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The Impact of the US Nuclear Posture Review:

Analytic Summary

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The True Nature of US and Russian Nuclear Arms Reductions

The reporting of START accountable warheads has led to serious confusion between START accountable warheads and actual warheads.

The attached table provides a rough estimate of the immense difference between START accountable and actual warheads put together with the informal aid of one of the US weapons labs. Please note that no detailed accounting is made of theater nuclear weapons, which are not the subject of START reductions, or total weapons assemblies and fissile material holdings which would include many more potential weapons than are counted as deployed.

	Total			NSNF		Strategic		
Country	Inventory	Reserve	Deployed	Deployed	Deployed	START I	START II	Day to Day
Russia	Up to 20,000	Approx.10,000	9,200	3,600	5,600	6,094	6,366	2,000-3,000
United States	10,820	*2,000	8,820	1,670	7,150	7,295	7,534	2,000-3,000

* The Department of Energy also holds 12,000 intact plutonium “pits” from nuclear warheads, and between 5,000-6,000 “canned subassemblies”, this being the secondary stage of a two stage nuclear weapon.

US Strategic Nuclear Force Goals Under START

,	FY 1990	FY 2000	START I	START II (December 5, 2001)	START II (December 31, 2007)
ICBMs		1,000	550	550	500
Attributed Warheads on ICBMs		2,450	2,000	Not over 2,000	500
SLBMs		568a	432b	Not over 432	336
Attributed Warheads on SLBMs		4,864a	3,456b	Not over 3,456	Not over 1,750
Ballistic Missile Submarines[d]		31a	18b	Not over 18	14
Attributed Warheads on Ballistic Missiles		7,314[a]	5,456[b]	Not over 4,900	Not over 2,250
Heavy Bombers[d]		324	113[c]	97[c]	97[c]

a Excludes five decommissioned submarines (and their associated missiles and warheads) that were still START accountable.
b Excludes two Benjamin Franklin–class (Poseidon missile) (SSBNs) converted for Special Operations Forces that are still START accountable.
c Excludes 93 B–1s that are devoted entirely to conventional missions. B–1s are still accountable as a nuclear bomber under START I, but would not be accountable under START II.
d Specific systems numbers are not mandated by treaty. Force structure results from allocation of resources and mission requirements.

Since establishment of the Cooperative Threat Reduction (CTR) program in 1991, the United States has been assisting Russia, Ukraine, Belarus, and Kazakhstan in implementing nuclear force reductions required under the START I Treaty. In anticipation of further reductions mandated by the START II Treaty and in potential support of a negotiated START III Treaty, the United States is starting to discuss additional CTR projects with Russia.

Note :The START I Treaty entered into force on December 5, 1994. The United States and Belarus, Kazakhstan, the Russian Federation, and Ukraine, the four successor states that continued to be bound by the rights and obligations of the former Soviet Union under START, are working to achieve the final phase of nuclear force reductions mandated by that treaty by December 2001. The Treaty on Further Reduction and Limitation of Strategic Offensive Arms (START II), approved by the U.S. Senate in January 1996, has not yet entered into force because the Russian Federation has yet to ratify the treaty. START II calls for reductions in aggregate force levels, conversion or elimination of multiple–warhead intercontinental ballistic missile (ICBM) launchers, elimination of heavy ICBMs, and a limit on deployed submarine–launched ballistic missile (SLBM) warheads. It will eliminate the most destabilizing strategic nuclear systems—multiple warhead ICBMs—and will reduce deployed strategic nuclear warheads by about two-thirds from Cold War levels. The original START II Treaty called for the parties to complete the final reduction phase no later than January 1, 2003.

At their March 1997 meeting in Helsinki, President Clinton and Russian President Yeltsin issued a joint statement establishing parameters for future reductions in nuclear forces beyond START II. In this statement, the Presidents agreed to an overall limit of 2,000–2,500 deployed strategic warheads for a future START III Treaty.

They also agreed to extend the deadline for elimination of strategic nuclear delivery vehicles under START II to December 31, 2007, but stipulated that systems to be eliminated under START II must be deactivated by December 31, 2003, subject to START II entering into force, by removing their nuclear warheads or other joint agreed steps. The Presidents further agreed that negotiations would begin on a START III Treaty immediately after Russian ratification of START II.

These agreements were formalized in a Joint Agreed Statement and a Protocol to the treaty in New York in September 1997, extending the time period for full implementation of START II until December 31, 2007. In addition, letters were signed and exchanged recording the Helsinki Summit commitment to deactivate, by December 31, 2003, the U.S. and Russian strategic nuclear delivery vehicles that under START II will be eliminated. START II entry into force will require approval by the Russian parliament and ratification by both parties of the Protocol to the START II Treaty and its associated Joint Agreed Statement.

At the G–8 summit held in Cologne, Germany, in June 1999, Presidents Clinton and Yeltsin again agreed that both governments would do everything in their power to facilitate the ratification of START II, and further agreed that discussions on START III and the Anti–Ballistic Missile (ABM) Treaty would begin in late summer 1999.

Source: William Cohen, Annual Report to the President and the Congress, Department of Defense, Washington, February, 1999, February 2000, and January 2001.

Planned Shifts in the US Strategic Force Posture

US Nuclear Offensive Force Plans as of January 2002

FORCE STRUCTURE AND CAPABILITIES

Until START II enters into force, the United States is protecting options to maintain a strategic nuclear arsenal at essentially START I levels. If START II is implemented as amended by the Helsinki Summit letters, accountable warheads will be reduced by the end of 2007 to a level of 3,000 to 3,500, of which no more than 1,750 may be carried on SLBMs. Strategic nuclear delivery vehicles that will be eliminated under START II will be deactivated by December 31, 2003, providing the benefits of a reduced force structure four years prior to the agreed 2007 date for full elimination.

READINESS

Selected elements of U.S. strategic forces maintain the highest state of readiness to perform their strategic deterrence mission. And while these forces can respond promptly to aggression if necessary, they can only be used with proper authorization from the National Command Authorities. A credible and effective nuclear deterrent requires proper support for all of its components: attack platforms, other weapons systems, command and control elements, the nuclear weapons stockpile, research and development capabilities, the supporting industrial base, and well trained, highly motivated people.

U.S. ICBMs and SLBMs on day-to-day alert are not targeted against any specific country. The missiles, however, can be assigned targets on short notice. The United States maintains two full crews for each SSBN, with about two-thirds of operational SSBNs routinely at sea. At least one and often two U.S. SSBNs are undergoing long-term overhauls at any given time and are not available for immediate use.

All 550 ICBMs, with the exception of a few undergoing routine maintenance, are maintained on a continuous day-to-day alert. The bomber force is no longer maintained on day-to-day alert, although it can be returned to alert status within a few days if necessary. No nuclear weapons can be executed except by direction of the President. This has been a longstanding U.S. policy and remains so.

NUCLEAR MISSION MANAGEMENT

The Department relies upon the Nuclear Mission Management Plan (NMMP) to provide an integrated approach for the support of the nuclear mission. The NMMP provides the policy backdrop for the maintenance of the nation's nuclear forces, describes their integrated architecture as it exists today, and summarizes the efforts of the Services and defense agencies to sustain and modernize a credible deterrent. A concise, comprehensive reference on DoD programs supporting the nuclear deterrent, the NMMP is a valuable tool for decision making in the Department.

STOCKPILE STEWARDSHIP

The President declared that maintenance of a safe and reliable nuclear weapon stockpile is a supreme national interest of the United States. The Department of Energy's Stockpile Stewardship Program (SSP) is the United States' primary means of ensuring the safety and reliability of its nuclear deterrent, absent nuclear testing. The SSP develops new tools to supplant nuclear explosive testing as the means to sustain the confidence obtained in the past from nuclear explosive testing. There was high confidence in the enduring stockpile when the United States entered into a nuclear testing moratorium in 1992. Since that time, the SSP, principally its surveillance program, has uncovered problems including those associated with aging. Through the SSP, an understanding of those problems has been developed, coupled with programs to address them. The SSP still faces challenges; but as long as it continues to get the resources it needs, it will keep pace with the complex problems likely to be encountered in the future to resolve a safety or reliability issue relating to a warhead critical to the U.S. deterrent. Should annual certification reveal a problem that can only be resolved by nuclear explosive testing, the Secretaries of Defense and Energy will inform the President and Congress of the need to resume nuclear testing.

FUNDING AND MODERNIZATION

Funding for strategic nuclear forces—ICBMs, SLBMs, and nuclear bombers—has significantly declined in recent years, as has the fraction of the total defense budget that is devoted to nuclear forces. A few modernization programs for strategic forces are currently under way: B-2 modifications, primarily for conventional missions; D-5 SLBM life extension activities and procurement; conversion of four SSBNs from the C-4 to the D-5 missile systems; and Minuteman III life extension activities. With most nuclear modernization efforts complete, programs to sustain nuclear forces and their readiness now account for most strategic nuclear funding.

LAND-BASED INTERCONTINENTAL BALLISTIC MISSILES

At the end of FY 2000, the United States had 500 Minuteman III ICBMs and 50 Peacekeeper missiles. If START II enters into force, the United States will modify all Minuteman III missiles to carry only one warhead and will retire all Peacekeeper missiles.

In this transition, DoD will redeploy the Mark 21 reentry vehicle (RV), currently deployed on Peacekeeper, on a portion of the single RV Minuteman force. Mark 21 RVs contain features that further enhance nuclear detonation safety and reduce the risk of plutonium dispersal in the unlikely event of a fire or other mishap.

The United States is not developing or producing any new ICBMs. This makes it difficult to sustain the industrial base needed to maintain and modify strategic ballistic missiles. To maintain the Minuteman ICBM system and to preserve key industrial technologies needed to sustain ICBMs and SLBMs, the Department plans to replace guidance and propulsion systems, as well as to preserve a core of expertise in the areas of reentry vehicle and guidance system technology. Further, the Air Force is exploring plans for a replacement to the Minuteman III around 2020.

SEA-BASED BALLISTIC MISSILES

The Ballistic-Missile Submarine (SSBN) fleet has reached its planned total of 18 Ohio-class submarines. The first eight Ohio-class submarines each carry 24 Trident I (C-4) missiles; the final ten are each equipped with 24 Trident II (D-5) missiles.

The SSBN fleet's survivability and effectiveness are enhanced through the D-5 missile's improved range, payload, and accuracy. The Future Year Defense Plan (FYDP) provides for continued procurement of D-5 missiles to support the conversion of four SSBNs from the C-4 to the D-5 missile system. Backfits during regularly scheduled ship depot maintenance periods began in 2000.

The United States will retain 14 SSBNs armed with D-5s, while the four oldest Ohio-class SSBNs will be eliminated or converted. D-5 missiles aboard the 14 boats, capable of carrying eight warheads a piece, will be downloaded consistent with START II limits. The FYDP also supports Navy planning for a life extension to the D-5 SLBM to match missile life to the recently extended Trident submarine service life of 44 years.

HEAVY BOMBERS

The U.S. bomber force consists of 93 B-1s, 94 B-52s (includes 18 attrition/reserve aircraft), and 21 B-2s. Operational B-2s, all deployed from Whiteman AFB, Missouri, are Block 30 configuration aircraft. B-2 and B-52 bombers can be used for either nuclear or conventional missions. The B-1 force is dedicated to, and has been equipped exclusively for, conventional operations.

THEATER NUCLEAR FORCES

As reaffirmed by NATO in its April 1999 Strategic Concept, theater nuclear forces, in the form of dual-capable aircraft, in the United States and NATO are an essential political and military link between the European and North American members of the Alliance. They also contribute to the spectrum of response options to deter aggression. The United States will continue to maintain these weapons in NATO, but at levels significantly below Cold War levels. All naval theater nuclear weapons are in storage. Nuclear weapons capability on surface ships has been eliminated, but the capability to deploy Tomahawk Land Attack Missiles armed with a nuclear weapon on submarines has been maintained.

Source: Adapted by Anthony H. Cordesman from Secretary of Defense William Cohen, Annual Report to the President and the Congress, FY2001, Washington, Department of Defense, 2001, Chapter 6.

The US Nuclear Policy Review – January 2002: Key Quotes

In a letter to Congress, Defense Secretary Donald Rumsfeld set down the case for the changes: "We have concluded that a strategic posture that relies solely on offensive nuclear forces is inappropriate for deterring the potential adversaries we will face in the 21st century," Rumsfeld wrote. "Terrorists or rogue states armed with weapons of mass destruction will likely test America's security commitments to its allies and friends. In response, we will need a range of capabilities to assure friend and foe alike of U.S. resolve."

J.D. Crouch, assistant defense secretary for international security policy stated in a January 9, 2002 briefing that Nuclear Posture Review changes the strategy from a threat- based approach to a capabilities-based approach. It recognizes that the Cold War is over and that the mutually assured destruction strategy paramount in the stand-off with the Soviet Union has no place in the new relationship between the United States and Russia.

"This means we will deploy the lowest number of nuclear weapons consistent with U.S. security requirements…The Cold War approach to deterrence that was highly dependent on offensive nuclear weapons is no longer appropriate. Nuclear weapons are still a key part of the deterrent strategy, "but we also believe that other kinds of capabilities will be needed in the future. These other capabilities include advanced conventional capabilities, missile defense and better command, control, intelligence and planning."

"We believed it was important to include new kinds of capabilities in this approach, including active and passive defenses and nonnuclear capabilities…Nonnuclear strike forces … have the potential, if fully exploited and fully developed, to reduce our dependency on nuclear forces for the offensive strike leg of the nuclear component."

"The capabilities-based approach argues that there may be multiple contingencies and new threats that we have to deal with. We're focusing on how we will fight, how we will have to fight, not who or when, and we don't really know. We expect to be surprised, and so we have to have capabilities that would deal with a broad range of the potential capabilities that adversaries may array against us."

"These capabilities are not required to be country-specific. Indeed, in some cases, it's -- it would be difficult for them to be country-specific. You know, one example out of -- out of today's situation, obviously, is Afghanistan, where we would not have expected to be in Afghanistan maybe six months earlier."

"We also believed it was very important to include new components or new kinds of capabilities in this approach, including active and passive defenses and non-nuclear capabilities. The non-nuclear strike forces, we believe, have the potential, if fully exploited, fully developed, to reduce our dependency on nuclear forces for the offensive-strike leg of the -- of the component. And even defenses give us more options and will allow us to do the same."

"We believe that by improving the effectiveness of command control, intelligence and adaptive planning -- investing in these areas and improving in these particular areas we're going to create a more efficient capability, one that, in fact, will allow us to reduce our forces overall but to maintain the overall capability that will be necessary as we move forward in the 21st century.
"Further, the unilateral move means the reduction can take place without long, involved and complicated arms control treaties."

"The new policy will place greater emphasis on many arrows in the U.S. quiver. It will mean credible nuclear and non- nuclear responses to support the United States and allies."

"There may be multiple contingencies and new threats we have to deal with…We're focusing on how we will have to fight, not who or when. We don't really know. We expect to be surprised, so we have to have capabilities that would deal with a broad range of the capabilities adversaries may array against us."

Source: Jim Garamone**, "Review Changes Status of Nuclear Deterrent,"** American Forces Press Service Washington, Jan. 9, 2002

The Nature of the US Nuclear Posture Review: January 10, 2002

- **Conducted in an atmosphere of strategic change**
- Multiple potential opponents, sources of conflict, and unprecedented challenges versus past focus on Soviet Union.
- New friendly relationship with Russia versus known ideological peer opponent.
- Spectrum of uncertain contingencies versus focus on prolonged conflict, defined blocs, limited number of contingencies.
- Varying and unequal risks and stakes versus existential threats and survival as stakes.
    - 12 nations have nuclear weapons programs,
    - 28 nations have ballistic missiles,
    - 13 nations have biological weapons
    - 16 nations have chemical weapons.
- **Implications**
- Uncertain deterrence and need to assure, dissuade, deter and defeat versus emphasis on high confidence deterrence.
- Synergy of nuclear/non-nuclear & offense/defense versus reliance on offensive nuclear forces exclusive of other forces.
- Nuclear planning is:
    - Capabilities versus threat based.
    - Great flexibility for range of contingencies versus some flexibility for a few contingencies.
    - Unilateral arms reductions to preserve flexibility and transparency versus arms levels fixed by elaborate treaties and verification.
- **Presidential Guidance**
- Encourage and facilitate a “new framework” of cooperation with Russia.
- Cold War approach to deterrence no longer appropriate.
- End relationship with Russia based on MAD.
- Deploy lowest number of nuclear weapons consistent with the security requirements of the US, its allies, and friends.
- Achieve reductions without requirement for Cold War-style treaties.
- Develop and field missile defenses more capable than ABM Treaty permits,
- Place great emphasis on advanced conventional weapons.
- Source: Department of Defense background briefing of January 9, 2002

The Results of the US Nuclear Posture Review: January 10, 2002

- **Transition to a New Triad in Mid to Far Term**
    - Go from Bombers+ICBMs+SLBMs to mix of non-nuclear and nuclear strike capabilities + defenses + responsive infrastructure.
    - Command and control, intelligence and planning given equal weight with forces.
    - Offers a portfolio of capabilities and the flexibility require to address a spectrum of contingencies.

- **Sizing the Nuclear Force**
    - Size to address the spectrum of immediate and potential contingencies.
    - Operationally deployed force for immediate and unexpected contingencies.
    - Responsive force for potential contingences. This is not a separate force, but the ability to augment the operationally deployed force in a way where, over weeks, months and even years, that could respond to changes such as changes in the security environment that were more adverse than expected, technological surprise, and changes in assumptions about how well the US can introduce or field new elements of the new triad
    - Preplanning for immediate and potential contingencies.
    - Trying to achieve these reductions without having to wait for Cold War arms-control treaties, and placing greater emphasis both on missile defense capabilities and also on the development of advanced conventional capabilities.

- **Strategic Background**
    - Force sizing not driven by an immediate contingency involving Russia.
    - Force structure and down-loaded warheads preserved for the responsive force..
    - End relationship with Russia based on MAD.
    - Deploy lowest number of nuclear weapons consistent with the security requirements of the US, its allies, and friends.
    - Achieve reductions without requirement for Cold War-style treaties.
    - Develop and field missile defenses more capable than ABM Treaty permits,
    - Place great emphasis on advanced conventional weapons.
    - No change in the administration's policy at this point on nuclear testing.
    - Continue to oppose CTBT [comprehensive test ban treaty] ratification.
    - Continue to adhere to a testing moratorium.
    - There are a number of weapons in that stockpile. Many of them are in the queue for dismantlement and destruction.

Source: Department of Defense background briefing of January 9, 2002

Projected US Force Size and Character

- United States has about 6,000 warheads in its nuclear arsenal.
- Under the new plan, that arsenal would drop to around 3,800 warheads by fiscal 2007 and to between 1,700 and 2,200 operationally deployed warheads by fiscal 2012.
    - Go with the existing force of ICBMs -- submarine-launched ballistic missiles on SSBNs [ballistic missile submarines] and bombers.
    - Fully fund the Trident D-5 SLBM life-extension program in this five-year defense plan, Accelerate its test-readiness program.
    - SSBN fleet of 14 submarines. Two of those submarines will be in overhaul at all times, and those submarines will not have missiles available to fire, and they will not be part of the operationally deployed nuclear weapons.
- START I will continue to be in force, and all of its applicable rules, including the verification provisions as well as the counting rules, are still in force. However, when we talk about 1,700 to 2,300 operationally deployed systems, we are talking -- this is what we might call truth in advertising. There are no phantom warheads here. This is the actual number of weapons that we will deploy on the force.
- In addition to the 1,300 START accountable warheads that will come off the force as a result of the retirement of Peacekeeper, the Tridents and the like, US will take additional operationally deployed warheads off existing ICBMs and SLBMs down to a level of about 3,800 by fiscal 2012.
- Goal of 1,700-2,200 operational deployed warheads by 2012 to meet requirements of new defense policy goals.
    - Retire Peacekeeper ICBMs beginning 2002.
    - Remove four Trident submarines from strategic service.
    - The Air Force's B-1 bomber would not be nuclear capable
    - “most important, the United States would remove some warheads from operationally deployed ICBMs and submarine-launched missiles.”
- The inactive stockpile will be separate. Typically the limited-life components that go into a nuclear warhead, such as tritium, neutron generators, things that live for a relatively short period of time in comparison with the weapon, are typically removed, and when the weapon is transitioned to the active stockpile from the inactive, those components are reinstalled in the weapon. So the inactive weapon consists of those weapons that are not fielded with limited-life components.

Source: Department of Defense background briefing of January 9, 2002