

Nuclear posture reviews are a mix of continuity and change. Continuity because there is broad consensus on the fundamentals of U.S. policy and because forces take so long to design and build they can only change slowly. Change because of changes in the international environment and in the administration philosophy. This NPR reflects the administration's quite dark view of international relations and concludes that great power conflict (and conflict with Korea) should displace nuclear terrorism as the highest priority task.

Before we turn to the current document, let's review how we got here. During the Cold War there were no nuclear posture reviews. We didn't need them. Administrations of both parties believed nuclear weapons were needed to prevent Soviet domination of the world and destruction of the United States. There was much disagreement about how best to prevent such a disaster, so each administration usually reviewed targeting doctrine, but not the fundamental role of nuclear forces. China was thought of as a lesser included case and nuclear terrorism was a limited concern.

When the Cold War ended we had to re-think the role of nuclear weapons. There have been four such formal reviews by the Clinton, George W. Bush, Obama and Trump administrations. There was also an important informal review by the George H.W. Bush administration that resulted in the largest reduction in the U.S. arsenal in history and the elimination of virtually all so-called tactical and theater weapons.

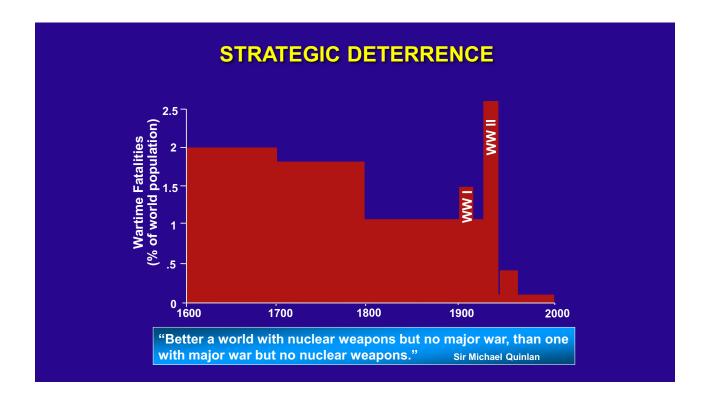
Each formal review was based both on the specific administration's view of the world and on the reality that while policy can change quickly, changing forces take a

long time. Everything in the arsenal today was designed in the Cold War and virtually all of it was constructed then.

- The Clinton NPR focused on leading the new Russia toward reductions while hedging against an uncertain future and trying to reap a peace dividend.
- The George W. Bush team concludes that Russia was not a day to day threat. It stressed defenses, the importance of infrastructure and conventional substitution for nuclear weapons. (Yes, I know that's not the common view. After 9-11 the administration largely ignored nuclear issues the subject and never put forward an unclassified posture.)
- President Obama—more involved in details than most Presidents—emphasized countering nuclear terrorism and preventing nuclear proliferation. His administration sought to maintain strong nuclear forces while trying to create the conditions for long term reductions and ultimately abolition.

Those involved in these reviews shared the belief that nuclear deterrence saves lives by preventing war between major powers. In about the time we will spend talking today, the United States and the Russian Federation can destroy each other as functioning societies no matter who attacks first. This condition, often called Mutual Assured Destruction, makes deliberate nuclear war irrational. Because neither side can be certain of controlling escalation (especially once the nuclear threshold is crossed), conventional war between nuclear states is also too risky to contemplate.

The Trump administration made this common belief explicit by including a variant of this chart in their Nuclear Posture Review (they didn't include the quote which I added because I like it).



This shows the percentage of the world's population killed in wars between states since the beginning of the modern state system. The dramatic reduction in 1945 is striking. You all know that correlation doesn't prove causation. There are thoughtful scholars who have alternate explanations for the long peace in Europe. But practitioners—while admitting that they can't prove a negative—almost universally believe that no one can prove deterrence doesn't prevent war and they assume that it does. As an aside, there have been lots of people killed in internal conflicts since 1945. Except in rare circumstances, nuclear weapons are irrelevant to that depressing fact.

I mentioned earlier that each NPR reflects the world view of the administration that produced it. As the National Security Strategy, National Defense Strategy and NPR all make clear, the current administration focus is on great power conflict (plus Korea), not the internal conflicts that have dominated attention since 9-11. The NPR continues the long-standing practice of tailoring deterrence, recognizing that different states threaten us and our allies in different ways and must be deterred by threatening different things.

Here are the four purposes of U.S. weapons articulated by the NPR.

Purposes of U.S. nuclear weapons Deterrence of nuclear and nonnuclear attack Assurance of allies and partners Achievement of U.S. objectives if deterrence fails Hedge against an uncertain future.

The first two are completely consistent with historic U.S. policy. Despite the concerns raised by some of the President's early remarks, the NPR stresses deterrence of attacks on our allies. Historically. the United States is unique in the degree to which it structures its nuclear forces and policies around extended deterrence of allies in both NATO and the Pacific. Reassuring those allies underlies much of U.S. nuclear policy including our "second to none" policy, rejection of no-first use and rejection of limiting nuclear response to nuclear attack.

The third purpose, to achieve U.S. objectives if deterrence fails is also consistent with the past. Achieving U.S. goals if deterrence fails is seldom articulated but has been a goal of past administrations. The plans backing up the NPR are <u>war</u> plans designed to achieve military objectives. The NPR says: "if deterrence fails, the United States will strive to end any conflict at the lowest level of damage possible and on the best achievable terms for the United States, allies, and partners." That's not new and it doesn't suggest "winning" a nuclear war or enthusiasm for nuclear warfighting as a policy choice. As Ronald Reagan said decades ago, a nuclear war cannot be won and must never be fought.

The final objective on hedging against an uncertain future is new and an excellent innovation. The only explicit example it gives is keeping rather than retiring more of our non-deployed weapons, but the implications are clear in its call to improve the infrastructure of the weapons complex and in the need to maintain strong national security laboratories.

The NPR is in many ways a Rorschach test. If you believe this is a reckless and militaristic administration, you think the changes are very significant and very dangerous. If you believe that the Obama administration was dangerously naïve, you think the changes are very significant and very welcome. If, like me, you don't believe either of those things, you think the changes are modest and what is important is the continuity. After all, there have been real change in the international environment. If the team that wrote the 2010 NPR was assigned to prepare an NPR today, they wouldn't write the Trump document, but they wouldn't write the 2010 document either.



Let's talk about the changes. First, one thing that hasn't changed is maintaining a so-called Triad of ICBMs, submarine-launched ballistic missiles and long-range bombers. The Triad arose in the late 1950s. It grew out of service rivalry but was found during the Cold War to have genuine advantages. Some now believe that those advantages are no longer relevant, and that the Triad is no longer needed. Almost all those who think that way would abolish the ICBM leg. The NPR rejected that change.

This shows what forces we maintain today, now that both the United States and Russia have reached the levels called for by the New START treaty. But those forces are nearing the end of their life in many cases and need to be modernized or replaced.

Strategic Forces under New START

System	Number
ICBM	400 deployed Minuteman III plus 50 empty launchers
SLBM	14 submarines each with 20 tubes carrying Trident II (D-5) missiles and four empty, non-operational tubes. Only 12 submarines will carry missiles. Two will always be in overhaul and carry no missiles.
Bombers	41 B-52H carrying cruise missiles 19 B-2 (stealth) carrying gravity bombs

Your handout (attached at the end of this posted version) describes the budget and procurement plans called the program of record and how they would change under the new NPR. This slide shows a summary of the Obama program. That program planned to modernize all three legs of the strategic Triad and to conduct several warhead life extensions. There was a rough consensus in Congress on the program of record, with the new cruise missile and new ICBM being the most contentious.

Current (Obama) plan Replace 14 existing Ohio-class SSBNs with 12 new-design submarines carrying the existing Trident II (D-5) missile Replace all existing Minuteman III missiles with a new missile based in existing (but refurbished) silos New long-range, air-refuelable aircraft (B-21) highly survivable against air defense. New cruise missile to replace 30-year old Air Launched Cruise Missile (ALCM)

The Trump administration did not want to shatter that consensus. That's why ideas advocated by some conservatives like resuming nuclear testing or developing new warheads or breaching the limits of existing arms control agreements got no traction. But the new NPR modifies program in four ways.

The new NPR

- Keep all of the current plan.
- In addition, add the following:
 - Modify some submarine warheads to have significantly lower yield
 - Initiate studies to develop a new sea-launched cruise missile
 - Keep two types of bombs that were slated for retirement in the arsenal

It adjusts the schedule for the remanufacture of one ICBM warhead and retains a high-yield bomb previously scheduled for retirement. Administration officials have made it clear that bomb (which has the highest yield of any now in the stockpile) is related to hardened and deeply buried targets in Korea, although the NPR does not say so explicitly. Neither of these are particularly contentious.

The NPR calls for development and deployment of a nuclear sea-launched cruise missile as a counter to Russia's violation of the Intermediate -Range Nuclear Forces Treaty. The missile will come—if ever—after the bulk of the modernization is done. It probably will be based on the planned Long-Range Standoff weapon (LRSO) and use its warhead. If so, it won't present any technical challenge and will come after the peak funding crunch in the 2020s. The administration doesn't like calling it a bargaining chip, but it sounds like one. It is certainly preferable to responding to the Russian INF violation by developing a new ground-based cruise missile that would cause a political firestorm in Europe and ultimately violate the INF Treaty.

Finally, the NPR would replace a small number of existing warheads on the D-5 SLBM with a lower yield variant. This has emerged as the most contentious issue, with opponents claiming it is unnecessary because we already have low-yield weapons and dangerous because use of an SLBM could be mistaken for a major strategic attack. The administration listens to quotes like these:

- Security Council Secretary Petrushev, December 2012: "The procedure for the use of nuclear weapons is indicated in Russia's Military Doctrine. It provides for the possibility of their use when repelling aggression using conventional weapons <u>not only in a large-scale war but also in other types</u> <u>of wars...</u>"
- An August 2010 article describing Russia's Vostok 2010 exercise, "To suppress a large center of the separatists' resistance and to achieve minimal losses of the attacking troops a low-yield nuclear attack was mounted against the enemy."
- Vladimir Putin, 20 July 2017: "In the circumstances of an escalating military conflict, demonstrating the readiness and resolve to employ force involving the use of nonstrategic nuclear weapons is an effective deterrent factor."

Looking at these and other quotes, I suspect along with some non-public information, the NPR concludes that if a Baltic or other crisis got out of hand, Russia might consider using a tactical weapon. Because of Russian air defenses, existing (i.e. un-modernized) U.S. weapons with low yields (all bombs or cruise missiles) might be unable to provide a comparable counter strike and Russia might think it could gain an advantage. The deployment of a lower yield ballistic missile weapon is intended to dissuade them from that belief and thus raise the Russian nuclear threshold, not lower the U.S. one.

This is a complicated theory, but the modification is quick and (by nuclear standards) cheap. The question is how risky is it? Perhaps we can discuss that.

Finally the NPR also calls for major expenditures to modernize command and control, including warning systems. This is important, welcome and widely supported.

Because deterrence exists in the mind of the individual being deterred, it is important that other states understand what we will and won't tolerate. That makes what we say important. The next three slides provide the declaratory policy of the new NPR. Once again, your handout (attached at the end) has more detailed information.

Declaratory policy (1)

United States would only consider the employment of nuclear weapons in extreme circumstances to defend the vital interests of the United States, its allies, and partners.

- Extreme circumstances could include significant non-nuclear strategic attacks.
- Significant non-nuclear strategic attacks include...attacks on U.S. or allied nuclear forces, their command and control, or warning and attack assessment capabilities.

The basic statement here is essentially identical to the Obama policy. There are, however, two important nuances. The Trump administration sought to give examples of when a nuclear response to a non-nuclear attack might be appropriate, while making it clear that nuclear response was not limited to this list. There was no exact counterpart in the 2010 NPR. My personal view is that the clarification raises more questions than it answers and may not be as helpful as the authors hoped.

A more important change is that the Obama 2010 document sought to continue to reduce the role of nuclear weapons in deterring non-nuclear attack with the aim of ultimately being able to safely adopt a policy that the "sole purpose" of U.S. nuclear weapons is to deter nuclear attack on the United States and our allies and partners. That thinking is absent in the current NPR

For years the United States has issued a so-called Negative Security Assurance, essentially promising not to attack or threaten many states with nuclear use. The Trump version (shown below) is identical to the Obama administration formulation. If you look carefully, it's hard to see any state that we would have any reason to want to threaten where this statement would prevent us from doing so, but it has been seen historically as politically important internationally.

Declaratory policy (2)

The United States will not use or threaten to use nuclear weapons against non-nuclear weapons states that are party to the NPT and in compliance with their nuclear nonproliferation obligations.

Here is the NPR's caveat to the Negative Security Assurance.

Declaratory policy (3)

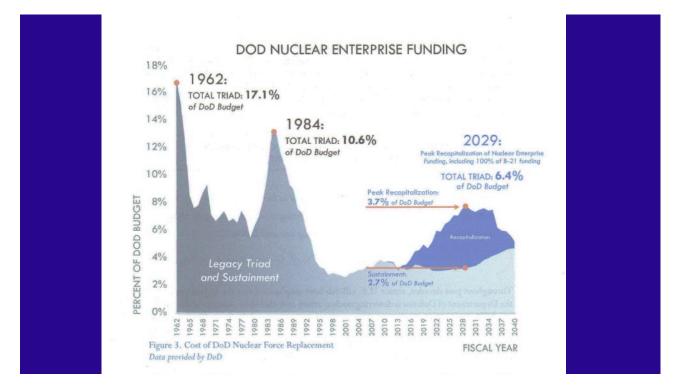
Given the potential of significant nonnuclear strategic attacks, the United States reserves the right to make any adjustment in the assurance that may be warranted by the evolution and proliferation of non-nuclear strategic attack technologies and U.S. capabilities to counter that threat.

The Obama 2010 NPR also had a Negative Security Assurance caveat limited to future biological weapons that might kill tens of millions. If such an attack came from a

state that was in compliance with its nuclear nonproliferation obligations nuclear response might still be warranted. The new NPR broadens this caveat. It is unclear what else they intend to include. The obvious possibility is massive cyber-attack shutting down the electric grid and causing mass starvation, but the administration hasn't said so and has made it clear that current cyber attacks are not what it has in mind.

Finally, the NPR says much less than the 2010 version about nuclear terrorism, nonproliferation and arms control. What it says about nuclear terrorism is sensible and suggests continuity. On non-proliferation it is basically sound, with one exception: the document is silent on the U.S. approach to disarmament under Article VI of the Nuclear Non-Proliferation Treaty. (A possible second exception is the Joint Comprehensive Plan of Action with Iran. The NPR says little on this, but U.S. withdrawal would seriously hurt the cause of non-proliferation.). Finally, the NPR is VERY skeptical on future arms control. This is unfortunate, but since bilateral arms control is about to collapse it may have little practical effect.

That leaves cost. This slide from the NPR shows that the planned modernization at its peak will consume just over six percent of the DOD budget, half of which is necessary just for operations. In contrast, building the first Triad sixty years ago took 17 percent. The major modernization that gave us the current force structure, begun by President Carter and completed in the Reagan administration took ten percent.



Secretary Mattis has said "America can afford survival." That's obviously true, but the real issue is opportunity costs. What won't we buy if we follow the NPR plan.

This debate will continue and be renewed in one form or another every year through the Congressional budgeting process.

With that, let's turn to your questions.

NPR CHANGES TO THE CURRENT PROGRAM OF RECORD

Obama delivery systems plan (DOD)

- Replace 14 existing Ohio class ballistic missile submarines (20 tubes each) with 12 new Columbia class ships (16 tubes each)
- Replace 400 Minuteman III ICBMs with a new ICBM called the Ground Based Strategic Deterrent (GBSD)
- Develop and deploy a new strategic bomber (B-21)
- Replace existing Air-Launched Cruise Missiles (ALCM) with a new cruise missile called the Long-Range Standoff weapon (LRSO)
- Equip some F-35 fighters with the ability to deliver nuclear bombs

Major funding for these planned for the 2020s with deployment in the early 2030s

Obama warhead plan (DOE)

A decade ago we had two ICBM warheads (W78 and W87) and two Submarine Launched Ballistic Missile (SLBM} warheads (W76 and W88). Having two warheads for each system hedged against the failure of a specific warhead causing the loss of an entire Triad leg. We also had two bombs (B61 and B83) and a cruise missile (W80). The B61 bomb was a family of both strategic and tactical bombs.

The last administration adopted a long-range vision called 3+2. The idea was to reduce to three ballistic missile warhead types with a single design called Interoperable Warhead One (IW1) replacing both the W78 and W88. The main benefit would be to reduce the size of the non-deployed stockpile. The "two" in 3+2 referred to bomber weapons. The plan was to consolidate all the B61 variants into a single design called the B61-12, retire the B83 and modernize the W80 for new cruise missiles. All this was to be accomplished through a series of life extension programs (LEP). As a result, the Trump administration inherited a program including:

- Completing the W76-1 LEP by Fiscal Year (FY) 2019;
- Completing the B61-12 by FY2024 and retiring the B83 at that time;
- Conducting a W80-4 life extension for the new cruise missile (LRSO) with first production unit in FY 2025 and completion by FY2032
- Conducting some updating (less than a full LEP) on the W88 to be completed in FY2024.
- Planning for a W78 life extension to become the first interoperable warhead starting in FY2020

Trump administration changes

The Trump NPR continued the entire Obama program with four modifications:

- Deploy a small number of lower yield (primary-only) W76 warheads on the D-5 SLBM.
- Keep the B83-1bomb past its planned retirement date until a suitable replacement is identified. This is clearly related to hardened deeply buried targets in Korea.
- Advance the W78 warhead replacement start by one year to FY2019, making it easier to have updated warheads when the new ICBM is deployed. The NPR backs

off plans for the interoperable warhead to only "investigate the feasibility of also fielding the nuclear explosive package in a Navy flight vehicle."

 Begin a study of the future (no date) development and deployment of a nuclear sealaunched cruise missile. While all options will be examined, many DOD officials privately assume this will only be deployed on U.S. general purpose submarines and will use the same W80-4 warhead as the Long-Range Standoff weapon (LRSO).

2018 NPR DECLARATORY POLICY

The United States would only consider the employment of nuclear weapons in extreme circumstances to defend the vital interests of the United States, its allies, and partners. Extreme circumstances could include significant non-nuclear strategic attacks. Significant non-nuclear strategic attacks include, but are not limited to, attacks on the U.S., allied, or partner civilian population or infrastructure, and attacks on U.S. or allied nuclear forces, their command and control, or warning and attack assessment capabilities.

The 2010 Obama NPR said: "The United States would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners." The underlined sentences describing what non-nuclear attacks could justify nuclear use have no exact counterpart in the 2010 NPR.

The 2010 document said: "the fundamental role of nuclear weapons is to deter nuclear attack on the United States, our allies and partners," and that the United States "would continue to reduce the role of nuclear weapons in deterring non-nuclear attack." With respect to states that possess nuclear weapons, it said "there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or CBW [chemical or biological warfare] attack against the United States or its allies and partners. The United States is therefore not prepared at the present time to adopt a universal policy that the "sole purpose" of U.S. nuclear weapons is to deter nuclear attack on the United States and our allies and partners but will work to establish conditions under which such a policy could be safely adopted."

The United States will not use or threaten to use nuclear weapons against nonnuclear weapons states that are party to the NPT and in compliance with their nuclear non-proliferation obligations.

This statement, called the Negative Security Assurance, is identical to the Obama administration formulation. However, it is followed by a caveat which is different from that in the Obama NPR (see below):

Given the potential of significant non-nuclear strategic attacks, the United States reserves the right to make any adjustment in the assurance that may be warranted by

the evolution and proliferation of non-nuclear strategic attack technologies and U.S. capabilities to counter that threat.

The Obama 2010 NPR also had a Negative Security Assurance caveat, but that caveat was limited to biological weapons: "Given the catastrophic potential of biological weapons and the rapid pace of bio-technology development, the United States reserves the right to make any adjustment in the assurance that may be warranted by the evolution and proliferation of the biological weapons threat and U.S. capacities to counter that threat."

It is unclear what else the 2018 NPR's Negative Security Assurance caveat is intended to include.