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Nuclear Cooperation Among the 'Axis of Aggressors': An Emerging Threat

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An ascendant "Axis of Aggressors" — China, Russia, Iran, and North Korea — is strengthening its nuclear capabilities and developing closer military, economic, and political ties. These actors aim to directly challenge the security of the United States and its allies and partners.[1] Specifically, these adversaries seek to use nuclear weapons to intimidate or coerce the United States and its allies and serve as a shield to enable more aggressive foreign policies.

The axis states have directly shared scientific expertise and data with one another while permitting the transfer of key nuclear-related equipment and materials through state-owned and private companies. If these cooperative proliferation efforts expand, members of the axis will make quicker progress on their programs and arsenals than they otherwise might have, enabling each of them to pose greater threats. The United States and its allies may have to contend with substantial nuclear coercion — either in the form of more aggressive conventional military threats since axis members may believe the United States is deterred by the threat of nuclear escalation — or via the threat of limited nuclear strikes. Both possibilities imperil American interests and restrain U.S. freedom of action.

This memo examines the estimated nuclear capabilities of each of the four axis members and traces the history of nuclear proliferation among them. It also describes the goals of increased nuclear cooperation among the axis states and explores the trajectory of future cooperation. Finally, the memo describes how Washington and its allies can stem, deter, and penalize expanded nuclear cooperation and assistance.

Challenges of Nuclear Coercion

Washington has long warned that China, Russia, Iran, and North Korea — both individually and collectively — threaten America and its allies. During the transition of power from the Biden administration to the Trump administration, national security officials from both administrations articulated a bipartisan view of this threat.[2] According to Secretary of Defense Pete Hegseth, "A cooperative approach by China, Russia, Iran, and

1. The authors wish to thank Bradley Bowman, David Adesnik, Tzvi Kahn, David May, Lydia LaFavor, Ryan Brobst, Craig Singleton, John Hardie, Jack Burnham, Josh Birenbaum, Annie Fixler, Daniel Ackerman, and Andrew Aucoin for their reviews of and input to this memorandum. Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," March 2025. (https://www.dni.gov/files/ODNI/documents/assessments/ATA-2025-Unclassified-Report.pdf)

2. Patrick Tucker, "'Multi-headed monster': Biden, Trump officials address China-Russia-Iran coordination," *Defense One*, December 8, 2024. (https://www.defenseone.com/threats/2024/12/multi-headed-monster-biden-trump-officials-address-threat-fromchina-russia-iran-coordination/401521)

North Korea … undermine[s] U.S. influence around the world." Further, Hegseth noted, "Aggression by any one actor would be an opportunity for others to engage the U.S. on multiple fronts along the continuum of the conflict."[3] Brandi Vann, acting assistant secretary of defense for nuclear deterrence, warned, "Our adversaries are increasing their level of coordination and cooperation, which also raises the possibility of simultaneous conflicts with multiple nuclear-armed adversaries."[4] Gen. Thomas Bussiere, commander of the Air Force Global Strike Command, also noted, "This axis of aggressors continues to defy international law through technology exchanges, joint exercises, and mutual support." He continued, "The continued cooperation raises the possibility of a multi-front war, which necessitates a reassessment of long-term defense strategies and escalation dynamics."[5]

Nuclear weapons constitute a key means for the axis to advance such belligerence. The Department of Defense (DOD) 2023 Strategy for Countering Weapons of Mass Destruction (WMD) noted, "Potential adversaries may develop and use WMD in a crisis or early in a conflict to influence decisions and defensive activities of the United States and its Allies and partners."[6] DOD underscored in its 2022 National Defense Strategy the need to deter attacks by the axis, including "both large-scale and limited nuclear attacks."

The threat of such attacks could limit or deter U.S. retaliatory options. For example, facing the threat of a Chinese or North Korean nuclear strike, the United States may hesitate to protect key allies or partners, such as Taiwan, South Korea, or Japan. Washington may also decline to act decisively against Iran's terrorist proxies in the Middle East if Tehran acquires nuclear weapons and threatens to escalate or respond with a nuclear attack.

Russia's invasion of Ukraine in 2022 offers the latest and most potent example of how such nuclear coercion has already intimidated the West. Since the war began, the Kremlin has sought to use nuclear threats to shape Western and Ukrainian decision-making, such as by deterring direct NATO involvement in the conflict. Concerns about escalation, including potential Russian nuclear use, likely played a role in the Biden administration's decisions to, at least initially, withhold certain weapons systems or restrict their deployment, though these concerns eased as the war went on.[7] The potential for escalation apparently remains a concern for the Trump administration.

Observing Washington's response to Russia's nuclear saber-rattling, Beijing may conclude that it could use nuclear threats to deter an American intervention to defeat Beijing's aggression against Taiwan.[8] In addition, the fact that

3. Per advanced policy questions answered by Hegseth for his confirmation hearing, as described by Sen. Mike Rounds (R-SD) at the hearing. "To conduct a confirmation hearing on the expected nomination of Mr. Peter B. Hegseth to be Secretary of Defense," *Senate Armed Services Committee*, January 14, 2025. (https://www.armed-services.senate.gov/hearings/to-conduct-a-confirmation-hearing-on-the-expected-nomination-of-mr-peter-b-hegseth-to-be-secretary-of-defense)

4. Bill Gertz, "Strategic nuclear collaboration by China, Russia, North Korea weakens U.S. deterrence," *The Washington Times*, May 9, 2025. (https://www.washingtontimes.com/news/2025/may/9/strategic-nuclear-collaboration-china-russia-north-korea-weakens-us)

5. Gen. Thomas A. Bussiere, commander, Air Force Global Strike Command, "Department of the Air Force Presentation to the Senate Armed Services Committee, Subcommittee on Strategic Forces, U.S. Senate," May 20, 2025, page 6. (https://www.armed-services.senate.gov/imo/media/doc/bussiere_opening_statement.pdf)

6. U.S. Department of Defense, "Strategy for Countering Weapons of Mass Destruction," September 2023. (https://media.defense.gov/2023/Sep/28/2003310413/-1/-1/1/2023_STRATEGY_FOR_COUNTERING_WEAPONS_OF_MASS_DESTRUCTION.PDF)

7. Pierre de Dreuzy and Andrea Gilli, "Russia's nuclear coercion in Ukraine," *NATO Review*, November 29, 2022. (https://www.nato.int/docu/review/articles/2022/11/29/russias-nuclear-coercion-in-ukraine/index.html); Claire Mills, "Russia's Use of Nuclear Threats During the Ukraine Conflict," *UK House of Commons Library*, December 20, 2024. (https://researchbriefings.files.parliament.uk/documents/CBP-9825/CBP-9825.pdf)

8. Bradley Bowman, "Supporting Ukraine and Israel Will Help Deter Aggression Around the World," *Newsweek*, February 21, 2024. (https://www.newsweek.com/supporting-ukraine-israel-will-deter-aggression-around-world-opinion-1870864)

Ukraine was attacked after giving up Soviet nuclear weapons on its territory pursuant to the 1994 Memorandum on Security Assurances, known as the Budapest Memorandum, could disincentivize nuclear disarmament by states such as Iran and North Korea and may encourage countries such as South Korea to field a nuclear deterrent.[9]

Russia, North Korea, and Iran often treat arms control talks as bargaining chips to obtain concessions, while China refuses such talks altogether. None appears interested in limiting or dismantling its nuclear program.[10] The result is a more dangerous world.

Current Nuclear Capabilities

A closer look at the Axis of Aggressors' current nuclear capabilities further elucidates the threat these states wield and may boast in the future.

China

In a December 2024 report, DOD estimated that China has "surpassed" a stockpile of 600 operational nuclear weapons. The DOD report did not specify the quantity of deployed weapons (ready for use in attacks), nonstrategic (not co-located with launchers or intended for use in limited or battlefield situations), or in storage.[11] DOD added that Beijing is set to increase its arsenal to at least 1,000 weapons by 2030.[12] The Nonproliferation Policy Education Center estimates Beijing could enlarge its stockpile up to 1,550 warheads by 2030 given the projected growth of China's fissile material stocks.[13]

"China remains intent on modernizing, diversifying, and expanding its nuclear posture," stated the 2025 Office of the Director of National Intelligence (ODNI) assessment. "China's nuclear weapons and advanced delivery systems pose a direct threat to the Homeland and are capable of delivering catastrophic damage to the United States and threatening U.S. military forces here and abroad."[14] In its 2024 assessment, ODNI stated, "China remains intent on orienting its nuclear posture for strategic rivalry with the United States because its leaders have concluded their current capabilities are insufficient."[15]

9. "Memorandum on Security Assurances in Connection with Ukraine's Accession to the Treaty on the Non-Proliferation of Nuclear Weapons," Budapest, December 5, 1994. (https://unterm.un.org/unterm2/en/view/0879ba22-6678-4864-9ef3-f0b1349ab0b2); Bradley Bowman, Ryan Brobst, and Anthony Ruggiero, "Putin's Invasion of Ukraine May Supercharge Nuclear Proliferation," *Foundation for Defense of Democracies*, February 25, 2022. (https://www.fdd.org/analysis/2022/02/25/putins-invasion-of-ukraine-may-supercharge-nuclear-proliferation)

10. "Russia will not sign a replacement treaty for nuclear treaty with US, Izvestia reports," *Reuters*, October 1, 2024. (https://www.reuters.com/world/europe/russia-will-not-sign-replacement-nuclear-treaty-with-us-izvestia-reports-2024-10-01)

11. U.S. Department of Defense, "Military and Security Developments Involving the People's Republic of China," December 2024, page 101. (https://media.defense.gov/2024/Dec/18/2003615520/-1/-1/0/MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA-2024.PDF)

12. Ibid.

13. Henry Sokolski, "How Many Nuclear Warheads China Might Acquire by 2030," Appendix to *China, Russia, and the Coming Cool War* (Arlington, VA: Nonproliferation Policy Education Center, 2024). page 70. (https://npolicy.org/wp-content/uploads/2025/01/China-Russia-Book-1.14.25v2.pdf)

14. Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," March 2025, page 14. (https://www.dni.gov/files/ODNI/documents/assessments/ATA-2025-Unclassified-Report.pdf)

15. Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," February 6, 2023, page 7. (https://www.odni.gov/files/ODNI/documents/assessments/ATA-2023-Unclassified-Report.pdf)

Russia

Russia "has the largest and most diverse nuclear weapons stockpile" of any state, according to ODNI's 2025 assessment, adding that Moscow "has developed a more modernized, mobile, and survivable strategic nuclear force that is intended to circumvent or neutralize future augmented U.S. missile defense and ensure deterrence through reliable retaliatory strike potential."[16] In May 2025, researchers at the Federation of American Scientists (FAS) estimated that Russia has 5,459 nuclear warheads, including 1,718 strategic deployed, 1,112 strategic in storage, 1,477 nonstrategic, and around 1,150 warheads slated for dismantlement.[17] DOD reported in 2023 that Moscow is "expanding and modernizing its large and diverse arsenal of nonstrategic nuclear weapons to create effects in the air, land, and maritime domains."[18]

ODNI's 2023 assessment estimated, "Moscow will become even more reliant on nuclear, cyber, and space capabilities as it deals with the extensive damage to Russia's ground forces" in Ukraine.[19] In its 2022 Nuclear Posture Review, DOD indicated that Russia's leaders view nuclear weapons "as a shield behind which to wage unjustified aggression against their neighbors."[20]

Russia appears to oppose renewing the last remaining nuclear treaty with the United States, New START, once it expires in February 2026, and Moscow's noncompliance to date has rendered the treaty largely defunct.

North Korea

ODNI's 2024 assessment stated that North Korean leader Kim Jong Un "remains strongly committed to expanding the country's nuclear weapons arsenal, which serves as the centerpiece of his national security structure."[21] FAS researchers and the Stockholm International Peace Research Institute estimated that North Korea has likely assembled 50 nuclear weapons. FAS also estimated that Pyongyang could produce up to 90 more.[22] In 2021, Kim announced a five-year plan to produce larger nuclear warheads and tactical nuclear warheads and to improve precision and long-range strike capabilities, among other goals.[23] In 2024, North Korea reportedly increased production of fissile material to support a nuclear weapons expansion.[24] ODNI's 2025 assessment determined,

16. Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," March 2025, page 20. (https://www.dni.gov/files/ODNI/documents/assessments/ATA-2025-Unclassified-Report.pdf)
17. Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight, "Russian nuclear weapons, 2025," *Bulletin of the Atomic Scientists*, May 13, 2025. (https://thebulletin.org/premium/2025-05/russian-nuclear-weapons-2025)
18. U.S. Department of Defense, "Strategy for Countering Weapons of Mass Destruction," September 2023, page 4. (https://media.defense.gov/2023/Sep/28/2003310413/-1/-1/1/2023_STRATEGY_FOR_COUNTERING_WEAPONS_OF_MASS_DESTRUCTION.PDF)
19. Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," February 5, 2024, page 9. (https://www.dni.gov/files/ODNI/documents/assessments/ATA-2024-Unclassified-Report.pdf)
20. U.S. Department of Defense, "2022 Nuclear Posture Review," in "2022 National Defense Strategy of the United States of America," November 2022. (https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.pdf)
21. Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," February 5, 2024, page 21. (https://www.dni.gov/files/ODNI/documents/assessments/ATA-2024-Unclassified-Report.pdf)
22. Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight, "North Korean Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists*, July 15, 2024. (https://thebulletin.org/premium/2024-07/north-korean-nuclear-weapons-2024); Katerina Urbanova, "SIPRI Yearbook 2024 – The Dawn of a New Nuclear Era," *Aerospace Central Europe*, June 17, 2024. (https://aero-space.eu/2024/06/17/sipri-yearbook-2024-the-dawn-of-a-new-nuclear-era)
23. Hans M. Kristensen, Matt Korda, Eliana Johns, and Mackenzie Knight, "North Korean Nuclear Weapons, 2024," *Bulletin of the Atomic Scientists*, July 15, 2024. (https://thebulletin.org/premium/2024-07/north-korean-nuclear-weapons-2024)
24. Alannah Hill, "Nuclear watchdog voices 'deep regret' over North Korea's new enrichment facility," *NK News*, November 21, 2024. (https://www.nknews.org/2024/11/nuclear-watchdog-voices-deep-regret-over-north-koreas-new-enrichment-facility)

"Pyongyang is expanding its capacity for coercive operations and using new tactics as it becomes more confident in its nuclear deterrent."[25] North Korea withdrew from the Nuclear Non-Proliferation Treaty (NPT) in 2003.

Iran

Iran does not have nuclear weapons and remains a member of the NPT, albeit in poor standing. Since 2021, Tehran has increased its enrichment of uranium while possibly advancing nuclear weapons activities. In its 2025 assessment, ODNI stated, "Tehran will try to leverage its robust missile capability and expanded nuclear program, and its diplomatic outreach to regional states and U.S. rivals to bolster its regional influence and ensure regime survival."[26]

According to the Institute for Science and International Security, as of May 2025, Tehran has enough enriched uranium that — if further enriched — the regime could use to make up to 21 nuclear weapons in five months, with additional months required to weaponize the material into nuclear devices.[27] Iran would likely require around six months to build a so-called "crude" nuclear device and has enough highly enriched uranium to fuel nearly seven weapons for such a device.[28] U.S. intelligence estimates, media reports, and an October 2024 Israeli military strike on a key Iranian nuclear facility where Tehran may have engaged in weaponization-related experiments indicate Tehran carried out weaponization-related activities in 2024.[29] According to a 2025 report in The New York Times, the regime may have a team working to shorten Iran's route to nuclear weapons by producing crude nuclear devices.[30]

Known Nuclear Cooperation and Possible Trajectories

Limited information is available in the public domain about nuclear cooperation among the four axis members. This section provides a snapshot of known areas of assistance.

Cooperation Between China and Russia

Russia is directly assisting Beijing's nuclear weapons expansion, and China may also be helping Russia circumvent Western sanctions and the impact of reduced Western nuclear imports. In December 2022, Russia's state-owned nuclear company, the Rosatom Corporation, shipped enriched uranium fuel to China for its nuclear reactor at

25. Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," March 2025, page 27. (https://www.dni.gov/files/ODNI/documents/assessments/ATA-2025-Unclassified-Report.pdf)
26. Ibid., page 22.
27. David Albright, Sarah Burkhard, and Spencer Faragasso, "Analysis of the IAEA Iran Verification and Monitoring Report – May 2025," *Institute for Science and International Security*, June 9, 2025. (https://isis-online.org/isis-reports/detail/analysis-of-iaea-iran-verification-and-monitoring-report-may-2025)
28. David Albright, "How Quickly Could Iran Make Nuclear Weapons Today?" *Institute for Science and International Security*, January 8, 2024. (https://isis-online.org/isis-reports/detail/how-quickly-could-iran-make-nuclear-weapons-today/8); David Albright, Sarah Burkhard, and Spencer Faragasso, "Analysis of the IAEA Iran Verification and Monitoring Report – February 2025," *Institute for Science and International Security,* March 3, 2025. (https://isis-online.org/isis-reports/detail/analysis-of-iaea-iran-verification-and-monitoring-report-february-2025).
29. Andrea Stricker, "Detecting and Halting an Iranian Weaponization Effort," *Foundation for Defense of Democracies*, February 19, 2025. (https://www.fdd.org/analysis/2025/02/19/detecting-and-halting-an-iranian-weaponization-effort); Barak Ravid, "Israel destroyed equipment Iran would need to develop nuclear weapon, officials say," *Axios*, November 15, 2024. (https://www.axios.com/2024/11/15/iran-nuclear-equiptment-destryoed-israel)
30. David E. Sanger and Julian E. Barnes, "Iran Is Developing Plans for Faster, Cruder Weapon," *The New York Times*, February 3, 2025. (https://www.nytimes.com/2025/02/03/us/politics/iran-nuclear-weapon.html)

Changbiao Island. The fast breeder reactor would enable greatly increased plutonium production for China's nuclear weapons.[31] China, meanwhile, may be serving as a conduit for Russia to sell its enriched uranium given growing sanctions and reduced demand from foreign countries in light of the Ukraine war.[32]

Cooperation Between North Korea and Iran

North Korea and Iran have cooperated extensively on ballistic missiles, but it is unclear if that cooperation extends to their nuclear programs. Tehran and Pyongyang use similar uranium enrichment equipment and processes, a byproduct of illicit procurements from the Pakistani A.Q. Khan proliferation network.[33] North Korea has nuclear weapons testing data that could be useful to the Islamic Republic, and unconfirmed reports occasionally surface about Iran-North Korea nuclear cooperation.[34] This cooperation, including additional North Korean assistance to Iran's possibly ongoing nuclear weaponization efforts and nuclear-missile reentry capabilities, could expand if the Axis of Aggressors continues to collaborate.

Russian Cooperation with Iran and North Korea

Iran and North Korea are actively supporting Putin's invasion of Ukraine: Tehran has provided missiles, drones, and other military equipment, and Pyongyang has provided millions of artillery shells, as well as missiles, other military equipment, and troops.[35] In return, Moscow is reportedly already providing North Korea with assistance in improving its nuclear-missile delivery capabilities.[36] U.S. and NATO officials have expressed concern that Russia may assist Iranian nuclear weaponization efforts as bilateral ties grow and with Tehran serving as a reliable military supplier.[37]

In the past, Moscow has likely aided Iran's nuclear efforts through unofficial channels. For example, a former Soviet nuclear weapons expert assisted Iran's pre-2004 nuclear weapons program, including key activities relating to

31. Anthony Ruggiero and Andrea Stricker, "Russia Is Fueling China's Nuclear Weapons Expansion," *Foundation for Defense of Democracies*, March 13, 2023. (https://www.fdd.org/analysis/2023/03/13/russia-fueling-china-nuclear-weapons-expansion)
32. Timothy Gardner, "US probes uranium imports from China to prevent circumventing Russian ban," *Reuters*, September 17, 2024. (https://www.reuters.com/markets/commodities/us-probes-uranium-jump-china-amid-concerns-over-russian-import-ban-2024-09-17)
33. Anthony Ruggiero and Andrea Stricker, "The Lasting Legacy of A.Q. Khan," *The Dispatch*, November 2, 2021. (https://thedispatch.com/article/the-lasting-legacy-of-aq-khan)
34. "North Korea supplied nuclear software to Iran: German report," *Reuters*, August 24, 2011. (https://www.reuters.com/article/us-nuclear-northkorea-iran-idUSTRE77N2FZ20110824)
35. C. Todd Lopez, "Iran Gives Russia Short-Range Missiles, While U.S., Partners Expect to Keep Bolstering Ukrainian Air Defense," *DOD News*, September 10, 2024. (https://www.defense.gov/News/News-Stories/Article/Article/3901774/iran-gives-russia-short-range-missiles-while-us-partners-expect-to-keep-bolster); Tom Balmforth and Mariano Zafra, "Thousands of troops, millions of shells: Inside North Korea's vast operation to help Russia's war on Ukraine," *Reuters*, April 15, 2025. (https://www.reuters.com/graphics/UKRAINE-CRISIS/NORTHKOREA-RUSSIA/lgvdxqjwbvo)
36. Christian Davies and Henry Foy, "NATO's Rutte says Russia supporting North Korean nuclear programme," *Financial Times* (UK), December 4, 2024. (https://www.ft.com/content/b32143c5-d11c-431b-bb98-add5b6f15015); Vann H. Van Diepen, "North Korea tests new solid ICBM probably intended for MIRVS," *38 North*, November 5, 2024. (https://www.38north.org/2024/11/north-korea-tests-new-solid-icbm-probably-intended-for-mirvs); "North Korea Says New Hypersonic Missile Will 'Contain Rivals,'" *BBC* (UK), January 6, 2025. (https://www.bbc.com/news/articles/crrwyv75g5xo)
37. Patrick Wintour, "Blinken says Russia has received new ballistic missiles from Iran," *The Guardian* (UK), September 10, 2024. (https://www.theguardian.com/world/article/2024/sep/10/antony-blinken-russia-ballistic-missiles-iran-ukraine)

constructing and detonating an atomic device.[38] Russia also has deep experience in the civil side of Iran's nuclear program, having built the Bushehr nuclear power plant in Iran and having provided various nuclear fuel-related services. Tehran reportedly owes Moscow $500 million for completed activities. In 2022, the countries were also considering a $10 billion contract for the construction of two additional reactors at Bushehr and may have broken ground on the projects.[39] In April 2025, Russia signed a deal with Iran to construct and provide a credit line for a new nuclear power plant.[40]

Chinese Cooperation with Iran and North Korea

The Congressional Research Service, citing U.S. officials, reported in 2024 that since the 1990s, "The Chinese government has ended its direct involvement in the transfer of nuclear- and missile-related items, but China-based companies and individuals continue to export goods relevant to those items, particularly to Iran and North Korea."[41] Numerous U.S. prosecutions and sanctions provide evidence of how Beijing turns a blind eye to or enables Tehran's and Pyongyang's procurements of such dual-use equipment and materiel.[42]

In the future, China may see an increased incentive to aid partners directly with nuclear and missile-delivery capabilities if Beijing believes this could challenge or undermine U.S. regional and global advantages or interests. Through greater cooperation with and proliferation to proxies, Beijing could maximize its own strategic depth abroad and strengthen a multipolar nuclear order with greater unpredictability of nuclear use against the United States. In doing so, China could weaken U.S. and Western nonproliferation regimes and enforcement and complicate and raise the costs of American defense planning, deterrence, and intervention, all while attempting to minimize direct culpability.

Has cooperation occurred?	China	Russia	Iran	North Korea
China	-	Yes	Yes	Yes
Russia	Yes	-	Yes	Yes
Iran	Yes	Yes	-	Unknown
North Korea	Yes	Yes	Unknown	-

Chart indicating known and unknown nuclear cooperation.

38. Mark Gorwitz, "Vyacheslav Danilenko – Background, Research, and Proliferation Concerns," *Institute for Science and International Security*, November 29, 2011. (https://isis-online.org/isis-reports/detail/vyacheslav-danilenko-background-research-and-proliferation-concerns/8)
39. Andrea Stricker, "How Russia Could Earn Billions From Biden's Revival of the Nuclear Deal With Iran," *Foundation for Defense of Democracies*, April 12, 2022. (https://www.fdd.org/analysis/2022/04/12/how-russia-could-earn-billions-nuclear-deal); "Congress Seeks Answers on U.S. Failure to Sanction Iran-Russia Nuclear Cooperation," *Foundation for Defense of Democracies*, April 15, 2024. (https://www.fdd.org/analysis/2024/04/15/congress-seeks-answers-on-u-s-failure-to-sanction-iran-russia-nuclear-cooperation)
40. "Russia Backs Iran Nuclear Plant," *Nuclear Engineering International*, April 29, 2025. (https://www.neimagazine.com/news/russia-backs-iran-nuclear-plant/?cf-view)
41. Paul K. Kerr, "China: Nuclear and Missile Proliferation," *Congressional Research Service*, April 30, 2025. (https://crsreports.congress.gov/product/pdf/IF/IF11737)
42. David Albright, Sarah Burkhard, Spencer Faragasso, Linda Keenan, and Andrea Stricker, *Illicit Trade Networks: Connecting the Dots, Vol. 1.* (Washington, DC: Institute for Science and International Security Press, 2020). (https://isis-online.org/uploads/isis-reports/documents/Illicit_Trade_Networks_Vol1_Connecting_the_Dots_February_2020_FINAL.pdf)

Indicators of Increasing Nuclear Cooperation

- Intelligence about state-to-state or unofficial channel technical cooperation
- Intercepted state-to-state or state-or-private-company-to-state illicit shipments of equipment that would outfit nuclear efforts
- Advances in technical capabilities that can be explained only by know-how moving from a specific country
- Civil nuclear cooperation that frees up state resources for augmented military nuclear efforts
- University partnerships or other academic exchanges in nuclear-related fields

Policy Recommendations

The Axis of Aggressors nuclear threat to the United States and its allies is growing in ways that impact the security of Americans and that of its closest allies. Washington should review existing policies and develop new ones to address this challenge.

The Trump administration should produce a 2025 Nuclear Posture Review (NPR) recommending an American force posture that would successfully deter and counter China and Russia.

The Trump administration will likely issue a new U.S. Nuclear Posture Review in 2025, updating the 2022 NPR published in conjunction with the 2022 National Defense Strategy released by DOD.[43] A new NPR should make recommendations to ensure the U.S. nuclear arsenal and delivery capabilities are calibrated to deter and respond to the axis threat. Notably, the bipartisan Congressional Commission on the Strategic Posture of the United States recommended in 2023 that Washington develop "a strategy to address the two-nuclear-peer threat environment," particularly for "the 2027-2035 timeframe." Only after this, the commission underscored, can "the U.S. government determine whether and how nuclear arms control limits continue to enhance U.S. security."[44] Congress should fully fund and expedite as much as possible the completion of the modernization of the U.S. nuclear triad and nuclear command, control, and communications systems, as well as any outstanding nuclear-military needs that the Trump administration identifies.

The Trump administration should shore up U.S. extended nuclear deterrence, particularly with key NATO members and Asian allies.

The Axis of Aggressors threatens allies and partners that rely on Washington's extended nuclear deterrent. Yet the Trump administration's calls for Europe to improve its defensive capabilities, though justified, and America's attempts to bring Russia to the table to negotiate peace with Ukraine have led key European countries, such as Poland, to discuss developing their own nuclear weapons and to explore nuclear sharing arrangements with

43. U.S. Department of Defense, "2022 Nuclear Posture Review," in "2022 National Defense Strategy of the United States of America," November 2022. (https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.pdf)

44. Chair Madelyn R. Creedon, Vice Chair Jon Kyl, Marshall Billingslea, Gloria Duffy, Rose Gottemoeller, Lisa Gordon-Hagerty, Rebeccah Heinrichs, John Hyten, Robert Scher, Matthew Kroenig, Franklin Miller, and Leonor Tomero, "America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States," October 2023, page 110. (https://www.ida.org/-/media/feature/publications/A/Am/Americas%20Strategic%20Posture/Strategic-Posture-Commission-Report.pdf)

France.[45] The Trump administration, particularly the State Department, should devote diplomatic capital to assure key NATO countries, as well as Canada, Japan, and South Korea, that they can still rely on America's nuclear deterrent and that the United States would defend them against a nuclear attack by any member of the axis. The administration should also refrain from authorizing premature U.S. military withdrawals from Europe or the Korean Peninsula that could further incentivize nuclear proliferation among allies.

In addition, the United States should coordinate with allies and partners on any major U.S. nuclear force or delivery capability changes. As the Commission on the Strategic Posture of the United States noted in 2023, "Any major change to U.S. strategic posture, policies, or capabilities will have great effect on Allies' perceptions and their deterrence and assurance requirements. As a result, any changes should be predicated on meaningful consultations."[46]

The administration should take all necessary measures to ensure Iran does not acquire a nuclear weapon.

To restrain further nuclear proliferation in the Middle East and beyond, the administration should use all elements of American power — including diplomacy; maximum pressure sanctions, particularly against Iran's oil exports; cyber sabotage; and military action — to prevent Tehran from becoming nuclear armed. Nuclear weapons would result in an even more aggressive Iranian foreign policy, campaign of terror proxy support, and subversion of the interests of other states in the region. Discouraging the spread of uranium enrichment and plutonium reprocessing capabilities — the key processes to make fuel for nuclear weapons — in the region and beyond should be a cornerstone of a holistic nonproliferation strategy.[47]

Congress should fund Trump's 'Golden Dome' missile defense initiative.

President Donald Trump signed an executive order on January 27 directing the creation of a multilayered "Golden Dome" missile defense system for America.[48] The order directed the secretary of defense to provide within 60 days "a reference architecture, capabilities-based requirements, and an implementation plan for the next-generation missile defense shield."[49] On May 20, Trump declared that he had selected an architecture for the dome "that will deploy next generation technologies across the land, sea, and space."[50] He expects the shield's capabilities to be operational before the end of his second term in 2028.[51]

45. Patrick Tucker, "Experts fear cascade of nuclear proliferation as Trump shakes alliances," *Defense One*, March 10, 2025. (https://www.defenseone.com/threats/2025/03/experts-fear-cascade-nuclear-proliferation-trump-shakes-alliances/403633)

46. Chair Madelyn R. Creedon, Vice Chair Jon Kyl, Marshall Billingslea, Gloria Duffy, Rose Gottemoeller, Lisa Gordon-Hagerty, Rebeccah Heinrichs, John Hyten, Robert Scher, Matthew Kroenig, Franklin Miller, and Leonor Tomero, "America's Strategic Posture: The Final Report of the Congressional Commission on the Strategic Posture of the United States," October 2023, page 108. (https://www.ida.org/-/media/feature/publications/A/Am/Americas%20Strategic%20Posture/Strategic-Posture-Commission-Report.pdf)

47. Andrea Stricker and Anthony Ruggiero, "FAQ: Understanding Saudi Arabia's Uranium Enrichment Request," *Foundation for Defense of Democracies*, July 23, 2024. (https://www.fdd.org/in_the_news/2024/07/23/faq-understanding-saudi-arabias-uranium-enrichment-request)

48. The White House, "Executive Order: The Iron Dome for America," January 27, 2025. (https://www.whitehouse.gov/presidential-actions/2025/01/the-iron-dome-for-america)

49. See additional recommendations for Trump's Iron Dome for America in: Bradley Bowman and RADM (Ret.) Mark Montgomery, "Trump is Right to Prioritize Homeland Missile Defense," *The Cipher Brief*, February 10, 2025. (https://www.thecipherbrief.com/column_article/trump-is-right-to-prioritize-homeland-missile-defense)

50. Erin Doherty, "Trump unveils plans for 'Golden Dome' missile defense system," *CNBC*, May 21, 2025. (https://www.cnbc.com/2025/05/20/trump-golden-dome-missile-defense-system.html)

51. Ben Wolfgang, "Trump says 'Golden Dome' will be operational in 3 Years, taps Space Force official to run it," *The Washington Times*, May 20, 2025. (https://www.washingtontimes.com/news/2025/may/20/trump-says-golden-dome-operational-3-years-taps-space-force-official)

The House of Representatives has already approved the president's initial $25 billion funding request for the initiative. Congress should fully fund the Golden Dome — whose costs are expected to surpass $175 billion — and oversee cost control for this effort.[52]

Conclusion

The United States faces an unprecedented threat environment with Russia's significant nuclear capabilities and aggression, China's rapidly expanding nuclear weapons production and deployment, North Korea's nuclear weapons program expansion, and Iran's progress at the nuclear threshold. These adversaries are working together to challenge the peace and security established by America and its key allies. These daunting geostrategic realities demonstrate the need for the Trump administration to take urgent additional steps to bolster American deterrence, strengthen our alliances, and shift the cost-benefit analyses of our adversaries. If Washington fails to take these steps, the security of Americans will continue to erode.

52. Steven Nelson, "Trump names 'Golden Dome' leader as House GOP advances $25 billion in funding for missile-defense project," *The New York Post*, May 20, 2025. (https://nypost.com/2025/05/20/us-news/trump-names-golden-dome-leader-as-house-gop-advances-25b-in-funding-for-missile-defense-project); Rear Adm. (Ret.) Mark Montgomery and Bradley Bowman, "How to Ensure Trump's Golden Dome Effort Succeeds," *Real Clear Defense*, May 17, 2025. (https://www.fdd.org/analysis/2025/05/17/how-to-ensure-trumps-golden-dome-effort-succeeds); Bradley Bowman and Rear Adm. (Ret.) Mark Montgomery, "Trump's 'Golden Dome' missile defense shield is costly, ambitious – and necessary," *The New York Post*, May 22, 2025. (https://www.fdd.org/analysis/2025/05/22/trumps-golden-dome-missile-defense-is-costly-ambitious-and-necessary)

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