow-on agreement with the Russians does indeed depart from these principles, the Senate must recognize that it will undermine, not advance, the security interests of the United States and its ratification must be rejected.

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I. INTRODUCTION

Despite the end of the Cold War, U.S. nuclear weapons continue to perform multiple critical national security functions. They serve as a deterrent to attacks on the United States from countries armed with nuclear and other weapons of mass destruction. For example, U.S. nuclear forces provide a hedge against a resurgent Russia – which deploys thousands of strategic and tactical nuclear weapons, has placed increasing emphasis on its nuclear forces in its military doctrine and continues to modernize its nuclear weaponry in concert with its pursuit of a more anti-American foreign policy.

In addition, American nuclear forces constitute a deterrent to China, which is pursuing its own extensive military modernization program. They also help dissuade other nuclear and non-nuclear powers from adopting more belligerent policies that threaten U.S. interests.

Importantly, U.S. nuclear forces have long provided a “nuclear umbrella” to allies, serving as the ultimate guarantor of their security. This “extended deterrent” has dampened impulses toward nuclear proliferation on the part of countries that rely on the credibility of U.S. security guarantees. Specifically, not only has a robust U.S. nuclear arsenal proven to be effective in deterring attacks on the U.S. and its allies from

adversaries using weapons of mass destruction, but this “extended deterrent” has allowed our allies and friends to forgo the development of their own nuclear arsenals. It follows that, as uncertainty increases about the reliability and/or effectiveness of our deterrent, those under our “umbrella” will surely pursue independent nuclear arsenals.

These realities have important national security implications for the Obama Administration’s desire to negotiate further arms control reductions with Russia as a way-station toward the President’s ultimate goal of a worldwide elimination of nuclear weapons. The scheduled expiration of the 1991 Strategic Arms Reduction Treaty (START) in December of 2009 and the Moscow Treaty of 2002 in late 2012 is impelling the Obama Administration to pursue new negotiations with Russia with regard to an agreement that would extend or possibly replace START and SORT. Giving further impetus to these pursuits is the assumption that only with the United States and Russia leading a new round of nuclear weapons reductions will the international stage be properly set for successful efforts to rein in and eliminate the nuclear weapons programs of North Korea and Iran and to prevent a potential cascade of new nuclear weapons development.

To be both desirable and sound, such an agreement will need to be crafted with an eye towards assuring the continued effectiveness and credibility of the U.S. strategic posture sufficient to maintain America's own security and that of its allies through extended nuclear deterrence.

As the parties address limitations on warheads and delivery systems, and contemplate revisions to the verification system in light of the changing security landscape, the U.S. negotiating team must ensure that the resulting accord allows the American deterrent to meet the required standards with respect to reliability, credibility, and effectiveness.

Negotiations that fail to take these requirements into account will risk an outcome that leaves the United States at a severe qualitative and quantitative security disadvantage, one that will *invite* – not prevent – nuclear proliferation, blackmail, and potential catastrophe.

Importantly, U.S. nuclear forces have long provided a “nuclear umbrella” to allies, serving as the ultimate guarantor of their security. This “extended deterrent” has dampened impulses toward nuclear proliferation on the part of countries that rely on the credibility of U.S. security guarantees.

II. STATEMENT OF PRINCIPLES ON NUCLEAR DETERRENCE

The United States has led the world over the past century, and has done so through strength – economic, military, cultural, and moral.

Nuclear weapons have helped keep this country safe for decades, and must continue to do so. We have relied on them to deter not only nuclear attack, but also attacks using weapons of mass destruction such as biological or chemical weapons.

Nuclear weapons have lessened the occurrence of major conventional warfare and the number of casualties in major conventional warfare.

To be credible, U.S. nuclear weapons have to be reliably tested, modernized and updated to be capable of viably addressing future threats. This requires that they have low yield, reduced collateral damage, greatly enhanced security, and specialized effects, such as earth penetration.

Our nuclear arsenal has helped non-proliferation by dissuading other states from seeking to go nuclear. A strong U.S. nuclear deterrent puts a downward pressure on nuclear proliferation. To date, we have had considerable success in dissuading both non-nuclear allies covered by our nuclear umbrella and adversaries from “going nuclear.”

There is no evidence that a reduction in the number of U.S. nuclear weapons or in U.S. invest-

ment in its nuclear deterrent – to say nothing of the complete elimination of America’s strategic forces – would translate into a downward effect on other nations’ nuclear stockpiles or ambitions. In fact, as we have made cuts, others have acquired, or accelerated their efforts to acquire, nuclear weapons.

For more than a decade and a half, we have been effectively unilaterally “freezing” our deterrent – failing to modernize our arsenal, eliminating production capabilities, refraining from necessary nuclear testing, and gutting the Stockpile Stewardship Program.

It is essential to the credibility of the U.S. nuclear deterrent that the weapons that comprise it remain safe, reliable and effective. They are *not* on “hair-trigger” status, but they must be ready for controlled, prompt use to have deterrent value.

Maintaining a deterrent of sufficient size, readiness, quality and credibility is essential to dissuade proliferation. Doing otherwise would expose the American people to heightened danger as: enemies are emboldened; allies are demoralized and alienated; and proliferation intensifies.

“Loose nukes” *are* a threat, but those most threatening are Russian and Pakistani nuclear weapons, not American.

There is no arms control regime that can be created to verify with high confidence the complete elimination of nuclear weapons.

There is a long record of Soviet/Russian cheating on arms control obligations. This is going on today with the testing – and soon, the deployment – of the Kremlin’s multiple-warhead-configured (MIRVed) SS-27. While President Obama in Prague called for a policy of strict verification and compliance, in practice his administration is doing nothing about outstanding Russian violations of the START treaty. For example, the treaty prohibits increasing the number of warheads on missiles, and the SS-27 is declared as a single warhead missile.

III. THE NUCLEAR ENVIRONMENT TODAY

Today, more countries have nuclear arsenals than ever before, and still more are poised to acquire them. By contrast, the United States has dramatically reduced its inventory of operational strategic and tactical weapons and exercised restraint to the point of neglect with respect to the myriad steps necessary to ensure the safety, reliability and effectiveness of its remaining nuclear stockpile.

A. What Others are Doing

Russia and China are making significant investments in the modernization of their nuclear forces.³ There is reason to believe that some of these investments are going toward highly advanced, specialized-effects nuclear weapons (known as “fourth generation” weapons).⁴

As **Secretary of Defense Robert Gates** observed in October 2008, “...Russia ha[s] embarked on an ambitious path to design and field new weapons.”⁵ He added: “Ironically...Russia today...has neither the money nor the population to sustain its Cold War conventional force levels. Instead, we have seen an increased reliance on its nuclear force with new ICBM and sea-based missiles, as well as a fully functional infrastructure

that can manufacture a significant number of warheads each year.”⁶

A White Paper issued by the **Departments of Energy and Defense** in September 2008 characterized the level of effort being mounted by the Kremlin in this area: “...Russia maintains a fully functional nuclear weapons design, development, test and manufacturing infrastructure capable of producing significant quantities of nuclear warheads per year.”⁷

The same increasingly appears to be true of China.⁸ Last October, Secretary Gates declared that: “China is also expanding its nuclear arsenal. It has increased the number of short-, medium- and long-range missiles and pursued new land-, sea- and air-based systems that can deliver nuclear weapons.”⁹

While the other two founding members of the so-called “nuclear club” – Britain and France – are allies rather than threats to the United States, they too are upgrading their respective strategic arsenals. Secretary Gates took note of this fact last year, observing: “The United Kingdom and France have programs to maintain their deterrent capabilities.”¹⁰

In short, as members of the **Strategic Posture Commission** unanimously put it in their final report released in May 2009: “The other NPT-

recognized nuclear-weapon states have put in place comprehensive programs to modernize their forces to meet new international circumstances.”¹¹

Meanwhile, rogue and potential rogue nations such as North Korea, Iran, Syria and Pakistan have continued to pursue nuclear weapons technology at an accelerated pace. Often this is done, at least initially, under the guise of civilian nuclear power activities – exploiting a loophole in the Nuclear Non-Proliferation Treaty (NPT). Such behavior calls into serious question the utility of arms control as a means of preventing nuclear proliferation among signatory states – let alone those that are non-signatories – unwilling to abide by the NPT and its associated verification regimes.¹²

Moreover, at least some of these actual or incipient nuclear powers appear willing to transfer, nuclear weapons-relevant technology to those with cash. It is reasonable to assume that they are willing to consider as prospective clients terrorist organizations like al Qaeda known to be anxious to acquire—and, perhaps, even to *use*—nuclear weapons.

In sum, more states today have active – although in some cases still covert – nuclear weapons programs than ever before, and all are diligently working to improve their nuclear capabilities.¹³

B. The Sorry State of the U.S. Deterrent

By contrast with the nuclear ambitions of so many others, the United States has engaged over the past seventeen years in what has amounted to a unilateral nuclear freeze. In March 2008, **General Kevin P. Chilton**, the Commander of U.S. Strategic Command warned that “Other declared nuclear powers continue to modernize their nuclear weapons, delivery platforms, and

“Other declared nuclear powers continue to modernize their nuclear weapons, delivery platforms, and infrastructure.

Conversely, the U.S. has effectively eliminated its nuclear weapons production capacity and allowed its infrastructure to atrophy.”

STRATCOM COMMANDER

GENERAL CHILTON

infrastructure. Conversely, the U.S. has effectively eliminated its nuclear weapons production capacity and allowed its infrastructure to atrophy. We no longer produce successive generations of nuclear weapons and we have discontinued underground testing.”¹⁴

Secretary Gates described the disparity between the level of effort with respect to modernization and maintenance of the stockpiles of other nuclear weapon states and that of this country as follows: “Currently, the United States is the only declared nuclear power that is neither modernizing its nuclear arsenal nor has the capability to produce a new nuclear warhead.”¹⁵

It is worth examining in greater detail three facets of the U.S. nuclear enterprise: 1) the stockpile itself, 2) the weapons complex and 3) the skilled workforce required to sustain both.

- 1: U.S. nuclear weapons are deteriorating and do not include all possible safety and reliability options.

Those tasked with assuring the integrity of the Nation’s nuclear arsenal have registered significant concern over the effects of aging and what amounts to sustained underinvestment on the safety of U.S. nuclear warheads:

- ❖ **Los Alamos National Laboratory Director Michael R. Anastasio (April 2008):** “The weapons in the stockpile are not static. The chemical and radiation processes inside the nuclear physics package induce material changes that limit weapon lifetimes. We are seeing significant changes that are discussed in detail in my Annual Assessment letter.”¹⁶
- ❖ **NNSA Administrator Thomas P. D’Agostino (April 2008):** “Although recent studies have placed the life of our plutonium pits at 85 to 100 years, other exotic materials used in our warheads degrade at different rates and many of their aging properties are still not well understood. The metallurgical and chemical issues we face with our aging warheads continue to be a technical challenge for our

best scientists and the risk of catastrophic technical failure occurring as our warheads age cannot be ruled out absolutely.”¹⁷

“To understand the challenges facing our stockpile, an analogy is in order. Today’s Mustang remains a high-performance automobile, has about the same dimensions and weighs only a few hundred pounds more than the first Mustangs, and has all the modern safety and security features we expect today air bags, anti-lock brakes, GPS navigation, satellite radio, theft deterrent and alarm systems. The 1965 version had none of these features, not even seat belts! We deploy warheads today that have 1970-80’s safety, security and anti-terrorism features. It does not mean that these warheads are not safe and secure, but we can do better and we should do better.”¹⁸

“We cannot continue to do 21st Century national security business with a 50-year-old Cold War infrastructure.”

NNSA ADMINISTRATOR D’AGOSTINO

2: The weapons complex *is in extremis*

The lack of commitment on the part of successive U.S. administrations of both parties to a stockpile modernization program has had detrimental effect not only on the arsenal, but also on the underlying infrastructure necessary to support it. The following characterize the grave state of this vital and increasingly deficient industrial base:

- ❖ **The Strategic Posture Commission (May 2009):** "...The Commission believes it is necessary to take a long view. Physical infrastructure is unique in the long time-scale involved in making changes to it. Although nuclear policy can be altered overnight and force levels can be decreased or increased (to a limited extent) in months or a few years, decisions on infrastructure can take years if not a decade or more to reach fruition."¹⁹

"[The Commission] also recommends that Congress express a commitment to sustain that funding [for the weapons laboratories] for the foreseeable future, as its fluctuating character over recent years has been a significant programmatic problem."²⁰

- ❖ **STRATCOM Commander General Chilton (November 2008):** "We can produce a handful of weapons in a laboratory but we've taken down the manufacturing capability...Think about what it's going to take to recapitalize or replace those 2,000 weapons over a period of time...If you could do 10 a year, it takes you 200 years. If you build an infrastructure that would allow you to do 100 a year, then you could envision recapitalizing that over a 20-year-period."²¹
- ❖ **Los Alamos National Laboratory Director Michael R. Anastasio (April 2008):** "There are ever-increasing standards

imposed by environmental management, safety, and security requirements driving up the costs of the overall infrastructure. When coupled with a very constrained budget, the overall effect is exacerbated, restricting and, in some cases eliminating, our use of experimental tools across the complex. This puts at risk the fundamental premise of Stockpile Stewardship."²²

"This increased responsibility for nuclear facilities and operations must be viewed in the context of a reduction in purchasing power of approximately half a billion dollars over the last five years. Moreover, from our preliminary planning discussions with the National Nuclear Security Administration, we anticipate further erosion of our purchasing power by about four hundred million dollars over the next five years, assuming inflation and a flat level of appropriated dollars."²³

"With growing costs of the full Cold War infrastructure and the prospects for a declining budget, it is becoming more difficult to maintain, use, or enhance the Stockpile Stewardship tools we have put in place."²⁴

- NNSA Administrator D'Agostino (March 2009):** "Our uranium facilities date back to the Manhattan Project of the 1940s."²⁵

"Our newest plutonium facility is thirty years old and one Los Alamos research building (Chemistry and Metallurgy Research) dates from the early 1950s and has served well beyond its economic lifetime."²⁶

"A plutonium capability is a core competency that must be retained. Independent of the quantity of pits needed in the future..."²⁷

"We cannot continue to do 21st Century national security business with a 50-year-old Cold War infrastructure. The need for

sustaining future plutonium and uranium capabilities is without question.”²⁸

3: ‘Brain Drain’ – The U.S. weapons complex’s decline in nuclear expertise

The nuclear stockpile, and the underlying infrastructure, cannot be sustained as physical entities alone. Credible and effective deterrence must necessarily rely upon a deep knowledge base of individuals with experience and expertise in designing, testing, and maintaining nuclear weapons. Alarmingly, the United States is experiencing a level of “brain drain” in this regard that calls into serious question our ability to maintain, let alone modernize, the U.S. nuclear enterprise.

The following observations highlight the gravity of this situation:

- ❖ **The Strategic Posture Commission (May 2009):** “The Commission’s second main concern about the nuclear weapons complex is that the intellectual infrastructure there is in serious trouble – perhaps more so than the physical complex itself. It strongly recommends that significant steps be taken to remedy the situation.”²⁹

“The Commission believes that it is important to conduct a rigorous assessment of the numbers of scientists and technicians needed by discipline to maintain and support the weapons program.”³⁰

“Attracting and retaining the top national talent and expertise requires that the laboratories conduct challenging research on important national problems. This program of work must be sustained and predictable and exercise the full range of laboratory skills, including nuclear weapon design skills. Exercising these design skills is necessary to maintain design and

“The U.S. is experiencing a serious brain drain in the loss of veteran nuclear weapons designers and technicians.”

SECRETARY OF DEFENSE GATES

production engineering capabilities. Skills that are not exercised will atrophy.”³¹

- ❖ **Secretary of Defense Gates (October 2008):** “The U.S. is experiencing a serious brain drain in the loss of veteran nuclear weapons designers and technicians. Since the mid-1990s, the National Nuclear Security Administration has lost more than a quarter of its workforce. Half of our nuclear lab scientists are over 50 years old, and many of those under 50 have had limited or no involvement in the design and development of a nuclear weapon. By some estimates, within the next several years, three-quarters of the workforce in nuclear engineering and at the national laboratories will reach retirement age.”³²

“No one has designed a new nuclear weapon in the United States since the 1980s, and no one has built a new one since the early 1990s.”³³

- ❖ **STRATCOM Commander General Chilton (March 2008):** “The last nuclear design engineer to participate in the development and testing of a new nuclear weapon is scheduled to retire in the next five years.”³⁴

[If undertaken,] “The transition to a more modern stockpile will re-invigorate the design and engineering technology base – especially its human resources – and enable a more responsive and cost-effective infrastructure. A revitalized infrastructure will facilitate a reduction of the large inventory of weapons we maintain today as a hedge against strategic uncertainty and weapon reliability concerns, and will allow us to sustain our nuclear capability and expertise throughout the 21st Century.”³⁵

- ❖ **NNSA Administrator D’Agostino (March 2009):** “In addition, maintaining a capability means maintaining the skills of the people who understand plutonium, including both plutonium research and component manufacturing. In the end, we are best served by exercising the capability to conduct advanced plutonium research and to manufacture plutonium components in facilities designed to meet 21st Century security, safety and health requirements.”³⁶
- ❖ **Los Alamos National Laboratory Director Anastasio (April 2008):** “There is a continued decline in the number of people in the complex who have direct experience with the design, manufacture, and testing of an actual weapon.”³⁷
- ❖ **The New Deterrent Working Group:** “The problem is not confined to the weapons themselves. At the nuclear labs and plants operated by the National Nuclear Security Administration, the human and physical infrastructure essential to our deterrent is in real jeopardy. There is virtually no one left in that once-great industrial enterprise who

has ever designed, tested, or produced a nuclear weapon.”³⁸

C. How did we get into this fix?

Preeminent among the forces that brought the U.S. nuclear enterprise to such a dismal state has been a persistent and insidious theory cherished by proponents of nuclear arms control: Modernization of the American deterrent, enhancement of the existing stockpile or other steps that would maintain its viability catalyze nuclear proliferation by others. The corollary has been that, by exercising restraint, even if unilateral, the United States would set an example that would lead others to do the same.

Under the Obama administration, with its commitment to pursuing a “nuclear weapons-free world,” the U.S. government is taking this thesis to new extremes. At this writing, it appears the President will eschew *any* measures that have proven essential to this country fielding an effective deterrent.

This behavior is all the more radical in light of the absence of evidence to support the underlying proposition.

America has exhibited the sort of restraint to which others – be they peer competitors, rogue state adversaries or allies – routinely pay lip-service, even as other nations build and modernize their arsenals.

1: Considerations Other Than U.S. Nuclear Force Levels Drive Proliferation

As **National Nuclear Security Administration Administrator D’Agostino** told Congress last March: “In 2004, a Presidential Directive was issued to cut the entire U.S. [strategic] nuclear stockpile—both deployed and reserve warheads—in half by 2012. This goal was later accelerated and, with the help of Congress, achieved 5 years ahead of schedule in 2007.”³⁹ These cuts, of course, represent but the latest round of reductions in an American arsenal that had, at its peak, over 20,000 nuclear weapons.

Given this backdrop, something else besides the size and condition of America’s nuclear deterrent is clearly animating the nuclear build-ups

being undertaken by Russia, China, North Korea, Pakistan and Iran, among others. Indeed, the facts support a very different conclusion: A weak American nuclear posture in fact encourages proliferation more than a strong one.

The reality that other nations continue to expand and modernize their nuclear weapons capabilities despite substantial U.S. reductions over the years certainly should serve to dispel the notion that the United States is denied the moral “high-ground” in striving to counter proliferation unless it engages unwaveringly in unilateral denuclearization. America has exhibited the sort of restraint to which others – be they peer competitors, rogue state adversaries or allies – routinely pay lip-service, even as other nations build and modernize their arsenals.

So, what are the forces that actually drive proliferation? Among the most important are the following:

a. Domestic/Regional Factors

The White Paper on “National Security and Nuclear Weapons in the 21st Century,” issued by the **U.S. Department of Energy and Department of Defense** in September 2008 reported that, “Russia and China continue to attach great significance to their nuclear forces and their modernization. Regional dynamics lead other nations, such as India and Pakistan, to attach a similar significance to their nuclear forces.”⁴⁰ It added that, “Nuclear programs in Iran and North Korea and further proliferation of nuclear weapons and technology remain a serious concern.”⁴¹

For its part, the **Commission on the U.S. Strategic Posture** observed: “There is little likelihood of other nations eliminating their nuclear arsenals just because the United States does so.” Perhaps as importantly, the Commissioners unanimously declared: “Potential

proliferant nations may be drawn to consider acquiring nuclear capabilities not because of U.S. nuclear strength, but as a way for them to address our substantial *conventional* force superiority to which they can feel vulnerable. Such nations believe their nuclear weapons serve as their ‘equalizer.’”⁴² (Emphasis added.)

b. The Decline of ‘Extended Deterrence’

In fact, history suggests that, when the United States nuclear deterrent is perceived to be inadequate or otherwise without credibility by its foes or even by its friends, the result is actually *increased* proliferation. Such an outcome is particularly likely if America’s allies lose confidence in their coverage by the U.S. nuclear “umbrella” – i.e., protection they enjoy through their alliance with a well-armed and reliable superpower often described as “extended deterrence.”

In the words of **STRATCOM Commander General Chilton**, “Should these allies (many of whom have the resources and technical ability to develop their own nuclear weapons) come to believe the United States is unwilling or unable to protect their interests through the full use of our assets, I believe global nuclear proliferation could increase, a clearly unacceptable prospect for U.S. or global security interests.”⁴³

In its analysis entitled “Towards a New Deterrent” (published in the Spring 2009 edition of *Air and Space Power Journal*), the **New Deterrent Working Group** depicted in the following way the impact of declining allied certitude about the reliability of extended deterrence:

“...The success of such rogue states is threatening...to trigger regional proliferation cascades which could soon become global.

Some of our allies and friends who formerly relied on the U.S. ‘nuclear umbrella’ for protection could feel constrained to join these proliferators, in part as a result of their loss of confidence in our outdated arsenal and ability and will to use it.”⁴⁴

c. A Nuclear Failed State

Yet another grim reality is that dangerous non-state actors may soon have unprecedented access to nuclear weapons. For example, on May 18, 2009, the *New York Times* reported with regard to Pakistan:

“Members of Congress have been told in confidential briefings that Pakistan is rapidly adding to its nuclear arsenal even while racked by insurgency...Adm. Mike Mullen, the chairman of the Joint Chiefs of Staff, confirmed the assessment of the expanded arsenal in a one-word answer to a question... in the midst of lengthy Senate testimony. Sitting beside Defense Secretary Robert M. Gates, he was asked whether he had seen evidence of an increase in the size of the Pakistani nuclear arsenal. ‘Yes,’ he said quickly...”⁴⁵

Even as Pakistan is building additional nuclear arms, the world has been shaken by the possibility that at least *some* of these weapons may soon be under new management. In the period before the Pakistani government reversed its disastrous decision to surrender control of the Swat Valley to Taliban forces, former U.S. Ambassador to the United Nations **John R. Bolton** warned of the danger that could flow from the unchecked rise of Shariah-adherent forces within a few hours’ ride from the capital of Islamabad:

“Often known as Pakistan’s ‘steel skeleton’ for holding the country together after

successive corrupt or incompetent civilian governments, the military itself is now gravely threatened from within by rising pro-Taliban sentiment. In these circumstances – especially if, as Secretary of State Hillary Clinton testified recently, the nuclear arsenal has been dispersed around the country – there is a tangible risk that several weapons could slip out of military control. Such weapons could then find their way to al Qaeda or other terrorists, with obvious global implications.”⁴⁶

“The second scenario is even more dangerous. Instability could cause the constitutional government to collapse entirely and the military to fragment. This could allow a well-organized, tightly disciplined group to seize control of the entire Pakistani government. While Taliban-like radicals might not have even a remote chance to prevail in free and fair elections, they could well take advantage of chaos to seize power. If that happened, a radical Islamicist regime in Pakistan would control a substantial nuclear weapons capacity.”⁴⁷

The bottom line is that, whether due to the internal dynamics and nuclear ambitions of totalitarian regimes, the growing insecurity perceived by America’s allies or the acquisition of one or more nuclear weapons by the likes of the Pakistani Taliban, proliferation is a fact of life – no matter what the United States may want or seek to encourage by its words or deeds.

As the **New Deterrent Working Group** put it in “Towards a New Deterrent”:

“Like it or not, there are already tens of thousands of nuclear arms around the world, and neither they nor the know-how and capability to make them is going to go away. Knowledge, once gained, cannot be washed away by treaties, let alone by unilateral US nuclear disarmament. For generations to come our lives and

“The conditions that might make the elimination of nuclear weapons possible are not present today and establishing such conditions would require a fundamental transformation of the world political order.”

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civilization will depend on effectively countering these threats.”⁴⁸

The bipartisan **Strategic Posture Commission** unanimously arrived at a remarkably similar conclusion in its final report – surprisingly, given the strong support its chairman, former Clinton Secretary of Defense William Perry and several other commissioners have given to exemplary U.S. leadership in “ridding the world of nuclear weapons”:

“The conditions that might make the elimination of nuclear weapons possible are not present today and establishing such conditions would require a fundamental transformation of the world political order.”⁴⁹

In the absence of such a transformation, the **Congressional Commission on the Strategic Posture of the United States** explicitly and repeatedly declared what is required in the way of an America nuclear capability:

- ❖ “For the indefinite future, the United States must maintain a viable nuclear deterrent.”⁵⁰
- ❖ “The United States should adapt its strategic posture to the evolving requirements of deterrence, extended deterrence, and assurance.”⁵¹
- ❖ “Force posture design and arms control should keep stability and U.S. credibility as their central objectives.”⁵²
- ❖ “The need to reassure U.S. allies and also to hedge against a possible turn for the worse in Russia (or China) points to the fact that the U.S. nuclear posture must be designed to address a very broad set of U.S. objectives, including not just deterrence of enemies in time of crisis and war but also assurance of our allies and dissuasion of potential adversaries. Indeed, the assurance function of the force is as important as ever.”⁵³

IV. REQUIRED: A CREDIBLE U.S. NUCLEAR DETERRENT

A. The Vital Role of Extended Deterrence

The **Strategic Posture Commission** placed particular emphasis on the abiding – and arguably *growing* – importance of America’s nuclear umbrella:

- ❖ “Our non-proliferation strategy will continue to depend upon U.S. *extended deterrence strategy* as one of its pillars. Our military capabilities, both nuclear and conventional, underwrite U.S. security guarantees to our allies, without which many of them would feel enormous pressures to create their own nuclear arsenals....The U.S. deterrent must be both visible and credible, not only to our possible adversaries, but to our allies as well.”⁵⁴ (Emphasis in the original.)
- ❖ “As long as we need to maintain such forces, our challenge is to define a nuclear program that contributes to decreasing the global dangers of proliferation, including maintaining the needed reliability, safety and security of our nuclear weapons and maintaining the role they play in overall stability and the reassurance of allies. Given the uncertainties in the factors affecting global security today, the need for

deterrence (and *extended deterrence*) could extend for an indefinite future....”⁵⁵ (Emphasis added.)

The Commission’s Final Report stressed one key ingredient to a successful extended deterrent: not only maintaining credible nuclear forces, but also *clearly articulating* to allies and adversaries alike the willingness of the United States to *use them*, if necessary:

“Effective deterrence and assurance requires that U.S. declaratory policy be understood to reflect the intentions of national leadership....The United States should reaffirm that the purpose of its nuclear force is deterrence, as broadly defined to include also assurance of its allies and dissuasion of potential adversaries.”⁵⁶

Senior officials from the U.S. military and the National Nuclear Security Administration have made similar arguments in support of the American nuclear arsenal’s utility in maintaining international stability – both by providing assurance to friends and allies and by dissuading our enemies from using such weapons:

- ❖ **STRATCOM Commander General Chilton (March 2009):** “Maintaining a robust nuclear deterrent capability should be seen as an important nonproliferation tool

for both deterring potential adversaries and reassuring allies.”⁵⁷

- ❖ **NNSA Administrator D’Agostino (February 2008):** “...A safe, secure and reliable U.S. nuclear deterrent, credibly extended to our allies, supports U.S. non-proliferation efforts because allies confident in U.S. extended nuclear deterrence guarantees will not be motivated to pursue their own nuclear forces. This non-proliferation role of U.S. nuclear weapons is often underestimated. Indeed, the nuclear weapon programs of North Korea and Iran have made our nuclear guarantees to allies such as Turkey, South Korea and Japan take on renewed importance.”⁵⁸

As the **New Deterrent Working Group** stated previously:

“America must re-establish the posture of nuclear strength which saved the West—and the world—during the half-century-long Cold War.”⁵⁹ During those decades, our nuclear posture was also the key factor in preventing renewed outbreaks of global conventional wars and the terrible costs they entail.”⁶⁰

B. Addressing the ‘Peer Competitor’ Threat

Failure properly to maintain the U.S. nuclear deterrent – either by deploying a numerically inadequate force structure or by fielding forces that are qualitatively inappropriate to the evolving threats and the attendant deterrent requirements – could very well encourage the rise of aspiring “peer competitors,” thus exacerbating the very proliferation of nuclear weapons we seek to prevent.

The **Strategic Posture Commission’s** interim report identified this risk with respect to future

negotiations with Russia and its impact on the U.S.-China nuclear balance:

“The Commission is prepared strongly to endorse negotiations with Russia in order to proceed jointly to further reductions in our nuclear forces, as part of a cooperative effort to stabilize relations, stop proliferation, and promote predictability and transparency. The large Russian arsenal of tactical nuclear weapons must be considered in this regard.”⁶¹

The Commission warned though that: “...Any negotiated reduction between Russia and the U.S. should not be carried out in a manner that might incentivize the Chinese to undertake a program to increase their nuclear capabilities in an effort to compete with us.”⁶²

“The United States should reaffirm that the purpose of its nuclear force is deterrence, as broadly defined to include also assurance of its allies and dissuasion of potential adversaries.”

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V. WHAT AN EFFECTIVE DETERRENT ENTAILS

In order to maintain a reliable, credible and effective American nuclear deterrent, the United States must commit itself to channeling the requisite technical talent, competent managers, and serious financial resources to the strategic triad of bombers, submarines and land based missiles – and, of equal importance, to the infrastructure upon which the nuclear enterprise rests.

The **Strategic Posture Commission's** interim and final reports capture this necessity in a number of passages. Highlights of the commissioners' unanimous findings and recommendations include:

- ❖ “As long as the U.S. depends on nuclear deterrence, national policies must ensure that this deterrence is reliable, safe and secure.”⁶³
- ❖ “The United States requires a stockpile of nuclear weapons that is safe, secure, and reliable, and whose threatened use in military conflict would be credible.”⁶⁴
- ❖ “...The U.S. must also continue to maintain a nuclear deterrent *appropriate to existing threats* until such time as verifiable international agreements are in place that could set the conditions for the final abolition of nuclear and other weapons of

mass destruction.”⁶⁵ (Emphasis in the original.)

- ❖ “...Long-term U.S. superiority in the conventional military domain cannot be taken for granted and requires continuing attention and investment. Moreover, it is not adequate for deterring nuclear attack. The U.S. deterrent must be both visible and credible, not only to our possible adversaries, but to our allies as well.”⁶⁶

Other prominent figures from the U.S. military, Department of Defense, National Nuclear Security Administration and Los Alamos National Laboratory – along with the nuclear policy experts who make up the New Deterrent Working Group – have arrived at similar conclusions with respect to the need to: (1) counter the effects of aging on the viability of the nuclear arsenal (also known as “stockpile stewardship”); (2) remedy the declining numbers of experts in the nuclear weapons complex with experience in designing, manufacturing, testing and maintaining nuclear weapons; (3) rectify the deteriorating state of the nuclear complex; and (4) address the accompanying need to “hedge”, or increase the number of nuclear weapons in the arsenal, to mitigate against the decline in quality and reliability of each individual warhead.

“The United States requires a stockpile of nuclear weapons that is safe, secure, and reliable, and whose threatened use in military conflict would be credible.”

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Accordingly, the following principles should govern the U.S. approach to nuclear deterrence for the foreseeable future:

A. The United States cannot rely indefinitely on its existing arsenal

A sober assessment of the state of the U.S. nuclear arsenal raises serious questions about its adequacy in meeting today’s deterrent requirements – let alone tomorrow’s. As has been discussed above (see pp. 23-27), the obsolescence

of much of the weaponry that make up the existing stockpile demands that serious policy choices be addressed.

As **Secretary of Defense Robert Gates** put it October, 2008: “To be blunt, there is absolutely no way we can maintain a credible deterrent and reduce the number of weapons in our stockpile without either resorting to testing our stockpile or pursuing a modernization program.”⁶⁷

The **Strategic Posture Commission** unanimously recommended in its Final Report:

“As the United States proceeds with stockpile refurbishment and modernization, it must ensure that the design, assessment, and engineering processes remain sufficiently intellectually competitive to result in a stockpile of weapons that meet the highest standards of safety, security, and reliability.”⁶⁸

B. The U.S. arsenal must be sized and tailored to hedge against uncertainty

Given the parlous state of the United States nuclear deterrent at the moment, calls for further reductions in the number of deployed warheads – or worse yet, permanently freezing weapons production altogether – are ill-advised and potentially reckless. That is especially true in light of the uncertainties associated with the volatility of the present and prospective strategic environment. (see pp. 27-30)

Defense Secretary Gates captured the problem succinctly in his remarks to the Carnegie Endowment for International Peace last October: “Our nuclear arsenal is vital [because]: we simply cannot predict the future.”⁶⁹ This uncertainty has several very practical repercussions:

The Stockpile's Declining Reliability Argues Against Future Force Reductions

Ironically, the failure for most of the past two decades to modernize the U.S. arsenal has made it extremely risky to undertake still more of the sort of deep reductions in our nuclear stockpile demanded by the de-nuclearizers. For example, concerns about the future reliability of the weapons in our stockpile necessitates “hedging” – the practice of increasing the number of deployed weapons and retaining additional weapons in a non-deployed status in order to guard against the risk of weapons failure arising from inadequate efforts to assure warhead integrity. This hedging strategy was explicitly endorsed by every Democratic and Republican member of the **Strategic Posture Commission**, both in their final and interim reports:

- ❖ “As the reductions have proceeded over the period since the end of the Cold War, the potential to deal with technical surprise has been reduced, as the diversity of types of weapons in the stockpile has shrunk. Future decisions about the size of the stockpile of non-deployed weapons and about warhead retention are going to have a direct impact on this approach to hedging and may require new approaches.”⁷⁰
- ❖ “Both the U.S. and Russia believe...that their security will depend on maintaining a deterrence force of some size for the foreseeable future. As long as that is true, it will be necessary for the U.S. to maintain the reliability, security and safety of the residual nuclear force; the smaller the size of the stockpile, the more important it will be to have confidence in its reliability.”⁷¹

Other authorities have made the same basic point:

- ❖ **Secretary of Defense Gates (October 2008):** “It...makes it harder to reduce existing stockpiles, because eventually we

won't have as much confidence in the efficacy of the weapons we do have.”⁷²

- ❖ **STRATCOM Commander General Chilton (January 2008):** “Why do we have such a large number in the stockpile today – or the numbers that we have, I should say. Some would call it ‘large,’ and some not large enough. Well, it’s because we are worried about a family-wide failure of one of our weapons. We have certain failure in the weapon system and you determine that system is probably or highly likely endemic throughout that particular weapon in the inventory, you better have enough of something else to put in its place if you want to maintain your deployed status.”⁷³

“Also I would say because of the lack of a production capacity there’s a fear that you might need to increase your deployed numbers because of the changing and uncertain strategic environment in the future. So to hedge against that you have a few extra, non-deployed weapons. More than a few extra because you need it, because you have no other way to respond should the world change and someone else starts to arm up dramatically and we make the decision that that is also necessary for us to do. Which is not beyond the realm of the possible.”⁷⁴

- ❖ **NNSA Administrator D’Agostino (February 2008):** “As the stockpile continues to be reduced, we must anticipate that an adverse change in the geopolitical threat environment, or a technical problem or development, could require manufacture of additional warheads on a relatively rapid schedule. Currently, if we found a major system-wide problem in the stockpile requiring pit replacement, we have insufficient capacity for a timely response.”⁷⁵

C. The United States Continues to Require a Robust ‘Triad’

The likelihood of continuing volatility in the post-Cold War strategic environment demands that the United States drastically reverse the de facto “freeze” that has hobbled the nuclear enterprise for nearly two decades. The dynamic forces at work globally – many of them quite hostile to the U.S. and its allies – affirms and reinforces the need for a complete “Triad” of weapons delivery systems through land, sea, and air. This reality has been repeatedly affirmed:

❖ **Strategic Posture Commission (May 2009):**

“The Commission has reviewed arguments in favor of a dyad but recommends retention of the current triad. Each leg of the triad has its own value:

“The bomber force is valuable particularly for extending deterrence in time of crisis, as their deployment is visible and signals U.S. commitment. Bombers also impose a significant cost burden on potential adversaries in terms of the need to invest in advanced air defenses.

“The Intercontinental Ballistic Missile (ICBM) force imposes on a prospective aggressor the need to contemplate attacking only with very large number of nuclear weapons, substantially depleting its forces while ensuring a devastating response by the United States. The force is also immediately responsive in a highly controlled manner. And for the foreseeable future, there is no prospect that a significant portion of the ICBM force can be destroyed by a preemptive strike on the United States by small nuclear powers, including China.

“The Submarine Launched Ballistic Missile (SLBM) force is currently the most

“The Commission has reviewed arguments in favor of a dyad but recommends retention of the current triad.

Each leg of the triad has its own value.”

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survivable, meaning that no attacker could contemplate a nuclear attack on the United States without expecting U.S. retaliation.

“Resilience and flexibility of the triad have proven valuable as the numbers of operationally deployed strategic nuclear weapons has declined. They promise to become even more important as systems age and if back-up systems within each leg of the triad are reduced. If one leg of the triad were to go out of service as a result of a technical problem in the delivery system or warhead, the other two legs could still provide credible deterrence.”⁷⁶

❖ **STRATCOM Commander General Chilton (March 2008):** “The nuclear capability of the original Triad remains a vital part of our deterrence strategy.”⁷⁷

- ❖ **Senate ICBM Coalition Letter to President Obama (May 2009):** “We strongly believe that all three legs of the Triad must be maintained in order to retain a highly reliable and credible nuclear force.”⁷⁸

In short, there is a strong case for maintaining the current Triad force of 450 ICBMs, 14 Trident submarines and nuclear-capable B2 and B52 bombers in its current platform configuration, both to maintain stable deterrence and as a hedge against future uncertainty.

D. Missile Defenses Must Be an Integral Part of the American Deterrent

In today’s strategic environment, credible and effective U.S. nuclear deterrence also requires another form of “hedging” to supplement the stockpile and mitigate shortcomings – real or perceived – in the U.S. offensive forces: the development and deployment of a robust missile defense capability.

In their Final Report, every Democratic member of the **Strategic Posture Commission** joined every Republican member in agreeing to findings and recommendations that affirm the need for such a deterrent based on an offensive/defensive mix:

- ❖ “Missile defenses are an integral part of the strategic posture of the United States after the Cold War.”⁷⁹
- ❖ “Ballistic missile defense capabilities can play a useful role in support of the basic objectives of deterrence, broadly defined, and damage-limitation against limited threats...These capabilities may contribute to deterrence by raising doubts in a potential aggressor’s mind about the prospects of

success in attempts to coerce or attack others. They may contribute to assurance of allies, by increasing their protection and also reducing the risks that the United States would face in protecting them against a regional aggressor.”⁸⁰

- ❖ “The Commission strongly supports continued missile defense cooperation with allies. It lowers costs for all and strengthens the potential for collective defense.”⁸¹
- ❖ “Missile defenses effective against regional nuclear aggressors, including against limited long-range threats, are a valuable component of the U.S. strategic posture.”⁸²
- ❖ “The United States should develop and, where appropriate, deploy missile defenses against regional nuclear aggressors, including against limited long-range threats. It should also develop effective capabilities

“Sustaining a viable missile defense and filling our prompt global strike capability gap remain essential to broader deterrence.”

STRATCOM COMMANDER

GENERAL CHILTON

to defend against increasingly complex missile threats.”⁸³

For his part, **STRATCOM Commander General Chilton** in March 2009 declared his strong support for capable American missile defenses:

- ❖ “U.S. missile defense capabilities provide a critical deterrent against certain existing and potential threats, increase the cost of adversaries’ already expensive technologies, and reduce the value of their investments.”⁸⁴
- ❖ “Sustaining a viable missile defense and filling our prompt global strike capability gap remain essential to broader deterrence.”⁸⁵

E. A Real Capability to Perform Underground Tests of Nuclear Weapons is Required

Permitted underground nuclear testing is the hub of the nuclear weapons “wheel.” It is the way the United States has historically pursued science; the way it trains weapon designers; the way it validates designs; the way it certifies warheads; the way it finds problems; the way it identify fixes to those problems; the way it verifies with high confidence that such fixes have, in fact, solved such defects; the way the Department of Energy’s National Nuclear Security Administration and the Defense Department are integrated into a tight-knit producer-user community; and the way key weapons systems are hardened to survive the effects of nuclear weapons. With the hub gone, what is left of the wheel is of greatly diminished effectiveness, and the deterrent supported by that “wheel” of much reduced credibility.

Senior U.S. officials have repeatedly expressed concern about the cumulative effect of a lack of testing:

“No weapons in our arsenal have been tested since 1992. So the information on which we base our annual certification of stockpile grows increasingly dated and incomplete.”

SECRETARY OF DEFENSE GATES

- ❖ **NNSA Administrator D’Agostino (February/April 2008):** “Keeping this stockpile healthy is becoming an increasingly difficult challenge. Periodically we identify problems with warheads that in the past would have been resolved with nuclear tests. Our SSP has worked well so far to help us to avoid that prospect. The considered judgment of the national weapons laboratories directors, however, is that maintaining certification of the finely-tuned designs of an aging Cold War stockpile through the LEP effort and absent nuclear testing involves increasing risk.”⁸⁶

“The one certainty we do know is that warhead certification in the absence of testing will become more difficult, especially as life extensions and component aging move the warhead further away from originally-tested designs.”⁸⁷

“The collective judgment of the Directors of our national weapons laboratories is that maintaining certification of the finely-tuned designs of the aging Cold War stockpile through Life Extension Programs (LEPs) only, absent nuclear testing, necessarily entails increasing risk overtime.”⁸⁸

- ❖ **Secretary of Defense Gates (October 2008):** “No weapons in our arsenal have been tested since 1992. So the information on which we base our annual certification of stockpile grows increasingly dated and incomplete.”⁸⁹

“At a certain point, it will become impossible to keep extending the life of our arsenal, especially in light of our testing moratorium. It also makes it harder to reduce existing stockpiles, because eventually we won’t have as much confidence in the efficacy of the weapons we do have.”⁹⁰

- ❖ **Los Alamos National Laboratory Director Anastasio (April 2008):** “The continuing accumulation of small changes from stockpile fixes, life extension activities, and aging with combined effects that are difficult to quantify will result in larger performance uncertainties and pose increasing risk to the certification of low-margin legacy warheads.”⁹¹

“In 1995, the United States embarked on an ambitious effort to sustain the nuclear weapons stockpile without nuclear testing, an effort for which we could not guarantee success. Many felt that maintenance of adequate confidence in the stockpile required following the scientific method

with the ability to continue at least partial yield nuclear tests to address the inevitable issues that would arise.”⁹²

“At a time when our uncertainties are increasing, we should have a more vigorous program of nonnuclear, above-ground testing development and use, capabilities that allow us to validate and augment our developing predictive simulation tools. Regrettably, we are moving in the opposite direction.”⁹³

By implication at least, the unease evident in these comments about the present state of affairs produced by a seventeen-year long *voluntary* testing moratorium suggests that a permanent ban on such testing would be fatal for the U.S. deterrent.

President Obama has, nonetheless, announced his intention to secure the U.S. Senate’s approval of a Comprehensive Test Ban Treaty (CTBT) that would permanently preclude the United States from conducting all such tests. Were the Senate to reverse the vote taken a decade ago by which an actual majority of Senators voted 51-48 to reject the CTBT and agree to its ratification, the costs would be immense and the benefits illusory.

Some of the reasons for continuing to reject U.S. ratification of the CTBT are:

- ❖ The CTBT is fatally imprecise. Notably, it does not define what constitutes a nuclear test. As a result, for example, the Russians appear to be continuing to conduct underground low-yield tests and hydro-nuclear experiments – something successive American administrations have considered impermissible under the Treaty and declined to do.
- ❖ The CTBT’s ban on testing is absolutely unverifiable. Simple decoupling, which can be practiced in all types of geology, can render a 20-kiloton underground nuclear test unidentifiable by global seismic networks.

Ratification would in no way help counter proliferation. In fact, to the extent that American ratification of the CTBT would degrade confidence in the U.S. deterrent, the Treaty will actually likely *stimulate* proliferation.

- ❖ At some point, the deteriorating condition of our stockpile will require testing to ensure its continued viability.
- ❖ CTBT Ratification would dangerously delay, if not effectively preclude, modernization of our stockpile.
- ❖ Ratification would carry a huge penalty for the United States: By the treaty's own terms it cannot enter into force until North Korea, Iran, Pakistan, India, Israel, China, Indonesia, and Egypt ratify it. If the U.S. ratifies, one of these states – possibly two – might eventually be induced to ratify; but the others, never. However the U.S., having ratified would, by international law, be permanently precluded from testing by a not-in-force treaty.

- ❖ For centuries, scientific advances by mankind have been the result of employing the “scientific method,” of which testing is the central element. For generations to come, America must depend upon its nuclear technology being superior to that of the rest of the world – this cannot be achieved if the CTBT is ratified. In the critical field of nuclear weapons, our scientists must not be denied use of the scientific method.
- ❖ Ratification would seriously hamper American science in the area of nuclear thermodynamics and related phenomena. Even if the various, exotic techniques for simulating nuclear explosions that have been under development for years ultimately bear fruit, the inability to prove clinically the results of such experiments in the only way known to work – underground tests – will deny our scientists the certitude they and the Nation require.
- ❖ The new nuclear threats we will face will require our testing in response. The apparent introduction by the Russians and perhaps Chinese of so-called “fourth generation” nuclear designs have raised the prospect of potential attacks that we simply do not understand and against which we will, therefore, be unable with confidence to defend our forces and people. Underground testing is essential to such an understanding.

This is especially true given the gravity of threat associated with nuclear attack in the form of an Electromagnetic Pulse (EMP), which the U.S. deterrent must be capable of addressing. As the **Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack** explained in its 2008 report:

“...The electromagnetic pulse generated by a high altitude nuclear explosion is one of a small number of threats that can hold our society at risk of catastrophic consequences. The increasingly pervasive

use of electronics of all forms represents the greatest source of vulnerability to attack by EMP...When a nuclear explosion occurs at high altitude, the EMP signal it produces will cover the wide geographic region within the line of sight of the detonation. This broad band, high amplitude EMP, when coupled into sensitive electronics, has the capability to produce widespread and long-lasting disruption and damage to the critical infrastructures that underpin the fabric of U.S. society.

“Because of the ubiquitous dependence of U.S. society on the electrical power system, its vulnerability to an EMP attack, coupled with the EMP’s particular damage mechanisms, creates the possibility of long-term, catastrophic consequences.”⁹⁴

- ❖ Ratification would in no way help counter proliferation. In fact, for reasons described above, to the extent that American ratification of the CTBT would degrade confidence in the U.S. deterrent, the Treaty will actually likely *stimulate* proliferation.

Thus, ratification would not be a step toward “a world without nuclear weapons.” Neither would it be consistent with U.S. national security interests.

The United States must, moreover, resist any notion that the costs of ratifying the CTBT can be mitigated by so-called “safeguards.” While such measures may give some the impression that ratification is acceptable, they ultimately are meaningless in that they: (1) cannot bind a future Congress; (2) have no effect on the behavior of other signatories, who will continue to act based on their own interpretation of what the CTBT says; and (3) will surely see their funding reduced year-by-year – as history has shown – until ultimately the funding, and the safeguards themselves, disappear completely.

Injection of the safeguards concept into the CTBT ratification discourse also has the insidious

effect of shifting the debate away from the issue of whether the treaty *should* be ratified, and onto the issue of protecting ourselves against adverse effects of some treaty provisions, effectively pre-assuming ratification. The only way for the United States truly to protect itself against the negative consequences of the CTBT is to refuse ratification until the treaty *itself* is corrected to reflect U.S. national security interests.

VI. WHAT SHOULD THE UNITED STATES DO NOW?

A. Address the Needs of the Nuclear Enterprise

The New Deterrent Working Group has proposed a comprehensive approach to rectify the status quo and restore to the United States the nuclear deterrent appropriate to – and required by – our times. Broadly speaking, it tracks with the results of the interim and final reports of the Congressional Commission on the Strategic Posture of the United States. A notable exception is the Working Group’s recommendation to reject U.S. ratification of the Comprehensive Test Ban Treaty (CTBT), a position shared by all the Republican Commission members but opposed by its Democratic members.

The following are among the most important elements of the approach of rejecting CTBT ratification, presented as recommendations to policy-makers and legislators responsible for assuring the future viability of the U.S. nuclear arsenal:

1: Conduct Research and Development

“We must reestablish a continuing, robust research, development, test and evaluation program. Currently, we should focus on cutting-edge technology in research, exploratory development, and advanced development across dozens of fields relevant to advanced designs for nuclear weapons.”⁹⁵

“This scientific approach is absolutely essential if the United States desires to understand the possibilities—for us and for potential adversaries—in physics, weapons effects, materials, explosives, diagnostics, and so forth. Verifiable evidence indicates that our peer adversaries are working very hard to develop new and more usable systems in order to exert leverage over the United States and further their strategic interests. If we allow them to continue unchallenged we may lose our world leadership position. At the very least, without a corresponding US research and development effort, America's deterrent cannot possibly remain commensurate with the emerging nuclear threat.”⁹⁶

“We must revitalize the Pentagon's national research and development program for examining

the effects of nuclear weapons. The survivability of American weapons systems (conventional and nuclear); our command, control, communications, and computer systems; and our intelligence, surveillance, and reconnaissance systems against a wide range of nuclear weapons effects depends on our successfully hardening and testing these systems. Good design and simulator testing can help, but actual underground nuclear testing is essential in order to assure survivability. Such test and evaluation is also indispensable for assessing and correcting the vulnerabilities of critical parts of the country's civil infrastructure against such threats as electromagnetic pulse.”⁹⁷

2: Cultivate and Maintain Critical Expertise

“We must adopt a new national commitment to design, test, and produce, on a continuing basis, new nuclear weapons. We can maintain expertise in these ‘performance arts’ only by engaging in them. Simply put, the extreme complexity and hazards of the work are such that there is no substitute for competent, integrated management, which, in turn, requires continuing, hands-on experience. Although the throughput in terms of numbers of weapons may amount to tens per year (rather than the hundreds routinely in the pipeline at the height of the Cold War years), we can realize no credible deterrent over time without an active pipeline that includes a ‘hot’ production line.”⁹⁸ As an initial step in this process, DoD should immediately re-commence and continue the process of submitting requirements for new nuclear weapons to DoE/NNSA (very low yield, highly accurate, intrinsically secure, reduced collateral damage, reduced residual radiation, and with tailored military capabilities – earth penetration, chem-bio agent-defeat, EMP, suppressed EMP, etc.)

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nuclear weapons.

3: Modernize the Complex

“The United States must immediately commence the comprehensive modernization of its nuclear-weapons infrastructure. We have debated the measures necessary to do so for years and have proposed plan after plan. We have *done* little, however. Meanwhile, our facilities become ever-more antiquated, dilapidated, and unsafe. We most urgently need a modern fabrication facility for the “pits,” the heart of a warhead, with adequate flexibility to produce several designs simultaneously and a throughput capacity sufficient to permit replacement of the stockpile's obsolescent weapons at an acceptable rate.”⁹⁹

“The Defense Department must recommit to the need to maintain, *for the foreseeable future*, both an appropriate nuclear arsenal and the competencies necessary to field and exercise it. Doing so will entail preserving America's existing nuclear weapons platforms and capabilities as well as planning, budgeting, and performing the long-range actions needed to contend with an uncertain nuclear future.”¹⁰⁰

B. Reject Ratification of the Comprehensive Nuclear Test Ban Treaty

No less important to maintaining the American nuclear deterrent is preserving our ability to test our nuclear weapons in order to ensure their future safety and viability, a matter of simple common sense. Failure to do so would nullify the effect of other efforts made to ensure the safety, reliability and effectiveness of the U.S. nuclear arsenal. To that end, the United States should *not* ratify the Comprehensive Nuclear Test Ban Treaty.

As noted above, testing of nuclear weapons is a critical component of any successful U.S. weapons modernization program. Such testing is critical not only to assess the effectiveness of the weapons themselves, but also to assess the survivability of American weapons systems – conventional and nuclear – against a wide range of nuclear weapons effects.¹⁰¹ Ratification of the CTBT would prevent the United States from engaging in this vital exercise, while doing nothing to prevent peer competitors and rogue nations from developing, testing, proliferating and perhaps using nuclear weapons.

C. Maintain the Readiness of U.S. Deterrent Forces

The credibility of the U.S. nuclear arsenal requires that it be perceived by those we seek to deter as useable. For this reason it has historically been maintained at a ready status, although subject to myriad controls and safeguards to preclude any possible accidental or unauthorized use.

As the **Strategic Posture Commission** notes in its final report of May, 2009:

“Some in the arms control community have pressed enthusiastically for new types of agreements that take U.S. and Russian forces off of so-called ‘hair trigger’ alert. *This is simply an erroneous characterization of the issue.* The alert postures of both countries are in fact highly stable. They are subject to multiple layers of control, ensuring clear civilian and indeed presidential decision-making.”¹⁰² (emphasis added)

STRATCOM Commander General Chilton described the situation as follows in January, 2009, responding to President Obama’s use of the term “hair-trigger”:

“It conjures a drawn weapon in the hands of somebody...And their finger is on the trigger. And you're worried they might sneeze, because it is so sensitive....[The]reality of our alert posture today [is that] the weapon is in the holster...[the holster] has two combination locks on it, [it] takes two people to open those locks, [and] they can't do it without authenticated orders from the president of the United States.”¹⁰³

D. Address Large and Growing Asymmetries in Tactical/Theater Nuclear Weapons

Much of the U.S. focus leading up to the expiration of the START treaty has been on strategic nuclear weapons, defined by the Department of Defense as nuclear weapons designed to have a longer-range impact on enemy military forces.¹⁰⁴ It is imperative, however, that any U.S. negotiating effort address as well “non-strategic” nuclear weapons – also known as tactical or theater weapons, many of which are more powerful than those that destroyed Hiroshima and Nagasaki. These are characterized by the Department of Defense as nuclear weapons

The Defense Department must recommit to the need to maintain, *for the foreseeable future*, both an appropriate nuclear arsenal and the competencies necessary to field and exercise it.

designed to contribute to the accomplishment of a military mission of limited scope.¹⁰⁵

There have long been concerns about Russian non-strategic nuclear weapons. As nuclear strategy analyst **Dr. Mark Schneider** has written:

“In 1991 and 1992 Soviet President Gorbachev and Russian President Yeltsin, respectively, pledged to reduce Russian tactical nuclear weapons in a number of specified ways. There has long been a concern in the West that Russia was not acting consistently with these commitments, the so-called Presidential Nuclear Initiatives (PNIs) Russia has rejected any arms control measures relating to tactical nuclear weapons, except for the removal of U.S. weapons from Europe.”¹⁰⁶

The **Strategic Posture Commission** repeatedly affirms in its Final Report the abiding need to address tactical nuclear weapons:

- ❖ “Some U.S. allies located closer to Russia...are fearful of Russia and its tactical nuclear forces. The imbalance in non-strategic nuclear weapons, which greatly favors Russia, is of rising concern and an illustration of the new challenges of strategic stability as reductions in strategic weapons proceed.”¹⁰⁷
- ❖ “As part of its effort to compensate for weaknesses in its conventional forces, Russia’s military leaders are putting more emphasis on non-strategic nuclear forces (NSNF, particularly weapons intended for tactical use on the battlefield).”¹⁰⁸
- ❖ “Senior Russian experts have reported that Russia has 3,800 operational tactical nuclear warheads with a large additional number in reserve. Some Russian military experts have written about use of very low yield nuclear ‘scalpels’ to defeat NATO forces. The combination of new warhead designs, the estimated production capability for new nuclear warheads, and precision delivery systems...open up new possibilities for Russian efforts to threaten to use nuclear weapons to influence regional conflicts.”¹⁰⁹
- ❖ “Like China, Russia has not shown transparency that its neighbors and the United States desire on such matters. It has repeatedly rebuffed U.S. proposals for NSNF transparency measures and NATO’s requests for information. And it is no longer in compliance with its PNI commitments.”¹¹⁰
- ❖ “[Russia] stores thousands of [tactical nuclear] weapons in apparent support of possible military operations west of the Urals. The United States deploys a small fraction of that number in support of nuclear sharing agreements in NATO.”¹¹¹

- ❖ “The United States should...retain capabilities for the delivery of non-strategic nuclear weapons and proceed in close consultation with allies in Europe and Asia in doing so.”¹¹²
- ❖ “How should non-strategic nuclear weapons be accounted for? The imbalance favoring Russia is worrisome, including for allies, and it will become more worrisome as the number of strategic weapons is decreased. Dealing with this imbalance is urgent and, indeed, some commissioners would give priority to this over taking further steps to reduce the number of operationally deployed strategic nuclear weapons.”¹¹³
- ❖ “U.S. policy [on non-strategic nuclear forces, or NSNF] should be guided by two principles. First, the United States should seek substantial reductions in the large force of Russian NSNF. Second, no changes to the U.S. force posture should be made without comprehensive consultations with all U.S. allies (and within NATO as such).”¹¹⁴

E. Reject U.S. Policies and Practices that Serve to Increase Proliferation

Last but not least, a fundamental reevaluation is in order of the role of the United States with respect to enforcement of the Nuclear Nonproliferation Treaty. As the **New Deterrent Working Group** put it:

“The Nonproliferation Treaty’s purpose is to prevent proliferation, codifying the right of five nations—the permanent members of the United Nations Security Council—to be nuclear weapons states and requiring all other signatories to remain non-nuclear-weapons states. Each of the 188 signatory states has voluntarily accepted this inequality and

endorsed a treaty that calls for negotiations to reduce their nuclear arsenals – an obligation the U.S. has satisfied many times over – places no restrictions whatsoever on the five nuclear weapons states as regards designing,

“Some in the arms control community have pressed enthusiastically for new types of agreements that take U.S. and Russian forces off of so-called ‘hair trigger’ alert. *This is simply an erroneous characterization of the issue.* The alert postures of both countries are in fact highly stable.”

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testing, producing, and deploying nuclear weapons.”¹¹⁵

Although the NPT calls for good faith negotiations eventually to eliminate nuclear weapons, the treaty makes clear that such a goal can only be achieved in the context of general and complete disarmament. This linkage is easily understood given the strategic environment at the

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time of the treaty’s signing. The US and NATO would never have given up their nuclear deterrent in light of the very large quantitative and qualitative conventional force advantage enjoyed by the Soviet Union and the Warsaw Pact. In fact, one of the key reasons for the maintenance of a

US nuclear arsenal was its deterrent value in stopping a Soviet conventional threat to Western Europe.

In light of these hard realities, the **New Deterrent Working Group** recommended that:

- ❖ “Given the aforementioned hard strategic realities, the United States should redirect its nonproliferation policy along the following lines: (1) emphasize that nonproliferation requires enforcement; (2) urge that the five nuclear-weapons states accept this implicit responsibility; (3) until all five agree, be willing to act unilaterally, or in coalition, as a default action to prevent proliferation; and (4) regularly modernize our stockpile to keep it effective, safe, secure, reliable, and able to enforce nonproliferation. Without these actions, the remnants of global nonproliferation will inevitably become ever-more irrelevant and ineffectual.”¹¹⁶
- ❖ Enforcement of proliferation norms requires some imagination. A host of possible actions could be implemented, some of which are part of our current strategy but which need further implementation and coordination; others are not currently in the policy “tool kit.” These include: elimination strategies (such as verifiable, effective arms control, regime change, interdiction of nuclear technology, divestment from terror and terror sponsoring states, effective economic sanctions, blockades) as well as preventive measures (such as deterrence, nuclear forensics, port and maritime security initiatives, deterrence, portal monitors, border security.) In addition, more forcible military option involving both counter-terrorism efforts and pre-emptive military strikes must be considered where appropriate and necessary.

The **New Deterrent Working Group** concluded that:

- ❖ “...The nation must decide between weakness and strength *now*. Adopting the former by continuing the 18-year-long post-Cold War status quo can only lead to dangerous, unilateral US nuclear disarmament. We would be ill advised to adopt the agenda for accelerated dismantling of our nuclear arsenal now promoted as a way to “reinvigorate” the moribund nonproliferation regime. Champions of the latter idea propose, among other things, that we (1) cut our nuclear stockpile below its already vastly reduced level, (2) commit irrevocably (by treaty) to forgo necessary testing, and (3) refrain from all essential nuclear modernization or replacement activities. They believe that doing so will cause our adversaries to reduce their arsenals and motivate the entire world eventually to abandon nuclear weapons.”¹¹⁷
- ❖ “Regrettably, there is no basis in past experience or in logic for these lofty hopes. To the contrary, history has clearly shown that unilateral US reductions, far from causing a similar response, actually stimulate nuclear buildups by adversaries. Second, as a practical matter, it would be impossible to verify the elimination of all nuclear weapons. Third, reduced numbers encourage first strikes designed to disarm. Fourth, and most importantly, the ultimate goal of a world without nuclear arms is not only unachievable but also a utopian delusion. Nuclear weapons cannot be ‘uninvented.’ Pursuit of such a goal by the United States would constitute a formula for the further evisceration of America’s deterrent and for a world in which only the most dangerous states and perhaps non-state actors have these weapons—a world of unimaginable horror and chaos.”¹¹⁸

Nuclear weapons cannot be ‘uninvented.’ Pursuit of such a goal would constitute a formula for the further evisceration of America’s deterrent and for a world in which only the most dangerous states and perhaps non-state actors have these weapons—a world of unimaginable horror and chaos.

VII. FASHIONING AN ACCEPTABLE NEW STRATEGIC ARMS CONTROL AGREEMENT

Arms control is a means to an end, not an end in itself. It should be governed by a strategic approach designed to maximize U.S. national security objectives. Unfortunately, the Obama Administration's nuclear weapons strategy seems to consist primarily of a determination to use bilateral arms control negotiations with the Russians to justify further reductions in the levels of U.S. nuclear forces. This is being done in pursuit of an objective that is neither relevant to today's proliferation problem (in fact, as we have seen, such reductions can actually *exacerbate* proliferation among America's allies and possibly its actual or would-be peer competitors) nor consistent with American's security interests (i.e., a "world without nuclear weapons").

It has been eight years since the last Nuclear Posture Review (NPR) in 2002 articulated the necessary role of nuclear weapons in post-Cold War U.S. policy and strategy. Much has transpired in the global security environment since then and a new NPR has just been initiated by the incumbent administration in accordance with a congressional mandate. One would think that any further efforts to reduce the size or alter the composition of U.S. nuclear forces would await the results of this important review and an assessment of its adequacy by the Congress.

The Obama administration, however, has put the proverbial cart squarely before the horse. It has seized upon the expiration of the START Treaty in December 2009 as a pretext for urgently reaching a far-more-ambitious agreement rather than a simple extension of the expiring accord's verification procedures, pending completion of the NPR. In so doing, President Obama and his subordinates have handed the Russians leverage which the Kremlin is aggressively seeking to exploit. The goal is a familiar one to students of Moscow's approach to arms control: Use treaties to effect asymmetric and highly advantageous restrictions on U.S. military capabilities, while leaving Russia free to exploit the accords unverifiability or other shortcomings – or simply cheat.

A. Problematic Ideas for Future U.S.-Russian Arms Control Agreements

Before the United States proceeds irreversibly down this path, the United States Senate, which will be responsible for approving any new arms control treaty, should critically examine the

premises and implications of the Obama proposals for a START follow-on accord. Three in particular cry out for urgent attention:

1: Numbers Matter: Further Cuts
can imperil the 'Triad'

Proponents of arms control, including some now involved in formulating Obama administration policies like Assistant Secretary of State and lead negotiator Rose Gottemoeller, have expressed enthusiasm for reducing operationally deployed strategic forces to as few as 1,000 nuclear warheads. Whether this goal is formalized in the START follow-on treaty or, more likely, the so-called "Treaty After Next" – an accord the Obama administration hopes to negotiate swiftly with the Russians after the conclusion of the agreement now in preparation – the question occurs: Would such deep reductions and the attendant impact on the Nation's strategic force posture be consistent with U.S. national security interests?

In the White Paper jointly released last year on national security and nuclear weapons in the 21st Century, **the Departments of Energy and Defense** explained why the United States should retain between 1,700 and 2,200 operationally deployed warheads:

"Assurance of allies also requires that U.S. nuclear forces are not perceived as inferior or at an overall disadvantage when compared to the capabilities of other nuclear powers. The maintenance of 1,700 to 2,200 operationally deployed U.S. strategic nuclear warheads is an important part of this perception. Beyond its strategic capabilities, the United States also assures allies and friends through its effective conventional forces, missile defenses and non-strategic nuclear forces that can be forward deployed, as appropriate....Maintaining 1,700

to 2,200 U.S. operationally deployed strategic nuclear weapons also provides substantial warning and response time should any potential near-peer competitor aggressively seek to achieve nuclear parity with, or superiority over, the United States."¹¹⁹

The United States has already cut its strategic forces to the 2,200 operationally deployed warheads permitted under the SORT accord. In fact, it did so five years ahead of schedule. Now, the Obama administration is reportedly seeking to reduce that number by another third, to just 1,500 warheads – 200 below the lowest level previously considered by the Departments of Energy and Defense to be compatible with our security interests.

The U.S. strategic nuclear Triad currently consists of roughly 450 Minuteman operationally deployed ICBM warheads, 1,152 Trident submarine-launched ballistic missile warheads and between 350-500 aircraft-deliverable bombs and/or cruise missiles.¹²⁰ The associated force structure involves 450 land-based Minuteman missiles, 14 Trident submarines carrying some 336 D-5 missiles and an assortment of B-2 and B-52 strategic nuclear bombers.¹²¹

Cuts to just 1,500 operationally deployed weapons could, as a practical matter, preclude the United States from preserving all three legs of the Triad. That would surely be the case were a ceiling of just 1,000 operationally deployed weapons to be adopted. Any decisions to abandon the inherent flexibility, redundancy and survivability provided to our deterrent – qualities made possible by the strengths inherent in each leg that offset the others' respective shortcomings – should be taken only after the most rigorous analysis and thorough debate.

For example, at such low numbers, the United States might be compelled to abandon its ICBM force in favor of a relatively small number of submarines and an aging bomber force. Given that a significant portion of those subs would be in

“Assurance of allies also requires that U.S. nuclear forces are not perceived as inferior or at an overall disadvantage when compared to the capabilities of other nuclear powers. The maintenance of 1,700 to 2,200 operationally deployed U.S. strategic nuclear warheads is an important part of this perception.”

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port at any time – and therefore susceptible to preemptive attack, the survivability of the deterrent could rest on a handful of deployed

vessels. Technology breakthroughs or determined anti-submarine operations could jeopardize those at sea, as well. And the effectiveness of manned bombers that lack the prompt strike capability of missiles can be degraded by continuing improvements in enemy air defenses.

Alternatively, a decision to sacrifice the Triad’s sea-based leg in favor of a Dyad comprised of ICBMs and bombers could leave the deterrent susceptible to system failure on the part of land-based missiles, as well as the aforementioned uncertainty of the effectiveness of the air-breathing leg.

Unfortunately, the process whereby the Obama administration is aggressively pursuing an accord with the Russians may result in a treaty before either the requisite analysis or informed debate can occur.

2: New Constraints on U.S. Missile Defenses Would Be Disastrous

Russian leaders have declared that there can be no START follow-on treaty without a U.S. agreement to abandon the planned deployment of anti-missile radars and interceptors in Eastern Europe. There are indications that they seek, in addition, constraints on other American missile defenses in future agreements.

The Obama administration has already signaled its willingness to cancel the European missile defense system whose deployment was approved twice by NATO. And its 2010 defense budget calls for draconian cuts in most U.S. anti-missile defense programs, grudgingly allowing work to proceed on tactical missile defense, but severely cutting back *national* missile defense. So its willingness to accede to Russian demands with respect to strategic defensive as well as offensive forces cannot be discounted.

In addition, the Obama administration has said it intends to take the lead on space arms control initiatives. An accord that would limit the U.S. military's use of or access to space (including for missile defense purposes) would be wholly incompatible with American security interests. This is especially true in light of the fact that – given the unverifiability of such limitations – Russia and presumably other space powers can be confidently expected to violate them, thereby obtaining possibly decisive strategic advantages.

The effect of an agreement that would extend once again to the Russians a say in whether and how the United States defends itself would be tantamount to reinstating a relic of the Cold War – the 1972 Anti-Ballistic Missile (ABM) Treaty. That is clearly inappropriate in a world in which a large and growing number of nations are capable of posing ballistic missile-delivered threats to the United States and its allies. Acceding to the Kremlin's demands for the cancellation of the so-called "Third Site" in Europe will also serve to undermine alliance relations.

3: U.S. Conventional Precise Global Strike Options Could Be Compromised

The United States needs the capability to attack targets around the world with highly accurate conventional explosives and within minutes of a decision to do so. Toward that end, consideration has long been given to converting nuclear-armed strategic missiles to perform such missions.

The Kremlin has historically tried to use nuclear arms control agreements to restrict American conventional capabilities. American arms controllers have generally shared this goal and it now appears that those populating senior ranks of the Obama administration are willing to

agree to such restrictions as part of a START follow-on agreement.

It would be extremely shortsighted and ill-advised to accept limitations that could effectively preclude the United States from realizing the potential force-multiplying benefits of such a conventional precise global strike capability.

B. What a START Follow-on Treaty Should and Should Not Entail

Any follow-on agreement to the START Treaty must take into account the need to maintain a reliable, credible and effective U.S. nuclear deterrent. Accordingly, such an agreement should reflect the following principles:

- ❖ **Assured Deterrence.** The treaty must be structured so as to ensure that the United States remains able to deter effectively, and if necessary, to defeat projected threats to our national security, while hedging against potential changes in the forecasted security environment.
- ❖ **NPR.** At least until such time as a new Nuclear Posture Review has been completed and its adequacy assessed by the Congress, no START follow-on agreement should be contemplated that would involve reductions that could impinge upon, let alone preclude, the continued operational deployment of the currently sized Triad of American strategic forces. Those forces must remain capable of significant and continuous at-sea deterrence and maintain undiminished alert rates for the ICBM force.

❖ **Operationally Deployed Weapons.** Any agreed limitations in a future U.S.-Russian arms control agreement should apply only to *operationally deployed* strategic nuclear warheads, not to delivery platforms or reserve warheads. The United States should retain maximum latitude to decide the nature and composition of its delivery platforms.

❖ **Allow Non-Deployed Weapons.** In particular, a follow-on START agreement must not preclude the United States from maintaining a sizeable stockpile of non-deployed weapons. While the Russians may be able to forego such a ready reserve as they have a functioning nuclear weapons infrastructure, the United States today is unable to produce replacement nuclear warheads in quantity. It will not have the capacity, under the best of circumstances, to produce new pits for two decades. The non-deployed stockpile is the only means available at the moment by which the Nation can mitigate technical and geopolitical risk and, thus, it must be preserved.

❖ **Do Not Reduce Below 1,700 Operationally Deployed Warheads.** Deeper reductions would be unacceptable under present and foreseeable circumstances. Even that level would represent a 23% reduction from the Moscow Treaty limit of 2,200.

It would be particularly ill-advised to consider cuts below the 1,700 level in light of the immense advantage the Kremlin enjoys in non-strategic nuclear weapons and the threat they pose to the former Soviet republics and American allies on Russia's littoral. Any future arms reduction treaty must take into account Russian tactical and theater nuclear weapons.

❖ **Honor Commitments to Allies.** The number and character of the forces the United States can deploy under a START follow-on treaty must also be sufficient to

The treaty must be structured so as to ensure that the United States remains able to deter effectively, and if necessary, to defeat projected threats to our national security, while hedging against potential changes in the forecasted security environment.

continue effectively to meet the Nation's security commitments to allies through extended nuclear deterrence. Warhead limits that are too low: encourage near-peers to seek to become nuclear peers; encourage rogues to push ahead with nuclear programs; worry allies that the U.S. will not honor its nuclear guarantees; and encourage the latter to think about developing their own nuclear weapons.

- ❖ **Correct Current START “Counting Rules.”** Current START “counting rules” over-count U.S. warheads by more than a factor of two. Any START follow-on agreement that imposes still deeper cuts in warhead levels must rectify these attribution arrangements so as to avoid reductions in American delivery systems that would otherwise be unnecessary and are certainly undesirable.

Correcting this problem will be all the more challenging given the unacceptability of the intrusive inspections that would be involved in physically counting warheads and the alternative of forcing the United States to engage in what amounts to rebuilding of its missiles so as to make them unable to carry more than the attributed number of warheads. These considerations add further weight to the argument against making deeper reductions in a new bilateral arms control accord.

- ❖ **U.S. Strategic Force Modernization.** Any new U.S.-Russian arms control treaty must be linked to U.S. strategic force modernization. The United States must not only retain the latitude to refurbish regularly and ultimately to replace U.S. strategic forces. It must actually *undertake* the design and development of a new intercontinental-range bomber, ICBM, strategic submarines and submarine-launched ballistic missiles and new warheads needed to sustain a viable deterrent force for the foreseeable future.

Since a “world without nuclear weapons” is absolutely unachievable, and since even the Obama administration says we need a strong deterrent as long other nations have nuclear weapons, the U.S. must take the steps necessary to upgrade its arsenal.

- ❖ **Conventional Forces.** Any agreement on nuclear forces must not restrict *conventionally armed* strategic weapons. This is an area of potentially

considerable U.S. advantage and could become considerably more so if warhead numbers decline further. For these reasons, the Russians clearly want to capture such forces in a new agreement. Those efforts must be rejected, as should Russian insistence on intrusive on-site inspection regimes and the availability of U.S. telemetry broadcasts associated with tests of *non-nuclear* weapons (including both missile defenses and conventional precise global strike systems).

- ❖ **Missile Defense.** The United States must preserve the freedom it currently enjoys to develop and deploy whatever missile defenses are deemed necessary. The need for anti-missile systems capable of protecting against ballistic missiles of every range seems likely only to grow in the future.

What is more, the Strategic Posture Commission properly concluded that missile defenses are a stabilizing element of U.S. deterrent policy. Yet, we know that the Russians, as part of a START follow-on agreement further reducing warhead levels, will try to insist that ABM Treaty-like restrictions be imposed on the United States’ missile defense programs, claiming that they could alter the strategic balance.

As anti-missile defenses reinforce deterrence of rogue states and provide vital options for national leaders in the event deterrence fails, it would be unacceptable to have them captured in a new arms control deal with Russia. Any bilateral U.S.-Russian agreement on offensive nuclear forces reductions that would restrict U.S. missile defenses must be rejected.

- ❖ **Preclude “De-Mating” of Warheads.** Finally, the continued credibility and effectiveness of the U.S. nuclear deterrent precludes de-mating of warheads on operational systems or otherwise reducing the alert rates or alert status of U.S. forces. Such initiatives have been repeatedly studied and found unacceptable, including

by the Clinton administration. American weapons are not on a “hair-trigger.” They must be known to be ready and useable to have deterrent effect. No START follow-on agreement can be deemed in the national security interest if it would require downgrading of that condition and, thereby, potentially leave the United States vulnerable to coercion based on the threat of second or third strikes before we could respond to an attack.

Regrettably, those leading the negotiations with Russia on a follow-on to the expiring START treaty appear unprepared to adhere to virtually *any* of the foregoing principles. Notwithstanding the findings and recommendations of the congressionally mandated, bipartisan Strategic Posture Commission and the judgments of senior members of the military and defense establishments cited elsewhere in this briefing book, President Obama seems determined to pursue an arms control agenda that is shaped by his embrace of the “Global Zero” vision of a “world without nuclear weapons.”

Indeed, at this writing, the U.S. negotiating team is said to be preparing the groundwork for a far-reaching arms reduction agreement with Russia in advance of high-level meetings scheduled between Presidents Obama and Medvedev in July, 2009. It is extremely worrisome that such an agreement appears likely to take shape *before* the completion of the Nuclear Posture Review or Quadrennial Defense Review and an assessment of their adequacy by the Congress. Also absent is any presidential recognition of the need to modernize the U.S. nuclear enterprise, retain the flexibility to pursue missile defenses, address properly the issue of non-strategic nuclear weapons, etc. There seems little chance, therefore, that the resulting agreement will make the United States or its allies safer as it is rooted in an arms control paradigm unsuited to this dangerous world, namely one that prioritizes U.S. stockpile reductions above all else.

America’s Founders entrusted to the U.S. Senate the responsibility to provide quality control on treaties negotiated by the executive branch. If the impending START follow-on agreement with the Russians does indeed depart from these principles, the Senate must recognize that it will undermine, not advance, the security interests of the United States and its ratification must be rejected.

VIII. CONCLUSION

The United States should commit itself to the above principles as it negotiates any agreement that may follow the impending expiration of START and, in due course, that of the SORT Treaty. It is only through understanding our own, abiding need for a reliable, credible and effective nuclear deterrent capability that we have any hope of achieving an agreement with Russia that is actually compatible with our desire to strengthen our security and preserve global stability.

The alternative – an accord that either appears to, or in fact *does*, leave the United States without an offensive and defensive strategic force posture sufficiently robust to deter attacks on us, our interests and those of our allies, and to discourage proliferation – will contribute to an international environment characterized by: more nuclear weapons in more hands (many of them unfriendly); greater instability; and a far less secure America.

NOTES

1. There is a great deal of confusion in the popular media over these two treaties, but the principle putative value of the START treaty lies in its verification regime, while the Moscow Treaty contains ceilings for deployed US and Russian warheads of 2200, which are very considerably below the numbers allowed by START.
2. *Reducing the Cost of the U.S. Nuclear Weapons Complex, 2009: Hearing before the Subcomm. On Energy and water Development of the House Appropriations Committee 111th Cong.* (March 17, 2009) (Statement of Thomas P. D’Agostino, Under Secretary for Nuclear Security and Administrator, National Nuclear Security Administration, U.S. Department of Energy) <http://nnsa.energy.gov/news/2296.htm> (accessed 14 April 2009)
3. See the New Deterrent Working Group, “Towards a New Deterrent”, 26 January 2009, http://www.centerforsecuritypolicy.org/p17857.xml?genre_id=3 (accessed 22 May, 2009)
4. *Ibid.*
5. Defense Secretary Robert Gates, Nuclear Weapons and Deterrence in the 21st Century, Address at the Carnegie Endowment for International Peace (October 28, 2008) http://www.carnegieendowment.org/files/1028_transcrip_gates_checked.pdf, p. 7. (accessed 22 May 2009)
6. *Ibid.*, p. 5
7. U.S. Department of Energy, Department of Defense “National Security and Nuclear Weapons in the 21st Century,” September 2008 p. 8 <http://www.defenselink.mil/news/nuclearweaponspolicy.pdf> (accessed 7 May 2009)
8. See Dr. Phillip Saunders, “China’s Strategic Force Modernization” (presented at National Defense University Chinese Military Seminar, 13 January 2005 http://www.ndu.edu/inss/Repository/INSS_Proceedings/Chinese_military_seminar_Jan05/China_Force_Mod_Saunders_012005.pdf (accessed 29 May 2009)
9. Gates, *Nuclear Weapons and Deterrence in the 21st Century*, op. cit., p.4
10. *Ibid.* p. 7
11. Congressional Commission on the Strategic Posture of the United States, “America’s Strategic Posture”, (final report) May 2009, p.98 http://media.usip.org/reports/strat_posture_report.pdf (accessed 6 May 2009)
12. See The New Deterrent Working Group, *Towards a New Deterrent*, op. cit.
13. See *Ibid.*
14. *United States Strategic Command, 2008: Hearing Before the Strategic Forces Subcomm. of the Senate Armed Services Committee*, 110th Cong. 8 (12 March 2008) (statement of General Kevin P. Chilton, Commander, United States Strategic Command) <http://armed-services.senate.gov/statemnt/2008/March/Chilton%2003-12-08.pdf>, (accessed 22 May 2009)
15. Gates, *Nuclear Weapons and Deterrence in the 21st Century*, op. cit., p. 7
16. *The Stockpile Stewardship Program at Los Alamos National Laboratory, 2008: Hearing Before the Subcomm. on Energy and Water Development of the Senate Appropriations Committee*, 110th Cong. 7 (16 April 2008) (statement of Michael R.

- Anastasio, Director, Los Alamos National Laboratory). http://appropriations.senate.gov/Hearings/2008_04_16_-Energy-Testimony_of_Michael_R_Anastasio_at_the_April_16_Energy_and_Water_Subcommittee_Hearing.pdf?CFID=10996337&CFTOKEN=88558282, (accessed 22 May 2009)
17. *Hearing Before the Senate Committee on Appropriations, Subcommittee on Energy and Water Development*, 110th Cong. 3 (April 16, 2008) (Statement of Thomas P. D'Agostino, Administrator; Accompanied by Gen. Robert L. Smolen, USAF (Ret.), Deputy Administrator for Defense Programs & Adm. Kirkland H. Donald, Deputy Administrator for Naval Reactors, National Nuclear Security Administration, U.S. Department of Energy). http://appropriations.senate.gov/Hearings/2008_04_16_-Energy-Testimony_of_Thomas_P_DAgostino_at_the_April_16_Energy_and_Water_Subcommittee_Hearing.pdf?CFID=10865396&CFTOKEN=54729074, (accessed 22 May 2009)
 18. *Ibid.*
 19. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit., p.48
 20. *Ibid.* p. 54-55
 21. Melanie Kirkpatrick, "Sounding the Nuclear Alarm," *The Wall Street Journal*, 22 November 2008 (<http://online.wsj.com/article/SB122731227702749413.html>) (accessed 29 May 2008)
 22. Anastasio, *The Stockpile Stewardship Program at Los Alamos National Laboratory*, op. cit., p. 9
 23. *Ibid.*
 24. *Ibid.*, p.12
 25. *Reducing the Costs of the U.S. Nuclear Weapons Complex, 2009: Hearing Before the House Appropriations Committee Subcommittee on Energy and Water Development* 111th Cong. 5 (17 March 2009) (statement of Thomas P. D'Agostino, Under Secretary for Nuclear Security and Administrator, National Nuclear Security Administration, U.S. Department of Energy). http://appropriations.house.gov/Witness_testimony/EW/Thomas_d_Agostino_03_17_09.pdf (accessed 12 June 2009)
 26. *Ibid.*, p. 5
 27. *Ibid.*
 28. *Ibid.*, p. 9
 29. Congressional Commission on the Strategic Posture, *America's Strategic Posture* (final report), op. cit., p.51
 30. *Ibid.* p. 52-53
 31. *Ibid.* p. 103
 32. Gates, *Nuclear Weapons and Deterrence in the 21st Century*, op. cit., p. 7
 33. *Ibid.*, p. 6
 34. Chilton, *Opening Statement*, Senate Armed Services Committee, op. cit., p.9 (12 March 2008)
 35. *Ibid.*
 36. D'Agostino, *Reducing the Cost of the U.S. Nuclear Weapons Complex*, op. cit. (17 March 2009)
 37. Anastasio, *The Stockpile Stewardship Program at Los Alamos National Laboratory*, op. cit., p. 12
 38. The New Deterrent Working Group, *Towards a New Deterrent*, op. cit.
 39. D'Agostino, *Reducing the Cost of the U.S. Nuclear Weapons Complex*, op. cit. (17 March 2009)
 40. U.S. Department of Energy, Department of Defense, National Security and Nuclear Weapons in the 21st Century, op. cit., p. 8
 41. *Ibid.*
 42. Congressional Commission on the Strategic Posture of the United States, "Interim Report" December 15, 2008, p. 10 http://www.usip.org/strategic_posture/sprc_interim_report.pdf (accessed 14 April 2009)
 43. *Hearing Before the Senate Committee on Armed Services*, 111th Cong. 7 (19 March 2009) (statement Of General Kevin P. Chilton, Commander, United States Strategic Command). <http://armed-services.senate.gov/statemnt/2009/March/Chilton%2003-19-09.pdf> (accessed 12 June 2009)
 44. New Deterrent Working Group, *Towards a New Deterrent*, op. cit.
-

45. Thom Shanker and David E. Sanger. "Pakistan is Rapidly Adding Nuclear Arms, U.S. Says," *The New York Times*, May 18, 2009. Available on-line at http://www.nytimes.com/2009/05/18/world/asia/18nuke.html?_r=1&sq=pakistan&st=cse&scp=2&pagewanted=print (accessed 22 May 2009)
46. John R. Bolton, "The Taliban's Atomic Threat," *The Wall Street Journal*, 2 May 2009 <http://online.wsj.com/article/SB124121967978578985.html> (accessed 5 May 2009)
47. *Ibid.*
48. New Deterrent Working Group, *Towards a New Deterrent*, op. cit.
49. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit., p.98
50. *Ibid.*
51. *Ibid.*
52. *Ibid.* p. 100
53. *Ibid.* p. xvii
54. Congressional Commission on the Strategic Posture of the United States, *Interim Report*, op. cit., p. 8-9
55. *Ibid.* p. 5
56. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit. p. 101
57. Chilton, *Opening Statement*, Senate Armed Services Committee , op. cit. p. 7 (19 March, 2009)
58. *Hearing Before the Subcomm. on Strategic Forces of the House Committee on Armed Services*, 110th Cong. (27 February 2008) (statement of Thomas P. D'Agostino, Administrator, National Nuclear Security Administration U.S. Department of Energy) <http://nnsa.energy.gov/news/1799.htm>. (accessed 22 May 2009)
59. New Deterrent Working Group, *Towards a New Deterrent*, op. cit.
60. *Ibid.*
61. Congressional Commission on the Strategic Posture of the United States, *Interim Report*, op. cit., p. 10-11
62. *Ibid.* p. 11
63. *Ibid.* p. 9
64. Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit., p.101
65. Commission on the Strategic Posture of the United States, *Interim Report* op. cit. p. 8
66. *Ibid.*, pp. 8-9
67. Gates, *Nuclear Weapons and Deterrence in the 21st Century*, op. cit., p. 7
68. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit., p. 43
69. Gates, *Nuclear Weapons and Deterrence in the 21st Century*, op. cit., p. 5
70. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit., p. 39
71. Commission on the Strategic Posture of the United States, *Interim Report*, op. cit., p. 7
72. Gates, *Nuclear Weapons and Deterrence in the 21st Century*, op. cit., p. 7
73. General Kevin P. Chilton Commander, STRATCOM , Address at the Strategic Weapons in the 21st Century Conference (31 January 2008), <http://www.lanl.gov/conferences/sw/docs/chilton-speech-SW21-31Jan08.pdf>, p.6 (accessed 22 May 2009)
74. *Ibid.*
75. D'Agostino, *Testimony on 'U.S. Strategic Posture' Before House Armed Services Subcommittee*, op. cit. (27 February, 2008)
76. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit., pp. 25-26

77. Chilton, *Opening Statement*, Senate Armed Services Committee, op. cit., p.5 (12 March 2008)
78. Senate ICBM Coalition letter to President Obama, 14 May 2009
79. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report), op. cit., p. 31
80. *Ibid.*
81. *Ibid.*
82. *Ibid.*, p. 33
83. *Ibid.*
84. Chilton, *Opening Statement*, Senate Committee on Armed Services, op. cit., p. 7 (19 March 2009)
85. *Ibid.*, p. 8
86. *Hearing Before the Subcomm. on Strategic Forces of the Senate Committee on Armed Services*, 110th Cong. (27 February 2008) (statement of Thomas P. D'Agostino, Administrator, National Nuclear Security Administration U.S. Department of Energy) <http://nnsa.energy.gov/news/1799.htm> (accessed 14 April 2009)
87. D'Agostino, *Opening Statement*, Senate Committee on Appropriations, op. cit., p. 3 (April 16, 2008)
88. *Ibid.*
89. Gates, *Nuclear Weapons and Deterrence in the 21st Century*, op. cit., p. 7
90. *Ibid.*
91. Anastasio, The Stockpile Stewardship Program at Los Alamos National Laboratory, op. cit., p. 12 (16 April, 2008)
92. *Ibid.*, p. 2
93. *Ibid.*, p. 9
94. Report of the Commission to Assess the Threat to the United States from Electromagnetic Pulse (EMP) Attack, April 2008, p. vi (http://www.empcommission.org/docs/A2473-EMP_Commission-7MB.pdf) (accessed 22 June 2009)
95. New Deterrent Working Group, *Towards a New Deterrent*, Air & Space Power Journal (1 March, 2009) <http://www.au.af.mil/au/cadre/aspj/airchronicles/api/apj09/spr09/monroe.html#monroe> (accessed 12 June 2009)
96. *Ibid.*
97. *Ibid.*
98. *Ibid.*
99. *Ibid.*
100. *Ibid.*
101. *Ibid.*
102. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report) op. cit., p.69
103. Elaine M. Grossman, Global Security Newswire, "Top U.S. General spurns Obama pledge to reduce nuclear alert posture" *NTI* 27 February 2009 http://gsn.nti.org/siteservices/print_friendly.php?ID=nw_20090227_8682 (accessed 12 June 2009)
104. U.S. Department of Defense, DOD Dictionary of Military Terms, <http://www.dtic.mil/doctrine/jel/doddict/> (accessed 26 May, 2009); See also Amy F. Woolf, "Non-strategic Nuclear Weapons," Congressional Research Service, 28 January, 2009 p. 4 <http://ftp.fas.org/sgp/crs/nuke/RL32572.pdf> (accessed 26 May, 2009)
105. *Ibid.*
106. Dr. Mark Schneider, "The Nuclear Forces and Doctrine of the Russian Federation," United States Nuclear Strategy Forum, 2006 http://74.125.95.132/search?q=cache:DqUyvn_dgMEJ:www.nipp.org/Adobe/Russian%2520nuclear%2520doctrine%2520--%2520NSF%2520for%2520print.pdf+%22mark+schneider%22+%22nuclear+forces+and+doctrine+of+the+russian+federation%22&cd=1&hl=en&ct=clnk&gl=us (accessed 12 June 2009)
107. Congressional Commission on the Strategic Posture of the United States, *America's Strategic Posture* (final report) op. cit., p.xvii

108. *Ibid.* p. 12
109. *Ibid.* p. 13
110. *Ibid.*
111. *Ibid.* p. 21
112. *Ibid.* p. 29
113. *Ibid.* p. 67
114. *Ibid.* p. 68
115. New Deterrent Working Group, *Towards a New Deterrent*, op. cit. (1 March 2009)
116. *Ibid.*
117. *Ibid.*
118. *Ibid.*
119. U.S. Department of Energy, Department of Defense, *National Security and Nuclear Weapons in the 21st Century*, op. cit., p. 12
120. Peter Huessy, “Exclusive: Is Reduction of Nuclear Weapons Akin to Disarming the Sheriff?” *Family Security Matters*, 2 May 2009 http://www.familysecuritymatters.org/publications/id.3143.css.print/pub_detail.asp (accessed 5 May 2009)
121. Peter Huessy, “U.S. Nuclear Deterrence Policy at Critical Crossroads – Will a Weaker Policy Make us Safer?” *Family Security Matters* (21 April 2009) http://www.familysecuritymatters.org/publications/id.3054.css.print/pub_detail.asp (accessed 5 May 2009)

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