PEACE ECONOMY PROJECT

Bankrolling Bombs: Examining the Costs and Consequences of U.S. Nuclear Modernization.

A Brief of the PEP Fellowship Program by Parker Robinson JANUARY 2025

THE ISSUE

The United States is on track to spend over $1.7 trillion modernizing its nuclear arsenal over the next 30 years—a move raising concerns about cost, safety, and global stability. The costliest of these projects will be the Air Force's Sentinel project and B-21 Raider, as well as the Navy's Columbia-Class Submarines. These projects aim to extend the reign of U.S. nuclear dominance in the face of an expiring nuclear stockpile. Based on reports from the Government Accountability Office (GAO) and independent organizations, cost estimates for projects are frequently underestimated and will continue to rise. This brief provides an overview of where nuclear weapons spending is going, who is developing these weapons, and how much they will cost. The next presidential administration can reduce costs and maintain a credible deterrence threat by

- **returning to diplomacy and promoting arms reduction,** in part, to cut costs by reducing the number of warheads and missiles needed to be overhauled
- **revising and adhering to nuclear doctrine** to disallow enhanced nuclear capabilities in modernization
- **promoting clear rationale and comprehensive plans** for all modernization projects
- **furthering peace through displayed restraint** of weapons development and deployment

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INTRODUCTION

The U.S. nuclear stockpile is overseen and managed by the Department of Defense (DoD) and the Department of Energy (DoE). The DoD is responsible for the development and deployment of the United States' nuclear delivery systems. The DoD works to enlist private contractors to design and engineer nuclear missiles, bombers, and

submarines. The DoE's semi-autonomous sub department, the National Nuclear Security Administration (NNSA) focuses on the development, maintenance, and modernization of nuclear warheads. The NNSA is similarly responsible for mitigating proliferation risks and the storage of warheads. The development of nuclear weapons often occurs in cooperation with the Navy and Air Force. The Navy operates the sea leg of the U.S. nuclear triad and while the Air Force manages both the ground and air legs.

Currently, both departments—working with the Navy and Air Force—are pursuing expansive and, in some cases, unprecedented modernization projects aimed at bolstering U.S. deterrence and advancing foreign policy goals. Current U.S. goals, as outlined in the 2022 U.S. Nuclear Posture Review (NPR), prioritize deterrence and modernization..

The NPR is a document released every five to ten years outlining the U.S. stance on nuclear policy and strategy. A total of three NPRs have been carried out since the first was released by the Clinton administration in 1994. NPR serves as a guideline and reference for policymakers when allocating funding, reviewing nuclear treaties, and approving modernization projects. The NPR is intended to inform both the domestic audience and other countries about U.S. intentions. This offers both a practical reference for state actors to function in relation to and acts as a safety measure in itself. The unclassified versions of U.S. nuclear posture with declarations of nuclear intent and reaffirmation to arms reduction and nonproliferation act, in part to clear the air from the tense haze that has surrounded the global nuclear relations since the Cold War.

In October of 2022, the Biden administration released the most recent NPR, which in the basis for current U.S. nuclear policy. The document reaffirms many of the Trump administration's 2018 NPR commitments with a few notable exceptions. In keeping with the 2018 NPR, the Biden administration stated its commitment to deterrence being a fundamental role of the U.S. nuclear arsenal along with "assuring allies" and "achiev[ing] U.S. objectives if deterrence fails."[1] The NPR rejects a No First Use policy stating that giving up the ability to carry out the first strike would lead to an "unacceptable level of risk."[2] A similar renunciation for the adoption of a Sole Purpose doctrine is stated allowing the U.S. to use nuclear weapons both as a means to prevent nuclear war and conventional war alike.

The NPR pledges to "affirm full-scope triad replacement and other nuclear modernization programs" to "ensure a safe, secure, and effective deterrent."[3] The commitment to deterrence through modernization is stated in parallel with the goals of nuclear weapons reduction and non-proliferation, which the U.S. argues are ends its peer adversaries hold in little low regard.[4] The NPR frames this as the primary reason that the U.S. must modernize.

NUCLEAR MODERNIZATION

The U.S. sees the modernization of its nuclear arsenal and capabilities in air, land, and sea as essential for maintaining a credible deterrence

threat. All three are meant to play a unique role in the U.S. nuclear deterrence strategy, requiring specific strategic modifications for each leg.

Table 1. Nuc. Weap. Spending

Modernization Project	Type	Projected Total Cost (Current U.S. Dollars, Billions)
Air Leg		
B-21 Raider	Replacement	89.1
B-52J Stratofortress	On-Going Modernization	3.00
Long Range Standoff Cruise Missile (LRSO)	Replacement	16.2
W80-4 Warhead	Life Extension	11.2
B61-12 Gravity Bomb	Life Extension	8.3
Ground Leg		
Sentinel Program	Replacement	149.00
W87-1 Warhead	Consolidation	12.00
Sea Leg		
Columbia Class Submarine	Replacement	132.00
Trident II D5 SLBM	Life Extension	33.7
W88 Alt 370	Modification	2.70
W93 Warhead	Consolidation	14.00
DoD and NNSA Total Nuclear Weapons Spending Projection		**470.80**

Source: Center for Arms Control and Non-Proliferation[7], GAO 2023[8], Pietrucha 2023[9], CAPE 2024[10], ACA 2024[11]

1. Air Leg

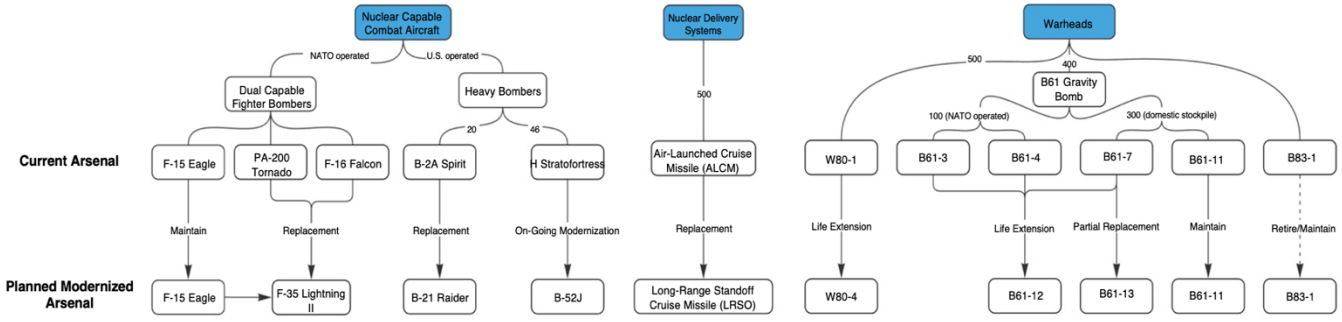
The air leg of the nuclear triad consists of heavy bombers stationed in the U.S. and dual capable fighter bombers (DCA) stationed at U.S.A.F. bases and across six NATO bases in Europe.[5] Plans to modernize both Heavy bombers and DCA are underway. Along with the modernization of nuclear capable aircraft The USAF, NNSA, and NATO, and are working to upgrade nuclear warheads, warhead delivery systems, and command-and-control centers.

The modernization programs include replacing several existing warheads including the W80-1 warhead and three variants of the B61 gravity bomb (B61-3, -4, and -7), which will be replaced through the W80-4 Life Extension Program (LEP) and B61-12 LEP respectively. Additionally, the modernization
of the warhead delivery systems are underway with the AGM-86B air-launched cruise missile (ALCM) being replaced with the new AGM-181 Long-Range Standoff Cruise Missile (LRSO). The ALCM is currently carried by the B-52H heavy bomber, which will eventually carry the LRSO cruise missiles tipped with the future W80-4 warhead. The B-21 Raider DCA and the NATO operated F-16 and PA-200 will be replaced by the F-35 Lightning II DCA.

The NNSA's modernization of the B61 gravity bomb promises to extend the weapon's life by 20 years.[6] The LEP consists of developing about 400 B61s, consolidating the B61 -3, -4, and -7 into the new B61-12 by repurposing parts from each of the

variants. The B61-12 will have substantially lower yield than previous variants, improved guidance as a result of the new Tail Kit Assembly (TKA), and compatibility with the B-21 and F-35 DCA. The LEP began development in 2015 and the weapon is set to be completed by fiscal year 2025.[12] Initially, the NNSA estimated that the project would cost about $4 billion, however a more recent NNSA estimate from 2016 places the projected cost of production at $8.3 billion and extends the estimated completion date from 2025 to 2027.[13] Another independent study placed the costs at a higher estimate of $10 billion, which would place each new B61 at about $25 million a piece.[14] In 2012, Boeing received a $178 million contract for the initial design, development and qualification phase for the TKA.[15] The entire TKA development is estimated to cost $1.3 billion over the course of the modernization process.[16] In addition to replacing B61 variants domestically, the bomb would also replace the 100 B61-3 and -4 variants stationed across Europe under the "NATO nuclear sharing mission."[17]

Figure 1: Air Leg Modernization



Sources: Kristensen, Korda, Johns, and Knight (2024)[22] and ACA 2024[23]

The B61-12 is no longer the only gravity bomb development project that the U.S. is planning to take on. In October 2023, the DoD announced that the U.S. will pursue the development of an additional B61 variant, the B61-13, production of which is pending Congressional approval.[18]

A parallel effort to extend the life of the W80-1 nuclear warhead through the W80-4 LEP is currently underway as well. The LEP is scheduled to be completed by FY 2031 and cost about $12 billion, a price that the Government Accountability Office's (GAO) 2020 report stated was a reliable cost estimate given that it "substantially met" all four of its assessment criteria: "comprehensive, well-documented, accurate, and credible."[19] The W80-4 is being produced to fit the LRSO missile system that will be carried by the B-52 and B-21.[20] The development of the AGM-181 Long-Range Standoff Cruise Missile (LRSO) began in 2016 with the intent of replacing the AGM-86B Air Launched Cruise Missile (ALCM) originally introduced into the U.S. nuclear arsenal in 1982 and is said to reach end of life by 2030.[21] The weapon's development will be managed by the DoE, and developed by Raytheon,

who beat out Lockheed Martin in the competition for the LRSO contract. The 2023 GAO Weapons Systems Annual Assessment stated that the development cost for the LRSO will approach $14 million per unit and $14 billion in total through the end of production and initial compatibility (at a date which the Air Force deemed "not suitable for public release").[24] According to the NNSA the combined capabilities of the new LRSO and W80-4 "will be a force multiplier for the B-52, B-2 Spirit, and B-21 aircraft."[25]

The Air Force bomber force will soon consist of the dual capable B-21 and B-52J, which will incrementally replace the B-2 and re-engineer the B-52H respectively (The initial proposal for the B-21 proposed that they could possibly replace the B-52s in the future).[26] At least 100 B-21 Raiders will be produced by Northrop Grumman, which received the Engineering and Manufacturing Development contract in 2015, and will be operational by the mid-to-late-2020s. The estimated average procurement unit cost rose from $550 million in 2010 to $692 million in 2022 according to the U.S.A.F.[27] The B-52 on the other hand will be receiving on-going modernization instead of replacement. The B-52H will receive "new commercial engines" (Rolls Royce F130 engines) which will newly designate the aircraft as the B-52J. In addition to receiving a new engine and the previously discussed LRSO missile system, the aircraft will also receive a "new radar, as well as communications and navigation equipment" that is said to keep them functional "through the 2050s." In its 2024 budget request, the Air Force requested $3 billion for the entirety of the B52 procurement process with the GAO 2023 report estimating the Radar Modernization Program (RMP) alone will cost $2.377 billion to develop 74 radar kits.[28,29]

2. Ground Leg

The ground leg of the nuclear triad will be the recipient of one of the largest nuclear modernization projects in recent decades. Originally called the Ground Based Strategic Deterrent program (GBSD), Ai is a comprehensive effort to modernize the U.S. land based nuclear missile system. The program outlines plans for the demolition of old missile alert facilities (MAFs), the construction of new ones in their place, the development of thousands of miles of utility corridors, the acquisition of communication towers, the decommissioning and disposal of Minuteman III ICBMs, and the development and production of new LGM-35A Sentinel ICBMs. The original cost of the Sentinel program was estimated to be around $77.7 billion in total. Recent estimates from the Cost Assessment and Program Evaluation (CAPE) have been closer to $149 billion even pushing $160 billion "if Sentinel continues on its current path," with per-unit total cost rising from $118 million in 2020 to $214 million in 2024.[30] These new estimates surpass the initial Milestone B decision for Sentinel by more than 81%, triggering a critical breach under the Nunn-McCurdy Act.[31]

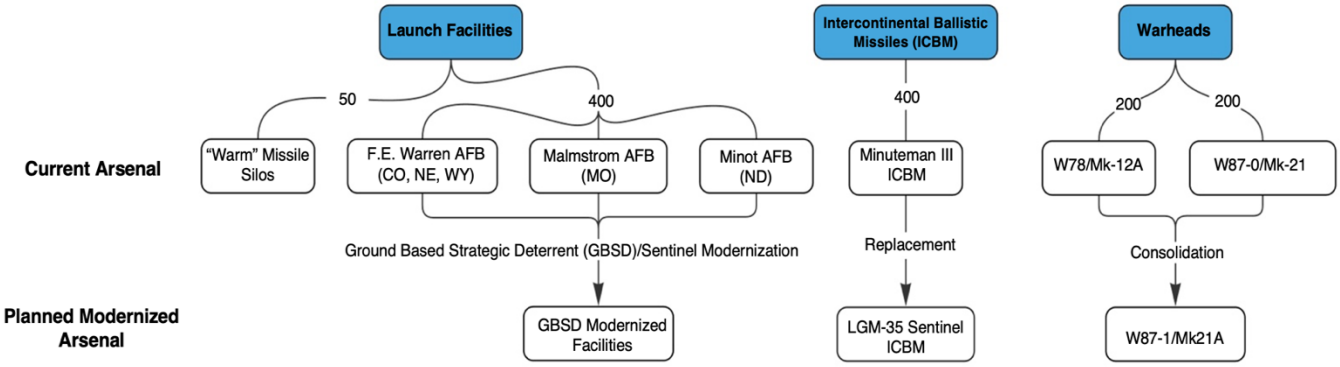
In a critical breach of the Nunn-McCurdy Act, the program at hand is terminated unless a root-cause analysis along with an updated cost projection is presented to and certified by the Secretary of Defense.[32] In the case of Sentinel, the latter occurred and the program was authorized to

continue operating with the inflated budget. The Air Force's assistant secretary for acquisition, technology and logistics stated that the $149 billion estimate from CAPE had a "50% confidence level."[33] Support for the Sentinel program seems to have unquestionable support even in the face of these continually rising estimates.

The Sentinel project consists of modernization to the launch and command facilities as well as ICBM production. Currently the launch and command segment is set to renovate MAFs and launch facilities at the three U.S.A.F. bases with "high alert" missile status: F.E. Warren, Malmstrom, and Minot Air Force Bases. All three bases are set to receive 15 upgraded MAFs and 150 launch facilities each.[34]

The plan also includes the acquisition of 659 ICBMs, 400 of which will be operational, replacing the 400 deployed Minuteman III ICBMs and retaining the number of deployed ground-based missiles. Northrop Grumman was awarded the sole source $13.3 billion contract for the engineering and manufacturing of Sentinel ICBMs.[36]
Currently, the Minuteman III ICBMs are armed with either W78 or W87-0 warheads. As a part of the ICBM modernization, the W78/Mk-12A Warhead/ Reentry Vehicle are receiving modifications to become the W87-1/Mk4A. The W87-0's Mk-21 is the subject of a reentry vehicle fuze modernization project as well. The W87-1 promises to be a safer alternative to the W78 as it uses insensitive high explosives as opposed to

Figure 2: Ground Leg Modernization



Sources: Kristensen, Korda, Johns, and Knight (2024)[43] and ACA[44]

The bases are also expected to receive hundreds of miles of utility corridors as well as 18, 31, and 13 communication towers respectively. According to statements made during the Nunn-McCurdy review, launch and command modernization accounts for "most of the projected overruns" of the Sentinel program.[35]

regular high explosives making it less prone to accidental explosions but will have a larger yield of up to 475-kilotons as opposed to the W78's 335-kiloton yield.[37] The modification program is projected to cost between $12 and $16 billion and complete its first production unit in FY 2030-2032.[38,39] The Mk-21's Fuze Mod Program (A joint project between the DoD and DoE) is being undertaken to extend the

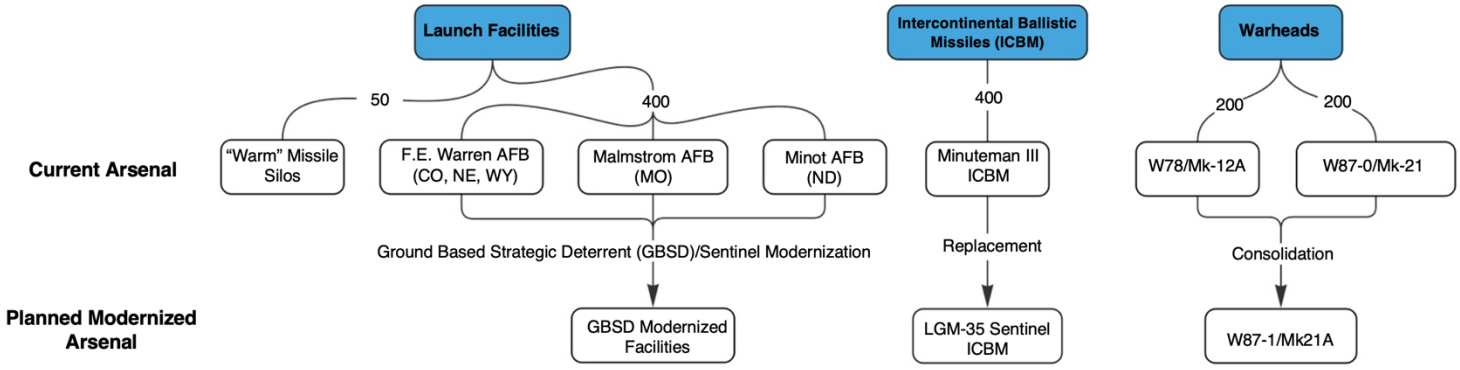
life of the currently outdated reentry vehicle and to make it compatible with the Sentinel ICBM and Minuteman III while Sentinel is in development. The upgraded fuze will give the W87 increased ability to penetrate “hardened missile silos” by allowing the warhead to alter its detonation height while in flight.[40] In 2020, the project significantly breached Nunn-McCurdy unit cost but was approved to continue development and is currently estimated to enter full scale production in May 2025.[41] The current estimated program cost is $2.4 billion.[42]

The DoD’s FY 2025 budget request includes $1.1 billion for W87-1 modification in the NNSA budget, $3.7 billion for Sentinel, and $139 million for the ICBM Fuze Mod program.[45,46]

3. Sea Leg

The sea-leg of the nuclear triad, overseen by the U.S. Navy, will be receiving modernization projects that will replace the Ballistic Missile Submarines (SSBNs), submarine-launched ballistic missiles (SLBMs), and warheads.

Figure 3: Sea Leg Modernization



Sources: Kristensen, Korda, Johns, and Knight (2024)[53] and ACA[54]

The Navy currently has 14 Ohio-class SSBNs, 8-10 of which are usually deployed at any given time. These subs will be replaced by 12 newly developed Columbia-class SSBNs that are intended to last until 2080.[47] Each Ohio-class SSBN holds up to 20 SLBNs under New START, whereas Columbia SSBNs will hold up to 16 each. Unlike Ohio SSBNs, the new subs will not require mid-life reactor refueling overhaul, a process that can take up to 2 years and costs billions.[48] The Columbia-class submarine is being engineered by the General Dynamics Electric Boat company at an estimated acquisition cost of $132 billion.[49] The sub is on an accelerated construction schedule from 84 months down to 78. The development of the Ohio-class submarine took 88 months and the Virginia class, “a submarine that is two-and-a-half times smaller” than the Columbia, took 88 months.[50]

Both the Ohio and Columbia-class SSBNs house the Trident II D5 SLBM, which was the subject of an LEP to update the missile’s guidance system and flight control electronics. Specifically, the LEP focuses on the “reentry body Joint Fuze Sustainment Program, the guidance system SPALT

kits program," and "missile electronics packages."[51] The Trident II D5LE is receiving on-going modernization to become the Trident II D5LE2, which will be operational through 2084. This program began in 2019 and is projected to cost approximately $33.7 billion.[52]

The sea-leg of the nuclear triad currently has 1920 warheads deployed on D5 SLBMs. These consist of the W76-1, W76-2 and W88 warheads. The W88 Alt 370 LEP, a collaborative effort between the NNSA and the Navy, is procuring Arming, Fuzing, and Firing (AF&F) kits intended to protect the warhead from detonating while in storage or prematurely in air.[55] These warheads are expected to be delivered by FY 2025.[56] The NNSA is also working on a $15 billion project developing a new W93/Mk7 aeroshell Warhead/Reentry body to replace the W76-1 and W88 by 2040.[57]

FUTURE NUCLEAR OUTLOOK

The development of the W76-1/Mk4A's upgraded fuze system revolutionized the triad's sea leg. The new "super-fuze" modification allows the W76 to alter its detonation height dynamically rather than having a fixed height to detonate at. The warhead's ability to detect and respond to its distance to a target allows it to hit hardened defense systems at a much higher rate than before. The weapons kill rate has essentially tripled.[58] This means that Russia and other countries must now treat SSBNs carrying W76s as a much greater threat than before. Previously, these subs would likely have been used for attacking softer targets like military bases because they weren't reliably effective at hitting hardened, underground targets. Now, however, the Trident II missiles holding W76s "qualify for use against the hardest of Russian silos."[59] This modernization effort has created an entirely new threat for U.S. adversaries to contend with, elevating the threat of a surprise attack targeting missile silos and command centers.

Modernization efforts that enhance nuclear capabilities raise concerns about shifting strategies from deterrence to offense. Some current modernization plans plan to introduce new capabilities to weapons that will surely call for a parallel modernization response from foreign governments. Internal spending issues also plague the U.S. effort to modernize its nuclear arsenal as well with Sentinel leading the pack in controversy.

As discussed previously, the Sentinel program has wildly surpassed its initial projected budget. After incurring a critical breach of Nunn-McCurdy, the schedule for the development of Sentinel was updated, with new milestones put in place to keep the project on track. Already, the schedule is slipping with the Air Force announcing in 2020 that initial operating capability will be achieved closer to 2030 than the recently updated plan of 2024.[60] Currently the projected costs for Sentinel exclude costs for the development of the W87-1 warhead, which will fit the Sentinel ICBM, or the plutonium pits needed for the development of such a warhead.

The NNSA has estimated that 80 plutonium pits are needed over the course of the Sentinel modernization timeline, but in 2021, they announced

to Congress that the agency will not be able to meet the 80-pit requirement.[61] The Sentinel program plans to upgrade all ICBM launch facilities and more than half of its 15 MAFs. Astonishingly, this means that the "Air Force must complete one launch facility per week for nine years" in order to meet the programs 2036 deadline.[62] Given all of these challenges, the Sentinel program will likely be fielded much later than the current projected estimate, potentially requiring a life extended version of the Minuteman III to be developed in the interim.

In addition to spending and schedule concerns, there is debate about whether a modernization effort with such an enormous scale is necessary to ensure that the ground leg remains reliable. With China gaining more attention in the recent 2022 NPR and being stated as one of the main reasons that extensive modernization is necessary, the new missile systems should provide a reasonable deterrent against the PRC. The ability of the new Sentinel system to counter China (or even Iran and the DPRK) is questionable, however. While the missiles will have "greater range than the current Minuteman III," it is unlikely that "Sentinel will have enough range to target countries like China, North Korea, and Iran with-out over-flying Russia," according to the Bulletin of Atomic Scientists 2024 report on U.S. nuclear weapons.[52] The Air Force and Pentagon's rationale behind the development of the Sentinel program remains unclear. The modernization of adversarial defense mechanisms does not explain the need to overhaul the U.S. ICBM system. Warheads and Reentry vehicles are the bodies that would need to evade defense systems, not missiles.[64]

With all of the challenges and controversy surrounding the Sentinel program, the seemingly unwavering support for the project is unwarranted.

The development of the B61-12 will change the character of the nuclear arsenal maintained by the Navy. The new gravity bomb variation will be a low-yield weapon with a maximum yield of 50 kilotons and will have increased strategic capability, something that the Obama administration's 2010 NPR (the NPR active at the introduction of the B61 LEP in 2012) advocated against, but which the 2022 NPR remains silent on.[65] The B61-12 will receive important modifications such as the Tail Subassembly, which will improve the B61's guidance and accuracy.

The worries with producing a more accurate, low-yield bomb are that it will lower the barrier of entry for nuclear use as a result of having less collateral damage and radioactive fallout.[66] This not only makes nuclear war easier to begin, but it contradicts the stated intent of modernization as deterrence. The B61-12 LEP will also eliminate non-strategic nuclear weapons from the U.S. stockpile, specifically the B61-4. The removal of non-strategic bombs means that the designation of "non-strategic will be determined by the delivery platform rather than the warhead."[67]

These changes may make it harder for the U.S. to negotiate for the reduction of non-strategic weapons

in Russia or China given that it will not clear which U.S. weapon systems are non-strategic.

In general, the U.S. response to nuclear weapons development by countries like China, Russia, and North Korea has been to modernize its own fleet. Diplomacy, which characterized nuclear relations in the immediate aftermath of the Cold-War, has been surpassed by strategy of modernization as a means of deterrence.

RECOMMENDATIONS

The next U.S. administration will likely determine the direction of U.S. international nuclear relations for the coming decades. With the encroaching expiration of New START, the rapid deterioration of Russian-NATO nuclear relations, and the escalation of war between the nuclear powers of Israel and Iran, a comprehensive and binding recommitment to nuclear arms reduction is needed. It is, however, hard to see how a multilateral treaty could be effectively negotiated currently, with tensions between many nuclear powers rising.

1. Recommit to Diplomacy

The U.S. must recommit to the prevention of nuclear war on all fronts. This does not mean ceding to foreign demands, but prioritizing diplomacy over aggression. U.S. nuclear modernization spending is a result of an expiring nuclear arsenal and bad diplomacy. When nuclear treaties fall apart, we are left with little option but to spend egregiously on modernization to match our adversaries' nuclear development. Our first option should be to look towards simultaneously creating a more peaceful global landscape and reducing war spending.

2. Focus on Arms Control Treaties

A new arms reduction treaty between Russia and the U.S to replace New START, is the first step necessary for these ends. A treaty specifically focused on limiting ICBMs would reduce much of the justification for the wildly expensive Sentinel project, and ultimately save billions. If such a treaty limited the number of deployed ICBMs per country by only 100 lower than the current level, the U.S. would save more than $21.4 billion based on the current projected Sentinel unit cost alone. Treaties like this would maintain a credible deterrence threat by keeping a matched level of missiles between us and our main adversaries, as well as reduce a significant number of arms, both of which are stated priorities of the U.S. However, a rapidly developing China, will need to be included in such a treaty for the U.S. to be able to maintain this deterrence threat.

3. Reduce Costs through Transparency.

Any new arms reduction treaty will need to have rigorous data transfer mechanisms as well. We have seen that the most effective treaties have all enacted rigorous verification and compliance measures like SORT and START I. Implementing data transfer and on-site monitoring would also relieve of us another important justification for nuclear modernization in the U.S: the clandestine nature of China's weapons development. Assurance that other major world powers are disarming in parallel to us is vital to being able to spend less at home.

States around the world are caught in a positive feedback loop of unsustainable and unstable nuclear weapons development that will not be broken without multilateral treaties detailing arms reduction measures and a comprehensive compliance and verification protocol, without which, we will be caught in the cycle of spending hundreds of billions on modernization in the coming decades. The most effective way to reduce U.S. nuclear spending, is international limitations on nuclear stockpiles, testing, and modernization. The movement of nuclear relations away from diplomacy towards increased militarization through the production of renewed nuclear capabilities costs the U.S. exorbitant amounts of money that could otherwise be spent on supporting U.S. citizens. The focus on modernization further entrenches us in an economy dependent on constant war.

Call-to-Action

Invest in People, Not Weapons:

The time for change is now. As our nation prepares to spend over $1.7 trillion on nuclear modernization, we must ask ourselves: Are these weapons of mass destruction truly making us safer? Or are they draining resources that could strengthen our communities?

Every dollar spent on nuclear weapons is a dollar diverted from schools, healthcare, affordable housing, and climate resilience. While military spending continues to rise, millions of Americans face poverty, food insecurity, and lack of access to basic services.

We urge policymakers to:

1. Reevaluate Priorities. Redirect funds from weapons programs to initiatives that promote economic security, health equity, and education.
2. Champion Diplomacy. Support arms reduction treaties and invest in conflict resolution strategies that build lasting peace.
3. Protect Future Generations. Fund renewable energy, climate adaptation, and infrastructure projects to secure a sustainable future.

National security isn't just about weapons—it's about ensuring people have what they need to thrive. Let's build a future where resources are invested in life, not destruction.

Contact your representatives today and demand policies that prioritize people over bombs. Together, we can create a safer, stronger, and more just society.

Parker Robinson *is a fourth-year undergraduate student at Washington University in St Louis, studying Astrophysics and Philosophy. He is a managing editor of the Washington University Review of Philosophy helping publish the Review's 2023 volume, Cooperation, Collective Action, and Authority. Parker worked at Peace Economy Project during the Summer of 2024 as the organization's sole Nuclear Research Fellow. At PEP, he spent his time analyzing current U.S. nuclear policy, treaties,*

and spending in an effort to reshape the countries priorities away from weapons spending and towards sustained peace. Parker's passion and skills align closely with the mission of PEP to promote meaningful change in his local community as well as globally and is grateful for the opportunity to contribute to PEP's ongoing work.

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