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Facilitating the Upload of Nuclear Weapons: What Congress Must Do

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Introduction

The U.S. nuclear enterprise is in desperate need of modernization and recapitalization. Despite dangerous changes in the international strategic environment over the past several decades—including massive nuclear expansion programs by China and Russia—the U.S. nuclear arsenal has simultaneously grown older and smaller, as the United States has sought to reduce its reliance on nuclear weapons while others have moved in the opposite direction.

To ensure its continued efficacy, resilience, and credibility, the U.S. nuclear deterrent must be flexible and adaptable to changing circumstances. Yet, the United States has not explosively tested a nuclear weapon since 1992. No new nuclear delivery systems have been deployed in decades. Existing legacy systems have had their operational life extended well beyond originally planned parameters. And the United States continues to rely on a rudimentary missile defense system that is focused on defending only against limited threats and is relatively unchanged since it was first deployed more than 20 years ago—despite the significant quantitative and qualitative growth in adversary missile capabilities.

Effectively responding to adversary developments will take time, resources, and substantial effort. Unfortunately, given the current state of the nuclear enterprise, there are few options for short-term fixes. As a previous *Information Series* explained,[1] the most timely and cost-effective way to bolster the U.S. nuclear deterrent is through the uploading of warheads on ICBMs and SLBMs, consistent with the recommendations of the congressionally mandated,

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bipartisan Strategic Posture Commission. This will require both executive branch decisions and legislative branch actions to implement fully those decisions.

The Importance of Congressional Action

Consistent with its Article I authorities under the Constitution, the Congress can exercise its power to fund (or not to fund) defense and national security programs and to establish, modify, or revoke existing policy with respect to U.S. military activities and priorities, including nuclear weapons and strategic force programs. This can be done through the use of several legislative vehicles, but the most likely and appropriate vehicles are the annual National Defense Authorization Act (NDAA) and the DoD Appropriations Act.

The NDAA contains numerous provisions relating to U.S. strategic forces. For example, Subtitle C of Title 16 in the Fiscal Year (FY) 2025 NDAA contains eighteen separate sections dealing with U.S. nuclear forces.[2] Along with authorizing funding for defense programs, it addresses a range of defense policy issues, some of which can be highly controversial. In addition, the House and Senate Armed Services Committees (HASC and SASC), which are responsible for the annual NDAA process, typically issue report language accompanying each year's NDAA that is often directive in nature, requiring the Secretary of Defense or the president to submit various reports or take specific actions related to the U.S. nuclear weapons establishment. Although such directive report language is not signed by the president and is not considered legally binding, failing to comply with its requirements often leads Congress to impose penalties on the executive branch that can stymie the administration's plans. Those penalties often include funding cuts or restrictions that make implementation of various administration priorities difficult if not impossible. As James Madison stated in *Federalist 58*, this so-called "power of the purse may, in fact, be regarded as the most complete and effectual weapon with which any constitution can arm the immediate representatives of the people, for obtaining a redress of every grievance, and for carrying into effect every just and salutary measure."[3]

In the past, Congress has restricted or prohibited funding for various nuclear weapons-related programs, has imposed conditions on the president's ability to negotiate nuclear arms control agreements, and has limited the ability of the president to make unilateral U.S. nuclear force reductions. All of these actions are consistent with the Congress' law-making responsibilities under the Constitution. In addition to imposing limitations and restrictions, the Congress has the ability to direct that certain actions be taken and to provide funding, through the authorization and appropriations process, to implement those actions. Therefore, the Congress has the ability to adapt U.S. nuclear posture by mandating and providing funding for enhancements to U.S. strategic nuclear programs. This includes directing and facilitating the upload of nuclear weapons on U.S. delivery systems to strengthen deterrence.

Importantly, for Congress to take actions that are legally binding on the administration, those actions must be agreed to on a bipartisan basis and incorporated in legislation signed into law by the president. The annual NDAA is the most relevant vehicle for addressing defense

issues, as it contains thousands of provisions agreed to on a bipartisan basis by the two defense authorization committees (HASC and SASC). However, it may not always be possible to obtain bipartisan support within the individual defense committees for legally binding requirements on the administration. In such cases, committee report language offers an alternative means for expressing the committees' desires on major defense issues that may be too controversial or difficult to be included in statutory language. These HASC and SASC committee reports allow the authorization committees to explain their respective defense priorities and to direct that certain actions be taken even though they were not incorporated into the legally binding NDAA that is signed into law by the president.

Recommendations

Adapting U.S. nuclear posture to address the deterioration in the contemporary international security environment will require enhancements to existing legacy nuclear systems and the development and deployment of more modern, sophisticated nuclear capabilities to strengthen deterrence. Unfortunately, given the current state of the U.S. nuclear enterprise, options to improve the efficacy, reliability, and credibility of the U.S. nuclear deterrent are limited or will take years to implement. However, as noted previously, the most rapid option for bolstering U.S. nuclear capabilities is the upload of non-deployed warheads on ICBMs and SLBMs.

Specifically, there are several actions the Congress should take with respect to the upload of nuclear weapons, which are highlighted below. Some of these can be incorporated into statutory language in the NDAA while others can be addressed in directive report language.

- Direct full implementation of the recommendations of the Strategic Posture Commission regarding the upload of U.S. nuclear weapons.

Sec. 1687 of the National Defense Authorization Act for Fiscal Year 2022 (Public Law 117–81) established a bipartisan "Congressional Commission on the Strategic Posture of the United States." The commission issued its report in October 2023. Among its findings was that Russia has "added substantial warhead upload capacity to its ICBMs and Submarine Launched Ballistic Missiles (SLBMs)" and that "Russia's modernized nuclear warhead design and production infrastructure have significant surplus capacity to implement a decision to upload."[4] Consequently, the commission recommended that the United States take several actions in response. These include preparing to upload a number of "hedge" warheads in the U.S. non-deployed nuclear stockpile and exercising the upload option on existing deployed ICBMs and SLBMs.[5]

The Congress should affirm the commission's recommendations and legislate as a matter of policy that the United States will act to implement them expeditiously as a national priority. This can be done through statutory language in the FY 2026 NDAA.

- Direct the Secretary of Defense to submit a report to the congressional defense committees in both classified and unclassified form on the state of Russian and Chinese warhead upload capacities and their supporting infrastructure should they decide to upload warheads on existing nuclear delivery platforms.

This report should provide details on Russian and Chinese industrial production capacities as they relate to nuclear warhead development and should assess the implications for deterrence of any decision by Russia and/or China to expand the size and capabilities of their nuclear arsenals by uploading nuclear weapons on ICBMs and SLBMs. Understanding the full potential of Russian and Chinese upload capabilities is essential for determining whether the U.S. upload potential is sufficient to negate any advantage Russia and China, together or separately, might perceive in pursuing this option. In addition, the report should assess the likely rationale for any Russian and/or Chinese decision to upload non-deployed warheads and the implications of such a decision for U.S. deterrence.

- Incorporate a Sense of Congress resolution into the FY 2026 NDAA expressing Congress' view that U.S. upload actions should be linked to Russian and Chinese nuclear weapons developments, aggressive goals, and related U.S. deterrence requirements for holding at risk what opponents value most.

Though not legally binding, a Sense of Congress resolution would be useful for several reasons. First, it would clearly note that U.S. upload actions are a response to, rather than the driver of, Russian and Chinese nuclear weapons developments. In other words, U.S. uploading would be an appropriate response to actions taken by Russia or China to shift the correlation of nuclear forces in their favor. Second, it would place U.S. uploading in the context of meeting deterrence requirements, not "nuclear war-fighting." Third it would put the executive branch on notice that Congress, on a bipartisan basis, takes this issue seriously. Fourth, in doing so, it foreshadows more direct congressional action to ensure that the expansion of Russian and Chinese nuclear arsenals does not proceed unchallenged, including the potential legislative imposition of various certification requirements, prohibitions, or budgetary actions.

- Recommend suspension of U.S. implementation of the New START Treaty to allow for upload increases in the number of operationally deployed warheads on strategic delivery vehicles and prohibit funding for any New START implementation measures.

The New START Treaty places a limit of 1,550 on the number of operationally deployed, accountable strategic nuclear weapons. The United States, as a matter of policy, has remained bound by this limit, despite the fact that Russia announced it was suspending its participation in New START in 2023 and has ceased allowing the on-site inspections mandated by the treaty and necessary to verify its compliance. Unclassified reports suggest Russia may already have significantly exceeded the allowable New START Treaty limits.[6] In addition, earlier this year,

the State Department conceded that Russia "may have exceeded the deployed warhead limit by a small number during portions of 2024" and that "The United States is unable to make a determination that the Russian Federation remained in compliance throughout 2024 with its obligation to limit its deployed warheads on delivery vehicles subject to the New START Treaty to 1,550, due to Russia's proximity to the limit as of its last update and failure to fulfill its obligations with respect to the Treaty's verification regime."[7]

Russia's suspension of New START frees Moscow to upload nuclear weapons on several of its delivery systems. Continued U.S. unilateral adherence to the 1,550 quantitative limitation in New START greatly limits U.S. upload options. This situation should be remedied immediately. In addition, the New START Treaty limits should not be extended in any way beyond the treaty's February 2026 expiration date so the United States may adjust its nuclear force levels appropriately to respond to the deteriorating security environment.

- Authorize and appropriate the necessary funding for the Air Force and Navy to exercise the warhead upload option.

The House and Senate Armed Services Committees should be briefed by both the Air Force and Navy on the cost of ICBM and SLBM warhead upload options and the advantages and disadvantages of uploading a portion of the hedge force as opposed to the entire hedge force. The authorization of funds for uploading warheads should be contained in the FY 2026 NDAA with the actual appropriation of funds provided by the FY 2026 DoD Appropriations Act. Such funding is imperative if the proposed uploading actions are to be implemented.

- Direct the Secretary of Defense to submit a report to the congressional defense committees on specific upload options, associated costs, timelines for completion, and implications for deterrence of uploading forces or not doing so.

In addition to cost information provided by the Air Force and Navy, the House and Senate Armed Services Committees should direct the Secretary of Defense to submit a report to the congressional defense committees within 90 days that addresses 1) the timeline for implementing uploads on both ICBM and SLBM delivery systems; 2) the trade-offs involved in reducing the number of warheads in the "hedge" force through upload; 3) the effect of uploading warheads on the overall U.S. strategic deterrent, including the U.S. extended nuclear deterrent; and 4) options for restoring a hedge force of sufficient size and capability to further augment deterrence. The submission of such a congressional report is unlikely to be controversial, especially since it relates to recommendations proposed by the bipartisan Strategic Posture Commission that Congress established.

- Direct the National Nuclear Security Administration (NNSA) to improve the pit production process so that pit production can be accelerated in accordance with prior

> legislative requirements and that additional warheads can be created to upload existing forces and stockpiled as a replacement hedge capability.

Section 4219 of the Atomic Energy Defense Act (50 U.S.C. 2538a) requires the NNSA to produce at least 80 pits per year by 2030; however, significant concerns exist regarding the ability of NNSA to meet this requirement. For example, a Government Accountability Office (GAO) report in 2023 found that NNSA's pit production plans are likely to result in major delays and cost overruns.[8] Therefore, the Congress should direct NNSA to identify and implement procedures that will allow it to meet the 80-pit annual requirement by 2030.

- Mandate that DoD create and maintain a new, more modern, hedge stockpile of non-deployed warheads for possible future deployment.

As existing hedge warheads are uploaded on ICBMs and SLBMs, Congress should establish, as a matter of policy, that the United States will maintain a significant replacement hedge stockpile to guard against a further deterioration in the strategic environment that increases the risk of deterrence failure. This is necessary to ensure that U.S. nuclear forces are resilient against any such unforeseen changes. As one study noted more than 15 years ago, "For U.S. nuclear forces, resilience is the ability to recover from or adjust to unfavorable strategic developments, technical difficulties, operational challenges, or technological surprises."[9] Uploading nuclear weapons on existing platforms is one measure that can help ensure the resilience of the U.S. nuclear force. As this study further concluded, "a reserve of non-deployed warheads in the nuclear weapons stockpile is essential for resilience."[10]

As far back as the George W. Bush Administration, the need for a hedge capability of non-deployed warheads was described as "insurance against the re-emergence of a hostile peer competitor."[11] More than two decades later, the United States faces not one but two hostile peer competitors. Therefore, if all existing hedge warheads are uploaded, the United States should create a more modern hedge stockpile of non-deployed warheads to hold in reserve.

The Biden Administration's *2022 Nuclear Posture Review* eliminated "hedging against an uncertain future" as a key role for U.S. nuclear weapons.[12] This overturned decades of policy direction, promulgated by administrations of both political parties, acknowledging the importance of hedging against the possible resurgence of a hostile Russia or more aggressive China. The ability to upload non-deployed reserve warheads was part of this hedging strategy.

In contrast to the Biden Administration, the Obama Administration validated the need for an "upload hedge." As one analysis described it:

> Specifically, the United States will maintain additional warheads in the nuclear stockpile, and the ability to upload those warheads on existing delivery systems to: (1) restore existing force levels in the event of a technical problem with a warhead or delivery system; or (2) field a larger deployed force, if required, in the event of a geopolitical reversal…. This hedge strategy was intended to

provide response options against 'a change in the international landscape' or 'a geopolitical surprise' that would 'alter the U.S. calculus about the necessary composition of the deployed force.'[13]

Conclusion

In short, there are a number of actions Congress can take to facilitate the upload of U.S. nuclear weapons in ways that strengthen deterrence and extended deterrence. These include requiring official reports to identify U.S. deployed deterrence force requirements, Russian and Chinese upload capability and U.S. response options; ensuring adequate fiscal resources are provided to implement upload decisions and actions; directing expedited infrastructure improvements to meet national requirements; and mandating the reconstitution of a modern hedge stockpile of non-deployed warheads in the event of a further deterioration in the strategic environment.

Adapting U.S. nuclear forces to strengthen deterrence in the face of growing threats by adversaries is an urgent imperative. Uploading U.S. delivery systems is the most rapid and effective way to improve the efficacy of the U.S. nuclear deterrent. The Congress should move out expeditiously to implement the actions proposed above.

[1] Keith B. Payne and Mark B. Schneider, "Deterrence Requirements and Low-Cost Nuclear Upload Options," *Information Series*, No. 626 (Fairfax, VA: National Institute Press, June 5, 2025), available at https://nipp.org/information_series/keith-b-payne-and-mark-b-schneider-deterrence-requirements-and-low-cost-nuclear-upload-options-no-626-june-5-2025/.

[2] *Servicemember Quality of Life Improvement and National Defense Authorization Act for Fiscal Year 2025* (Public Law 118-159), December 23, 2024, available at https://www.congress.gov/bill/118th-congress/house-bill/5009/text.

[3] James Madison, *Federalist 58*, available at https://avalon.law.yale.edu/18th_century/fed58.asp.

[4] Madelyn R. Creedon, Chair, Jon L. Kyl, Vice Chair, et al., *America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States*, October 2023, pp. 9, 92, available at https://www.ida.org/-/media/feature/publications/a/am/americas-strategic-posture/strategic-posture-commission-report.ashx.

[5] Ibid., pp. 45, 48, 99.

[6] See, for example, Mark B. Schneider, "The 2024 Edition of the Federation of American Scientists' Report on Russian Nuclear Weapons: Flaws and Fallacies," *Information Series*, No. 587 (Fairfax, VA: National Institute Press, May 20, 2024), available at https://nipp.org/information_series/mark-b-schneider-the-2024-edition-of-the-federation-of-american-scientists-report-on-russian-nuclear-weapons-flaws-and-fallacies-no-587-may-20-2024/; Mark B. Schneider, *How Many Nuclear Weapons Does Russia Have?: The Size and Characteristics of the Russian Nuclear Stockpile, Occasional Paper*, Vol 3, No. 8 (Fairfax, VA: National Institute Press, August 2023), available at https://nipp.org/wp-content/uploads/2023/09/Vol.-3-No.-8.pdf.

[7] Department of State, *Report to Congress on Implementation of the New START Treaty*, January 17, 2025, p. 6, available at https://2021-2025.state.gov/wp-content/uploads/2025/01/UNCLASS_NST-Implementation-Report_2024-FINAL-Updated-Accessible-01.17.2025.pdf.

[8] United States Government Accountability Office, *Nuclear Weapons: NNSA Does Not Have a Comprehensive Schedule or Cost Estimate for Pit Production Capability*, GAO-23-104661, January 2023, available at https://www.gao.gov/assets/820/814649.pdf.

[9] Dr. Keith B. Payne, Study Director, et al., *Planning the Future U.S. Nuclear Force, Volume I: Executive Report* (Fairfax, VA: National Institute Press, 2009), p. 16.

[10] Ibid., p. 19.

[11] Donald H. Rumsfeld, Secretary of Defense, *Department of Defense Annual Report to the President and the Congress* (Washington, DC: GPO, 2002), pp. 89-90.

[12] Department of Defense, *2022 Nuclear Posture Review*, October 2022, p. 7, available at https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.pdf.

[13] Department of Defense, *Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10 U.S.C.*, June 12, 2013, pp. 4-5, cited in Thomas Scheber and John R. Harvey, *Assessment of U.S. Readiness to Design, Develop and Produce Nuclear Warheads: Current Status and Some Remedial Steps* (Fairfax, VA: National Institute Press, 2015), p. 13, available at https://nipp.org/wp-content/uploads/2021/03/Assessment-of-US-Readiness-for-web.pdf.

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