What Should Be Done?

Practical Policies to Prevent Nuclear Catastrophe

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Reducing the Risk of Nuclear Weapons Use in Northeast Asia (NU-NEA) Project

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OBJECTIVES AND INTRODUCTION

Dangers are compounding. There is a sense that is as palpable in the public mind as it is among experts that the risks of nuclear conflict are growing.[1] Discrete events inform this fear.

In 2017 and early 2018, the world came closer to nuclear war (between the United States and North Korea) than any time since the Cuban Missile Crisis.[2] In 2020, the military forces of two nuclear powers (China and India) clashed in the Himalayas. Russia's February 2022 invasion of Ukraine defied international law, global opinion, and even the rational limits of military conquest; it has also led to both Washington and Moscow wielding veiled nuclear threats anew. In October 2023, Hamas's attacks on Israel triggered a relentless reprisal against Gaza so brutal that it did not even spare women and children. Reputable organizations and politicians now charge Israel—a state whose nuclear weapons the world politely ignores—with war crimes, and the government of South Africa has brought a case to the International Court of Justice charging Israel with genocide.[3]

These headline events take place in the context of deteriorating structural forces. Long-crucial sources of stability (regionalism, economic interdependence, arms control and disarmament regimes) have come under duress in recent years, in tandem with the resurgence of traditional sources of conflict (great-power rivalry, ethnonationalism, and sphere-of-influence geopolitics).

1 Jon Letman, "Are Nuclear-Armed Nations Entering a New Arms Race in 2024? Experts Weigh In," *Truthout* (January 21, 2024), https://truthout.org/articles/are-nuclear-armed-nations-entering-a-new-arms-race-in-2024-experts-weigh-in/#:~:text=On%20the%20question%20of%20whether,interested%20in%20significantly%20increasing%20their

2 Van Jackson, *On the Brink: Trump, Kim and the Threat of Nuclear War* (Cambridge: Cambridge University Press, 2018).

3 Tim Cocks, "South Africa's Genocide Case is a Diplomatic Win, After 'Damning' Verdict," *Reuters* (January 27, 2024), https://www.reuters.com/world/south-africas-genocide-case-is-diplomatic-win-whatever-verdict-2024-01-26/#:~:text=The%20International%20Court%20of%20Justice,the%20ceasefire%20South%20Africa%20demanded

The shadow of nuclear war hangs most acutely over Northeast Asia[4] —the only place where nuclear weapons have been used in an attack.[5] In addition, four nations active in Northeast Asia possess nuclear weapons (China, North Korea, Russia and the United States), the prospect of further nuclear proliferation among US allies is a very real threat, and entrenched military commitments collide with unresolved historical conflicts. Northeast Asia is the only region where, for decades, the inherent precariousness of nuclear deterrence has been a persistent background feature of both policymaking and everyday life.

But the demand, "Let Nagasaki be the last!"—a reference to the second of two sites that the US attacked with nuclear weapons in 1945—is also growing louder. The belief that nuclear wars cannot be won and must therefore never be fought is widespread, endorsed by world leaders, award-winning scientists, the UN Secretary-General, and the 93 signatories to the Treaty on the Prohibition of Nuclear Weapons.

The question is how best to make good on this global belief. What must be done to ensure that Nagasaki is the last?

PROJECT OBJECTIVES AND BACKGROUND

The overall aim of the "Reducing the Risk of Nuclear Weapons Use in Northeast Asia" project is to minimize the risk of nuclear weapons use in the region by developing better understandings of the processes that could lead to their first use and the potential outcomes of such use. Improved understandings of the potential paths to and impacts of the use of nuclear weapons have been a principal means by which we came to develop policy ideas designed to reduce the risks of nuclear weapons detonation. We seek to prevent any use of nuclear weapons in the region and ultimately to avoid armed aggression or war.

To understand the risk of nuclear weapons use and to develop policies to lower that risk, the Reducing the Risk of Nuclear Weapons Use in Northeast Asia (NU-NEA) project has been guided by the following questions:

1. Under what conditions might nuclear weapons be used (with or without intention) in Northeast Asia (NEA) and by whom? How might such first use of nuclear weapons escalate to a larger scale of nuclear war? And which states might respond to a first nuclear use with nuclear weapons use of their own?

4 "Northeast Asia" in this report refers to Japan, China, North Korea, and South Korea, as well as the United States as a significant extra-regional actor with allies in the region. To create a set of pragmatic policy recommendations at this time, given the complications posed by Russia's war with Ukraine, we have limited the scope of this report to these five countries. We hope to explore Russia's role in regional nuclear risk reduction in a future report.

5 We acknowledge and cannot ignore that hundreds of nuclear tests in the Pacific caused immense harm and constitute a form of violence, even if apart from war. On the nuclear legacy still haunting the Pacific, see APLN's Voices From Pacific Island Countries project, https://www.apln.network/projects/voices-from-pacific-island-countries

2. What are the possible consequences (fatalities, physical damages to key infrastructure, environmental damages, climate impacts, and more) of potential nuclear weapon use in Northeast Asia?

3. What are the possible measures to reduce the possibility of use of nuclear weapons in the region? That is, what lessons do analyses of use cases offer for the development and deployment of policies that will help to avoid nuclear weapons use?

This report represents the culmination of a three-year project that aimed to answer these questions. The first year focused on use cases and pathways to nuclear use (the *how* and the *why*) in NEA, stressing especially the Korean peninsula but also including potentialities involving nuclear use by Russia, China, and the United States. The second year focused on the impacts and consequences of nuclear use, evaluating in great detail the five use cases that best represented the fullest range of plausible nuclear use scenarios facing NEA. This third-year report proposes what ought to be done and by whom if the world is to avoid the kinds of nuclear violence imagined and modeled in the prior two years.

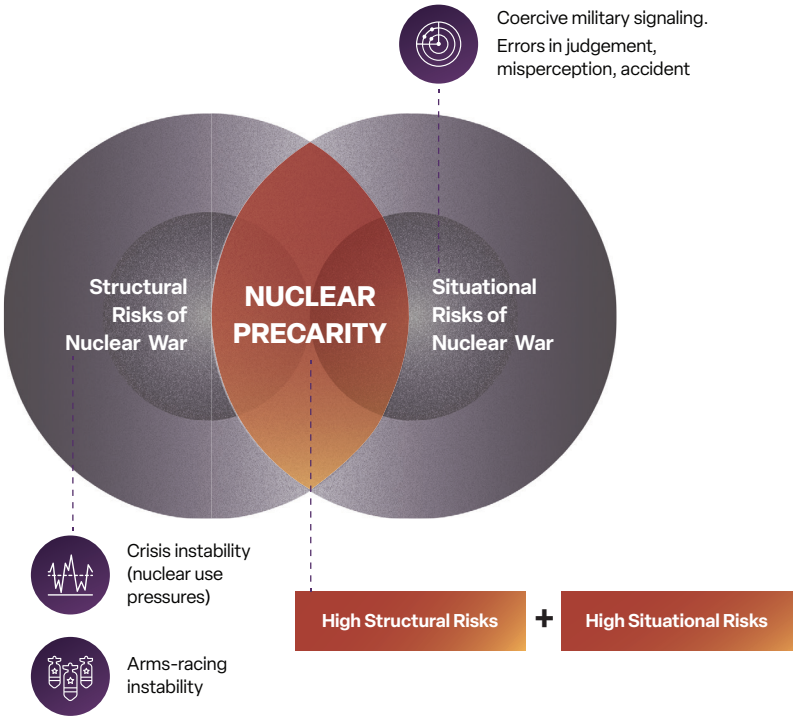
A SUMMARY OF THE NUCLEAR WEAPONS SITUATION IN NORTHEAST ASIA

Northeast Asia is a site of "nuclear precarity."[6]

Nuclear war is an outcome that is, by definition, not predictable; even experts cannot assign reliable probability distributions to its occurrence. And yet, it is helpful and possible to characterize risks, as well as to understand that risks can compound, making some situations more prone to catastrophe than others.

The term "nuclear precarity" refers not to a likelihood or probability of nuclear war but rather to the intersectional risks of nuclear war. Specifically, the intersection of situational and structural risk.

6 The concept of nuclear precarity used here was first described in Van Jackson, "Nuclear Precarity: Analyzing the Risks of Nuclear War in East Asia," Keynote lecture at Ritsumeikan University, Center for East Asian Peace and Cooperation Studies, Kyoto, Japan (October 22, 2021), https://www.undiplomaticpodcast.com/episodes/103-Gus1010Y. See also Van Jackson, "Nuclear Precarity and the Russia Crisis," *Duck of Minerva* (October 6, 2022), https://www.duckofminerva.com/2022/10/nuclear-precarity-and-the-russia-crisis.html



"Structural risk" refers to impersonal forces that create rational incentives to use nuclear weapons (crisis instability) or escalate an arms competition (arms racing instability). When there are vast asymmetries in military power between rivals, for example, or when the offense-defense balance favors the offense, there are rational incentives for decision-makers to either use nuclear weapons or try to out-arm ones' opponent even though doing so makes the situation worse because the opponent will reciprocate. Structural risk is relational or system-level risk.

"Situational risk," by contrast, is actor-centric. It refers to the degree of reliance on coercive military signaling toward an antagonist. There is always some coercive signaling in a crisis, and between adversaries there is often some military signaling even when there is not a crisis. But using weapons platforms, defense posture, or new declaratory policies as a way of communicating threats to an adversary introduces dangerous possibilities. Because the nature of military signaling is necessarily crude and imprecise,[7] the situational risk of nuclear war is higher when reliance on military signaling is greater. The more you use it for coercive purposes, the more you introduce opportunities for errors in judgment, misperceptions, or accidents.

While we can judge structural risks in an abstract or generalized way, situational risks involve concrete situations/scenarios. These two concepts are important because it is possible to have a situation that is structurally unstable but under control because of actor restraint (that is, little or no

7 The classic work on how vulgar military signaling leads to coercive failure is Wallace Thies, *When Governments Collide: Coercion and Diplomacy in the Vietnam Conflict, 1964-1968* (Berkeley: University of California Press, 1980).

military signaling) and clear channels for communication.[8] Likewise, it is possible to have a situation that is fraught with threat-making and military posturing but remains basically under control because neither side has any incentive to actually go to war or perhaps lacks the realistic ability to survive a war.

Northeast Asia is unique for being a region that includes rivalries with both high structural and situational risk—a condition of nuclear precarity.

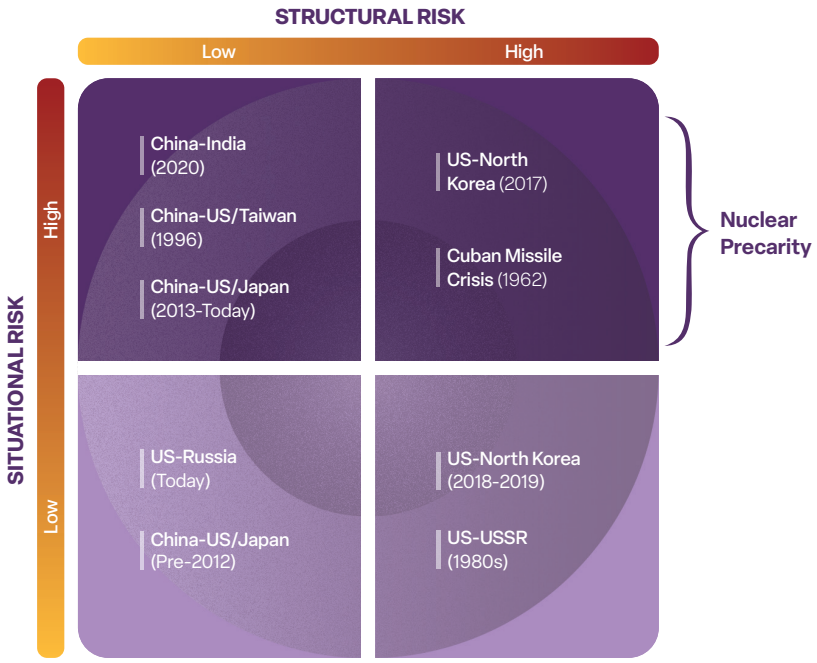


Figure 1. Varieties of Nuclear Stability
An Unstable Conjuncture: Parts of Northeast Asia Trending Toward Nuclear Precarity

While defense spending in Northeast Asia is not out of control compared to prior decades,[9] what defense spending figures miss is that the military modernization projects of all Northeast Asian powers are growing.Missile technology continues to proliferate across all Northeast Asian powers. The region's nuclear-armed belligerents—in particular China, North Korea, and the United States—are all pursuing nuclear expansion programs in a manner that closely resembles a qualitative arms race.[10]

8 Mark Bell and Julia MacDonald, "How to Think About Nuclear Crises," *Texas National Security Review* Vol. 2, no. 2 (2019), pp. 40-65.

9 SIPRI Military Expenditure Database, https://www.sipri.org/databases/milex

10 Traditional definitions of "arms race" focus excessively narrowly on tabulating the number of a given category of weapon by competitors. But arms-racing dynamics and the dangers they entail can involve a qualitative process of escalating modernization or doctrinal one-upmanship. On the arms-racing dynamic, see especially Barry Buzan and Eric Herring, *The Arms Dynamic in World Politics* (New York: Lynne Reiner, 1998).

These same states are relying more heavily on coercive military signaling toward their rivals (including one another) as time passes. The very branding of our current era as one of "great-power competition" gives license to rivals to not only prioritize the threat and use of military force, but to express themselves through it.

Structural Risks in Northeast Asia

Northeast Asia is a site of growing conventional missile and nuclear proliferation. Open-source methods have revealed that China has constructed as many as 300 nuclear silos to house intercontinental ballistic missiles.[11] The outer bound of its existing nuclear arsenal is estimated between 350-500 nuclear warheads from fixed sites and mobile locations (submarines, bombers, mobile launchers), but the discovery of new silos suggests that, unless politics intervenes, that number is likely to grow.

There is also a debate in China about whether to abandon its traditional nuclear posture of minimum deterrence, and whether a policy of no-first use when it comes to nuclear weapons should be unconditional toward the United States.[12] And there is some concern among US officials that China will pursue a "fractional orbital bombardment system" capability (FOBS), which would involve launching nuclear warheads into low earth orbit before directing them down to their targets—a maneuver that could enable them to bypass early warning detection systems, thereby increasing structural risk in the form of US first-use pressures.[13]

If US officials believe their early warning systems are unreliable against attack, the most aggressive voices in Washington could urge an American first-strike nuclear posture.

As of this writing, the Biden administration's response to China's nuclear expansion has so far been to rationalize adopting the nuclear policies of the Trump years. Dissatisfied with America's large margin of nuclear superiority over China, the Biden administration has picked up where Trump left off, on a path to $1.7 trillion of nuclear modernization, including investments in low-yield nuclear warheads, more missile defenses for Northeast Asia, and a plan to buy 145 B-21 stealth bombers—more than six times the size of the current B-2 bomber force. Much of America's nuclear enterprise is being justified as a response to threat perceptions regarding China, even though there are indications that China's nuclear posture itself is at least partly a response to American nuclear modernization. On this basis, there are some nuclear specialists in the United States who advocate

11 Ashley Roque, "New Pentagon Report Details China's Growing Nuclear Arsenal, Possible New Missile Effort," *Breaking Defense* (October 19, 2023), https://breakingdefense.com/2023/10/new-pentagon-report-details-chinas-growing-nuclear-arsenal-possible-new-missile-effort/

12 "Senior ex-diplomat suggests fine-tuning China's nuclear weapons policy," *Pekingnology Newsletter* (May 10, 2021), https://pekingnology.substack.com/p/senior-ex-diplomat-suggests-fine?r=22fwk&utm_campaign=post&utm_medium=email&utm_source=

13 Sandra Erwin, "Kendall: If China Can't Beat the US in the Air It Will Try in Space," *Space News* (September 20, 2021), https://spacenews.com/kendall-if-china-cant-beat-the-u-s-in-the-air-it-will-try-in-space/

for a nuclear strategy based on both unlimited nuclear superiority and brinkmanship.[14]

The Korean peninsula, meanwhile, has become worryingly adrift. North Korea's nuclear and missile buildup has continued unchecked, and its military is pursuing new directions that include submarine-launched ballistic missiles, tactical nuclear warheads, hypersonic glide vehicles, and Pyongyang's newly proven ability to launch ballistic missiles from railcars. Unless North Korea has incentives to restrain its nuclear modernization, future next steps will probably involve developing a multiple independently-targetable re-entry vehicle (MIRV) capability, which helps defeat missile defenses, and a FOBS capability, to the extent that China also pursues it.

With US support, South Korea has been mounting its own conventional, missile-based response to North Korea's nuclear advancements. In May 2021, Washington jointly announced with Seoul that South Korea no longer had to restrict range and payload capabilities of its indigenous missile production; a ban that went back 42 years and aimed to curb regional missile proliferation. The Biden administration has also stood steadfastly by South Korea while it fields its own submarine-launched ballistic missile and, frustrated by the lack of progress in arresting North Korea's capabilities, renews calls to develop its own nuclear weapons. Moreover, since the Obama era, the United States has steadily aided South Korea's military in bringing to fruition a "kill chain" concept of precision-guided conventional missiles, advertised as being capable of preemptive and leadership decapitation strikes.

While Japan arguably exhibits the least structural and situational risk of any Northeast Asian power, it possesses short-range cruise missiles and ballistic missile defenses that add to the US side in the balance of forces between the US and China. Within Japan's Liberal Democratic Party there are debates about pursuing offense-capable "counter-strike" missiles with a longer standoff range, and recently two of the candidates for prime minister voiced support for acquiring nuclear-powered submarines. Japan's current defense investments now include missiles capable of hitting targets in rival countries.[15] If South Korea goes nuclear, moreover, Japan will be faced with a once-in-century decision about how best to secure itself in a rapidly deteriorating security environment. While exclusively for civilian use, Japan is the only non-nuclear weapons state that has both uranium enrichment and reprocessing facilities. It has the largest stockpile of separated plutonium as a non-nuclear weapon state.

14 For the types of American nuclear thinking, see especially Van Jackson, "Reducing or Exploiting Risk? Varieties of US Nuclear Thought and Their Implications for Northeast Asia," *Journal for Peace and Nuclear Disarmament* Vol. 5, no. 1 (2022), pp. 185-98.

15 Jindong Yuan, "Japan's New Military Policies: Origins and Implications," *SIPRI* (February 2, 2023), https://www.sipri.org/commentary/blog/2023/japans-new-military-policies-origins-and-implications

Taken as a totality, these structural risks of nuclear war are greater than any point in the past generation—and they are on a trajectory to worsen. The Korean peninsula in particular is unusually worrying because there is an actual asymmetric arms race happening between a nuclear state and a non-nuclear state in addition to the more traditional nuclear "balance of terror" between the US and North Korea.

Situational Risks in Northeast Asia

Situational risks made the North Korean nuclear crisis in 2017 unusually dangerous, and are also why a crisis in the Taiwan Strait today could be similarly combustible—much more so than the previous crisis in 1995-1996. Coercive military signaling has become the dominant way that antagonists communicate in North Korea, as well as an increasingly common way that Beijing communicates to Taipei, and to a lesser extent Tokyo.

Coercive military signaling is not a new phenomenon in the Korean conflict. North Korea has a long history of using colorful rhetoric to variously criticize and threaten the United States and its Northeast Asian neighbors. During the 2017 nuclear crisis, North Korean threats and insults toward Donald Trump were gratuitous, as were Trump's responses threatening to "totally destroy" North Korea. Over the past three years, North Korea has returned to using missile tests as a crude means of communication with the United States in particular. And it even detonated the Inter-Korean Liaison Office at Kaesong in June 2020 out of frustration over a lack of diplomatic progress toward sanctions relief, among other things. All of this shows that North Korea is keeping up its tradition of relying heavily on coercive military signaling in its relations with the US and South Korea.

What has heightened situational risk on the Korean peninsula is that the US and South Korea have increased their reliance on coercive military signaling to deal with North Korea since 2010. While North Korea's threat-making toward the United States in 2017 was consistent with its longstanding brinkmanship strategy, the novelty of that historical moment was that the United States effectively chose to mirror-image North Korea. Kim Jong Un's barbs thrown at Trump's age, corruption, and mental acuity were commensurate with Trump's claims against Kim's weight and struggling economy. US threats of "fire and fury" combined with aircraft carrier deployments and military exercises were even more grandiose than the combined missile and nuclear tests carried out under Kim.

The 2017 crisis was so combustible precisely because both sides were defiantly escalating coercive military signaling against a backdrop of unprecedented first-use and arms-racing pressures. The United States had a history of restraining its rhetoric and using its military signaling very selectively, and that norm gave way starting in 2017. The Biden administration is more restrained in its rhetoric than the Trump presidency, but has shown little care for the risks implied in military signaling through force posture changes and military exercises. North Korea's claimed underwater test of a "nuclear-capable drone" in January 2024, for example, was a direct response to a trilateral military exercise involving the US, Japan, and South Korea.[16] What is more, there is a contingent of nuclear policy experts in the United States aligned with the Republican Party who increasingly argue that 2017 was a model—pursuing a brinkmanship signaling strategy in tandem with a structural position of nuclear superiority.

But greater situational risk owes to South Korean choices too. Under presidents Lee Myung-bak and Park Geun-hye, South Korea began making direct verbal threats toward North Korea for the first time since the end of the Cold War, in addition to seeking very publicly advertised defense reforms aimed at conducting military operations against North Korea. When President Moon Jae-in came to power in 2017, he curbed South Korea's threatening rhetoric toward Pyongyang and implemented a bilateral Military Agreement in 2018 that helped restore a modicum of stability. But Moon also continued with the military buildup of his predecessors that openly advertised the ability to launch leadership assassination strikes via a concept it called a "kill chain," which combined precision-guided cruise missiles and drones with intelligence, surveillance, and reconnaissance systems for targeting. Moon's successor, Yoon Suk-yeol, has overseen the continuation of South Korea's military modernization program while not only reprising but outbidding the military signaling habits of former presidents Lee and Park.

Yet, the trend of greater military signaling is not limited to the Korean Peninsula. China has embraced what it dubs "wolf-warrior" diplomacy, which escalates transgressive threat rhetoric toward all antagonists. Since Sino-US relations began deteriorating in 2018, China has become more openly hostile toward Taiwan, and more openly willing to threaten the use of force. The People's Liberation Army Air Force (PLAAF) has steadily increased its incursions into Taiwan's Air Defense Identification Zone (ADIZ), launching hundreds of air incursions since 2020 and setting a single week record in 2022, when it launched close to 150 fighter aircraft incursions.[17] The situation is such that Taiwan's defense minister publicly warned that military tensions across the Taiwan Strait are at the worst and most dangerous level in 40 years.[18]

16 Brad Lendon and Gawon Bae, "North Korea claims to test underwater nuclear-capable drone after US, South Korea and Japan show off naval might," *CNN* (January 19, 2024), https://www.cnn.com/2024/01/19/asia/north-korea-underwater-nuclear-drone-test-intl-hnk-ml/index.html#

17 Brian Campbell, "Record Setting Incursions into Taiwan's Air Defense Identification Zone: The People's Republic of China's Psychological Operations Designed to Erode US Support for Taiwan," *Journal of Indo-Pacific Affairs* (2022), p. 155.

18 Ben Blanchard, "Taiwan won't start a war with China, defence minister says," *Reuters* (October 14, 2021), https://www.reuters.com/world/china/taiwan-defence-minister-says-china-will-have-ability-mount-full-scale-invasion-2021-10-06/

Taiwan's logical response to the shadow cast by the PLA has been military modernization, including trying to acquire multiple types of cruise missiles and seeking an indigenous submarine capability.

This pattern across the Taiwan Strait manifests in the East China Sea as well, where wolf-warrior diplomacy has combined with an escalation of PLA Navy and Air Force incursions into disputed waters to harass Japan's Self-Defense Forces. Compared to the Taiwan Strait and Korean Peninsula, the East China Sea is more stable because the rhetoric is less vitriolic and the structural pressures for conflict are less intense, but even the East China Sea military signaling has been far greater since 2012 than any prior period.

Compounding the military activity of Northeast Asian governments is a US regional posture that is, by the Pentagon's admission, undergoing a period of "strategic growth," as well as a heightening tempo of US deployments and military exercises throughout the region. While it is unclear the extent to which US military signaling activities drive Northeast Asian military signaling or vice versa, it is clear that because these forces are arrayed against each other in contingency plans, they collectively function as interlocking antagonisms.

Report Roadmap

The remainder of this report is organized as follows:

- **Section 2** details the policy-relevant "lessons" and insights from year one and year two of this project.
- **Section 3** provides a summary of the policy analysis papers the project commissioned to explore more deeply the insights from year one and year two.
- **Section 4** presents our policy recommendations for how best to reduce the risks associated with nuclear weapons, based on all activity undertaken to date—the use case analysis from year one, the impact analysis from year two, and the policy-paper deep-dives from year three.

SECTION 2: INSIGHTS FROM YEAR ONE AND YEAR TWO

The first year of this project examined 30 use-case scenarios along four dimensions: "Triggering Events and First Use," "How the Conflict Evolves," "Use Case Consequences," and "Use Case Uncertainties, Ultimate Outcome, and Policy Lessons."

Triggering Decision/Event Paths Leading to First Use of Nuclear Weapons

(Sampling of DPRK and US First Cases)

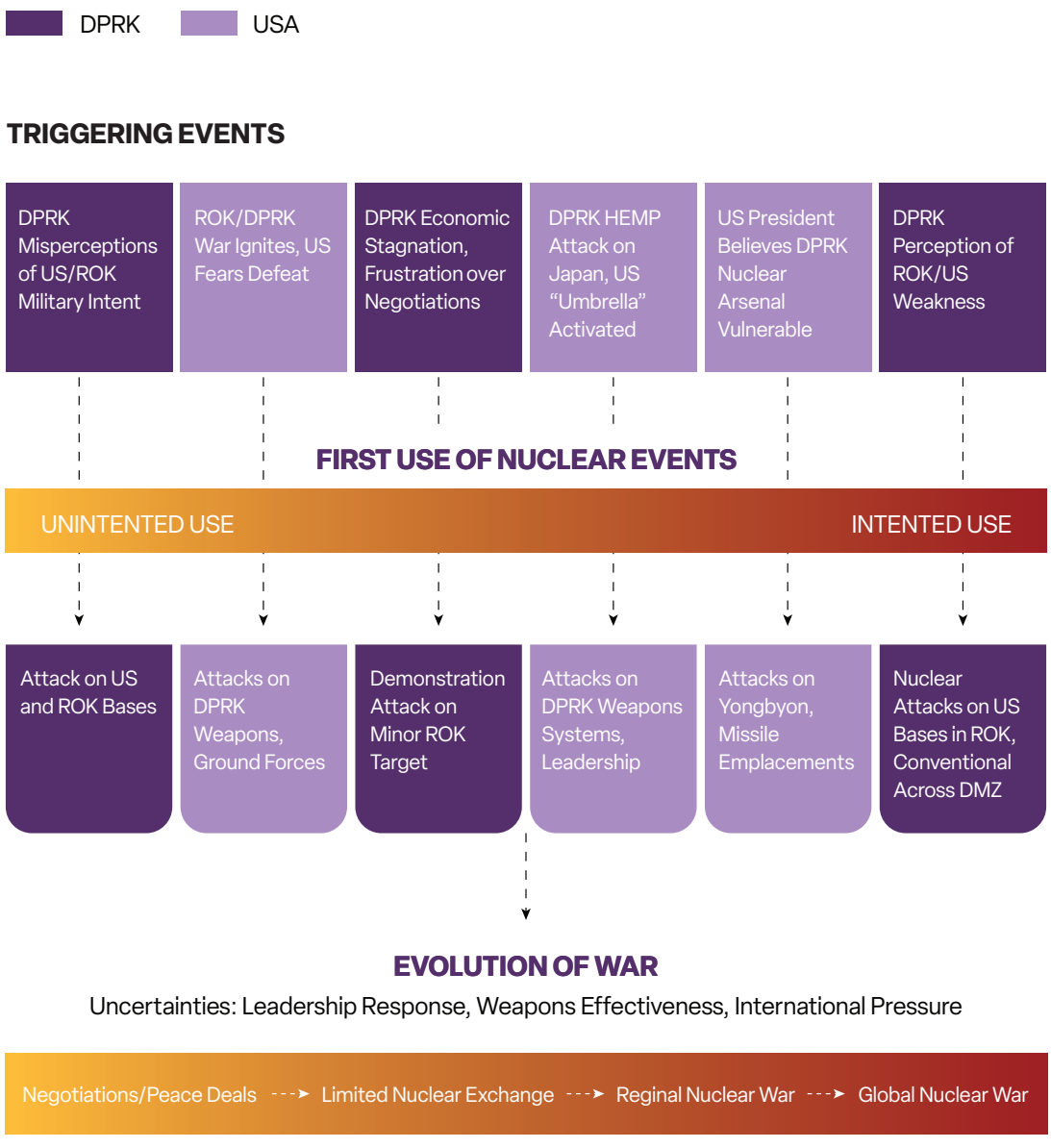


Figure 2. Triggering Events and the Genesis of Nuclear Use Cases

The second year of the project quantitatively modeled and simulated the impact of nuclear use in five of the use-case scenarios from year one:

1. "We're Still Here" Variant 1, involving nuclear weapons use by the DPRK followed by the United States, with 3 total detonations of 10 kt (kiloton) and 8 kt weapons.
2. "US Leadership Hubris," involving first nuclear weapons use by the United States, followed by use by the DPRK and China, with 18 total detonations ranging in yield from 8 to 300 kt.
3. "Use by Terrorists" Variant 1, with one 10 kt weapon detonated by a terrorist group.
4. "Conflict from Ukraine Spreads East," involving first nuclear weapons use by Russia and followed by the United States, totaling eight detonations of 8, 150, and 200 kt weapons.
5. "Not Going Well in Taiwan," involving first nuclear weapons use by China followed by responses from the United States, with a total of 24 detonations ranging in yield from 8 to 300 kt.

Year One Insights

Initial policy-relevant lessons from the year one use cases included the following:

- The need for trusted and reliable open lines of communications between adversaries at multiple levels.
- Improve mutual trust and encourage transparency and consistency in describing the extent and operation of military alliances.
- Seek to separate the operation of international relations from domestic political concerns as much as possible, particularly (but hardly exclusively) in nations where leadership changes are frequent.
- Seek to insulate the operations of nuclear weapons from the personal or political vagaries of national leaders, possibly by strengthening oversight on the use of nuclear weapons.
- Seek to fully brief leaders, military and otherwise, regarding what is known, what is not known, and what is possible about the goals, concerns, and emphases of adversaries so as to allow leaders to better understand and identify (to the extent possible given typically substantial uncertainties) the ways in which opposing leaders might react in situations of stress.
- Exercise patience and adjust expectations for results in international negotiations, particularly those involving the DPRK.
- Equip nuclear weapons systems with redundant command and control mechanisms that help to assure that a nuclear weapon can never be launched without adequate authority and oversight.
- Work toward insulating key systems (electric power and communications among them) from high-altitude electromagnetic pulse (HEMP) bursts, and/or develop robust back-up arrangements designed to keep those systems running.

- Anticipate that potential breakdowns in communication in the nuclear command and control will occur, whether because of, for example, a HEMP detonation or cyberattack, or because of natural disasters such as earthquakes or severe "solar storms," and assure that commanders in possession/control of nuclear weapons have clear orders as to what to do in those instances.
- Encourage all nuclear weapon states to adopt a "No-First Use" declaration policy as a step toward substantially reducing the risk of nuclear war. The declared nuclear weapons states (NWS) in the region should endorse such policies.

Year Two Insights

Initial policy-relevant lessons from the year one impact analysis included the following:

- A nuclear conflict based on regional issues can escalate to a global nuclear conflict within hours or days after the first use of nuclear weapons.
- Any nuclear detonations, even in relatively unpopulated areas, are likely to result in at least thousands of deaths, with possible fallout crossing international borders, causing additional health risks and increasing political tensions even when fallout levels are low.
- Even when focused on military targets, nuclear detonations may kill many hundreds of thousands of people within days or months, as well as cause hundreds of thousands of additional cancer deaths and great economic damage.
- The impact of mass fires or firestorms that sometimes result from nuclear explosions can surpass the lethality of other direct impacts of nuclear use. Historically, military planning for nuclear use has lacked sufficient consideration of firestorm impacts.
- Many of the plausible nuclear use cases developed for this project have their genesis in misinterpretation of intentions and lack of communication between adversaries, underscoring the need for communication between nations to avert nuclear weapons use, especially during times of conflict and crisis.
- There are many plausible pathways to nuclear war that would have cataclysmic effects. Most of these pathways involve "slippery slopes" of descent into nuclear war, where an action by one party is misinterpreted by another, leading to conflict escalation that proceeds further and more rapidly than adversaries intend or foresee. As such, these potential pathways to nuclear war are often invisible to policymakers.
- It is urgent to reduce the risk of choosing or stumbling onto one of these pathways by developing and applying regional and global policy measures such as increasing transparency of nuclear stockpiles, deployments, and operational and declaratory doctrine—especially relating to integration of nuclear firestorms into nuclear targeting—and increasing communications with nuclear hotlines.

- In addition, it is important to explore policy measures to reduce the role of nuclear weapons in security policy and to revive arms control and disarmament diplomacy. Such measures include introducing a nuclear no-first threat norm; resolving regional conflicts; and, ultimately, establishing a regional security framework, including denuclearization of the Korean Peninsula and a nuclear weapon free zone in the region, towards elimination of nuclear weapons altogether.

SECTION 3: SUMMARY OF YEAR THREE POLICY ANALYSES

To support year three's task of generating actionable policy recommendations, we commissioned a series of seven papers. Each was undertaken by a relevant subject matter expert, and the topic was prescribed based on the initial insights from years one and two of the project. We convened two workshops at which the paper authors presented preliminary research findings to an audience of East Asian and nuclear policy experts with varying areas of specialization. Authors were then provided feedback before submitting final versions, which are undergoing review for eventual publication on the APLN, Nautilus Institute, and RECNA websites. Most will also be published in the *Journal for Peace and Nuclear Disarmament*.

The paper authors, topics, and abstract summaries are as follows:

Adam Mount, "Toward A Nuclear No-First Use Policy"

One way to understand the evolving risks of nuclear escalation in a US-China conflict is through the ongoing debate on no-first use. While Beijing has not altered its long-standing policy on no-first use, dramatic shifts in its strategic forces raise questions about whether China's skepticism about escalation management at the theater level will also change. Though the United States remains unlikely to adopt a no first use statement, ongoing debates on declaratory policy, nonstrategic options, and the balance of conventional forces will also affect how US leaders manage escalation of a limited conflict. This paper explores what it would look like to develop a no-first use nuclear *policy*—not just a declaration of no-first use—and what its implications would be for nuclear stability.

Benjamin Zala, "Nuclear-Conventional Entanglement Risks and the New Pressures on Crisis Management in Northeast Asia"

The dangers associated with the entanglement of nuclear and conventional forces have become an area of increasing concern. This article surveys the growing nuclear-conventional entanglement risks in Northeast Asia as well as the ways that entanglement is driving a new era of nuclear arms racing in response. In order to better manage the risks of nuclear crises occurring, the article outlines the need for a greater emphasis on assurance policies to match the current focus on making deterrent threats. Given the high chance of such crisis nevertheless occurring in Northeast Asia in the years ahead, the article makes the case for developing "crisis management interoperability" between allies armed with nuclear and strategic non-nuclear weapons. Such interoperability is aimed at ensuring that the difficult task of crisis signaling is not further complicated by alliances with entangled nuclear and conventional forces. The global nuclear order is undergoing an important transition towards a Third Nuclear Age in which the entanglement of conventional and nuclear forces is creating new dangers of crisis escalation.

Nuclear-armed states are building up their capabilities and bolstering these with a suite of non-nuclear capabilities with strategic effect.

Ulrich Kuhn and Heather Williams, "Behavioral Arms Control and Northeast Asia"

Growing political and military tensions between China and the United States make it necessary to devise novel arms control approaches concerning nuclear weapons and certain emerging technologies. These approaches should be designed to include China and other actors. This commentary makes the case for a Behavioral Arms Control (BAC) framework between China and the United States, which would aid in stabilizing relations in East Asia. It builds on the recent behavioral turn in arms control and historical examples from the realm of confidence-building measures. It suggests informal initiatives to reduce military risks by focusing on the actions, rather than the capabilities, that can lead to escalation. In order to avoid nuclear use and war, BAC prescribes responsible behavior in multiple military domains, involving various nuclear and non-nuclear actors. After discussing the BAC concept and 'responsibility' in particular, the commentary lays out three principles for engaging China and subsequently proposes several possible arms control initiatives under a BAC framework.

Rabia Akhtar, "From Crisis to Continuity: The Political Reckoning in a Post-Nuclear Use Landscape"

Drawing upon insights from the NU-NEA project's initial years, the paper delves into the political ramifications of potential nuclear use in the region. It scrutinizes conceivable power shifts, the evolving role of anti-nuclear groups, and the broader impact on security policies. The exploration extends to scenarios post-nuclear use, encompassing positive, negative, and complex outcomes. The paper concludes by offering recommendations to policymakers, underscoring the imperative of substantive dialogues on arms control and conflict resolution to avert catastrophic nuclear events. Overall, the paper provides a comprehensive analysis of the multifaceted challenges posed by nuclear weapons in Northeast Asia and offers valuable insights for crafting a more secure global environment. Recent developments point towards a disconcerting unraveling of arms control structures and a growing threat to the nonproliferation regime. The paper underscores the dynamic evolution of nuclear deterrence, highlighting the strategic use of emerging technologies by states to reshape the balance of vulnerabilities.

Treasa Dunworth, "The Role of International Humanitarian Law in Nuclear Weapons Use Risk Reduction in North East Asia"

This paper explores the role International Humanitarian Law (IHL) might be able to play in reducing the risk of the use of nuclear weapons in NEA. It starts by explaining the ways in which IHL has regulated (and at times, even prohibited) the use of some weapons, tracing developments in the "Hague Law" from the 19th century, through to the conclusion of the 2017 Treaty on the Prohibition of Nuclear Weapons. This reveals how historically, IHL has been dominated by the political and military interests of the Great Powers of the time and how, in many respects, the law served to protect their military superiority and doctrines from scrutiny. As a direct consequence, contemporary IHL as a body of law suffers from three weaknesses: first, with only a few exceptions, the law relies on general principles to determine the legality of the use of any particular weapon;

second, there remains an incomplete mosaic of outright prohibitions of particular weapons; third, there remains a lack of fully developed enforcement mechanisms to give force to the substantive law. The final section of the paper explores ways in which some of the gaps or ambiguities in the substantive law could be narrowed and suggests some avenues for achieving better accountability.

Jessica Taylor, "Strategic Communication in Deterrence and Reassurance"

North Korea experts diverge in their analysis surrounding whether Kim Jong Un is preparing for war in 2024. But where experts agree is that they expect 2024 to see an increase in tensions and activity on the Korean peninsula surrounding key legislative elections in South Korea and the U.S. presidential election. With tensions on the rise on the Korean peninsula as North Korea likely continues to challenge international norms and agreements, the risk of accidental escalation into armed conflict also rises. This paper addresses pitfalls in the U.S.-East Asia alliance system's approach to strategic messaging, which risks inadvertently escalating tensions. The paper then provides avenues to course correct these pitfalls.

Lauren Sukin and Woohyeok Seo, "Mitigating the Risks of Extended Deterrence in East Asia"

Against the backdrop of a rapidly changing security environment in East Asia, regional actors have seen a surge in "nuclear anxiety." Worries among citizens of U.S. allies and partners about rising nuclear threats and nuclear proliferation risks critically shape U.S. foreign policy in East Asia. This paper thus asks: What drives nuclear anxiety in East Asia? And how can the United States most effectively resolve it? We situate nuclear anxiety in the dynamics of abandonment and entrapment that exist between allied states, as well as in the unique regional security structure, or the hub-and-spoke system. To better understand the implications of nuclear anxiety on regional nuclear policy, we analyze the results of an original survey conducted in June 2023 across five states in East Asia: Australia, Indonesia, Japan, South Korea, and Taiwan. The survey results suggest the presence of the dynamics of both entrapment and abandonment among these regional actors, as well as mixed interests in indigenous nuclear programs. In addition, we demonstrate how citizens of East Asia evaluate possible policy options that could help Washington mitigate regional nuclear anxiety.

SECTION 4: POLICY RECOMMENDATIONS

While, in general, we recognize that policymakers tend to view "stronger deterrence" as the best way to respond to increasing threat perceptions in the region, our scenario analysis has affirmed repeatedly that actions taken in the name of deterrence are a major driver of nuclear risk, increasing both crisis- and arms-racing instability. Therefore, our recommendations seek to create a regional situation over time—the stability of which relies less on the implicit and explicit threat-making that deterrence involves. Although our main goal is to minimize risks of nuclear weapon use, the following recommendations naturally cover not only nuclear policies but also non-nuclear security policies as the latter might also affect the risks of nuclear weapons use.

Accordingly, the following conceptual and methodological framework guides our policy advice. Conceptually, we distinguish structural and situational risks, aligning proposed policy actions along one or both dimensions of nuclear insecurity problems. As mentioned above, structural risk refers to rational incentives to use nuclear weapons (crisis instability) or escalate an arms competition (arms racing instability). Situational risk refers to the degree of reliance on coercive military signaling toward an adversary within discrete scenarios.

In so doing, our collection of policies aim to reduce nuclear risk in two ways. One is by narrowing the space for nuclear use-case scenarios to arise in the first place through forms of mutual threat reduction (structural). The other is by helping to better responsibly manage within-scenario (situational) risks should they arise. The former approach helps create a regional situation where stability does not hinge solely on threats that leave something to chance. The latter approach to reducing risk potentially applies both before nuclear weapons have been used and after, inhibiting nuclear-related escalation in the midst of a crisis or once a nuclear detonation has occurred.

By orchestrating policies on two fronts and with a consistent purpose, our recommendations aim to do what most nuclear policy recommendations make no conscious attempt to do—shift the overall valence or perception of states possessing nuclear weapons in a way that makes the whole (the collection of policy advice taken together) more impactful than the sum of its parts (individual recommendations). The context within which rivals end up in crises should not be taken for granted and must be acted upon through consistent, rational, and—as much as possible—principled policy choices. In short, our goal is to move from the situation in right upper box to lower left box of Figure 1.

Methodologically, we start by grounding our recommendations in the following interlocking/ mutually reinforcing principles, which emerged from our years one-three conclusions:

Transparency

Predictability

Strategic Empathy

Rebalancing Deterrence and Reassurance

Transparency:

In our analysis, a recurring source of conventional conflict and nuclear escalation was a lack of clarity—about defense commitments, nuclear first-use credibility, defensive versus revisionist intentions, the reasoning behind weapons procurement and force posture moves, and the reasons why military force would be deployed and/or used. Nuclear-relevant policies should therefore ensure that actors accurately grasp the capability, commitment thresholds, operational readiness, and situational resolve of one another.

Predictability:

Stability depends to a great extent on predictability. Erratic, inconsistent decision-making tends to undermine credibility.[19] Whatever hypothetical margin of advantage erraticism might offer in a crisis confrontation, unpredictability heightens uncertainty before and after crises, pushing actors to make the worst assumptions about the others' character.[20] Predictably patterned words and deeds should therefore be the basis of any overall nuclear policy framework whose aim is a long-run stability that creates the preconditions needed for nuclear disarmament.

Strategic empathy:

Insensitivity to the decision-making pressures that other governments face or the motivations driving their choices is a recurring source of nuclear risk. Strategic empathy as a practice or an ethic entails a willingness to think about security beyond zero-sum configurations, and to account for the concerns of societies, politics, and human emotion.[21] In this way, strategic empathy offers a means to guard against pathologies that lead to unrealistic assessments of problems (like threat inflation) and the false certainties about competitors that can drive security dilemmas.[22]

Rebalancing deterrence and reassurance:

Deterrence has become pervasive in governmental explanations of nuclear and security policies. The problem is that, rather than embracing the concept of deterrence as properly understood—the use of threats to prevent unwanted actions—policymakers, especially militaries, now routinely misappropriate deterrence as a language for justifying militarized policies that do not attend to the risks they incur. Even in the most popular understandings of coercion theory, deterrence cannot

19 For a review of the inputs to credibility, see especially Robert Jervis, Keren Yarhi-Milo, and Don Casler, "Redefining the Debate Over Reputation and Credibility in International Security: Promises and Limits of New Scholarship." ***World Politics*** Vol. 73, no. 1 (2021), pp. 167–203.

20 For how uncertainty drives pessimistic assumptions between competitors, see Robert Jervis, *The Logic of Images in International Relations* (New York: Columbia University Press, 1970).

21 Claire Yorke, "Is Empathy a Strategic Imperative? A Review Essay," *Journal of Strategic Studies* Vol. 46, no. 5 (2023), pp. 1082-1102.

22 Classical security dilemmas are driven by uncertainty, but they can also be driven by false certainties. See especially Alastair Iain Johnston, "Identity, Race, and U.S.-China Conflict," Sir Howard Kippenberger Lecture, Victoria University of Wellington (June 6, 2023), https://www.youtube.com/watch?v=LnUT13zi2zg

logically work unless threats are perceived as conditional, which means even adversaries must be offered reassurances.[23] For this reason, the emphasis on deterrence needs to be rebalanced with a commensurate prioritization of the principle of reassurance: "the more powerful and credible one's threat of military action, the more important and the more difficult it is to credibly assure the potential adversary."[24]

Armed with these guiding principles, we proceed by building on the insights from year one and year two of this project, each of which had its own approach to structuring analysis. For each recommendation, we include four components:

- First, we summarize what the recommendation is.
- Second, we explain the reasoning in support of the recommendation—that is, why or how the proposed policy would reduce the potential for nuclear weapons detonations in the real world as part of other recommendations made here.
- Third, we address what makes the proposed policy actionable or politically feasible, and by whom.
- Fourth, we specify how the recommendation relates to the prior year one and year two research, specifically addressing whether the recommendation aims to reduce situational risks within nuclear use-case scenarios or structural risks that affect the prospect of such scenarios arising.

There is little hope of securing negotiation- or cooperation-based risk reduction in a context where all parties are engaged in missile proliferation, nuclear expansion, and jingoism. We must work to change that context. Recognizing that reciprocal tit-for-tat bargaining is something that must be unlocked by satisfying antecedent conditions,[25] many of our recommendations involve attempting to shape the larger security environment so as to "ripen" it for not only crisis avoidance but also future negotiations aimed at threat reduction of various kinds.[26]

23 Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966), p. 74; Janice Gross Stein, "Reassurance in International Conflict Management," *Political Science Quarterly* Vol. 106, no. 3 (1991), pp. 431-51;

24 Bonnie Glaser, Jessica Chen Weiss, and Thomas Christensen, "Taiwan and the True Sources of Deterrence," *Foreign Affairs* (November 30, 2023), https://www.foreignaffairs.com/taiwan/taiwan-china-true-sources-deterrence

25 Charles Osgood, *An Alternative to War or Surrender* (Urbana: University of Illinois Press, 1962); Svenn Lindskold, "Trust Development, the GRIT Proposal, and the Effects of Conciliatory Acts on Conflict and Cooperation," *Psychological Bulletin* Vol. 85, no. 4 (1978), pp. 775-7; Toshio Yamagishi, Satoshi Kanazawa, Rie Mashima, and Shigeru Terai, "Separating Trust from Cooperation in a Dynamic Relationship," *Rationality and Society* Vol. 17, no. 3 (2005), pp. 275-308; Amitai Etzioni, *The Hard Way to Peace: A New Strategy* (New York: Crowell-Collier, 1962); Seymour Melman, *The Peace Race* (New York: Ballantine Books, 1961); Mulford Sibley, *Unilateral Initiatives and Disarmament* (Philadelphia, PA: American Friends Service Committee, 1962).

26 On the concept of ripeness and how it affects negotiations, see Michael Greig, "Moments of Opportunity: Recognizing Conditions of Ripeness for International Mediation between Enduring Rivals," *Journal of Conflict Resolution* Vol. 45, no. 6 (2001), pp. 691-718; I. William Zartman, *Ripe for Resolution: Conflict and Intervention in Africa* (New York: Oxford University Press, 1985).

Our recommendations address every regional stakeholder. Even though the United States still has the world's most modern and globe-spanning military, and it possesses the largest defense budget by far, its military prowess is declining in relative terms, especially in relation to the balance of forces with China across the Taiwan Strait. Yet, the United States is in the strongest position to catalyze positive change in the world. But it realistically requires active leadership—even lobbying—from allies and partners like Japan, South Korea, and Taiwan in support of new policy thinking. US allies have security concerns that must be taken seriously, but everyone has a stake in policies that can avert nuclear war. We therefore assume that the United States and its allies can not only reduce risk through traditional cooperative initiatives with competitors but also by individually regulating their choices in ways that we specify below.

Finally, the likelihood of our recommended policies achieving their desired effect of reducing nuclear risks is affected by the degree to which they are adopted as a collection of policies. A common limitation in nuclear policy is analyzing policy ideas in isolation, holding constant all aspects of our current world while introducing only a marginal change to one factor or another. Isolating policies in this way ignores how the effects of variables can substantially shift given different contexts.

No single recommendation can realistically transform the context of nuclear decision-making, and the discrete policy recommendations that we made are affected by the whole.

The following policy recommendations have been organized according to how they define the space for policy movement—warming actions (rhetorical and diplomatic gestures); ripening actions (individual restraint); and reciprocal transformations.

Warming Actions

Warming actions are rhetorical and diplomatic gestures aimed at alleviating tension in the security environment and setting up frameworks for future confidence-building and cooperation. They entail no strategic costs—that is, in and of themselves, warming actions do not change the balance of nuclear forces or leave actors more vulnerable to attack.

Ripening Actions

Ripening actions are decisions that can be undertaken unilaterally to improve the political feasibility of future cooperation. These recommendations build confidence among rival actors that future cooperative initiatives could bear fruit by decreasing the costs and risks a rival might incur. Ripening actions are the inverse of the paradox of deterrence—instead of achieving stability by threatening destruction, they achieve stability by credibly signaling benign, defensive intentions. The potential strategic cost of these recommendations is what makes them credible signs of non-aggressive intentions.

Reciprocal Transformations

Reciprocal transformations are bilateral and multilateral negotiations; initiatives that can only follow from process of mutual accommodation and compromise. Recommendations in this category constitute a measurable, favorable shift in the Northeast Asian security environment, reducing structural risks of nuclear use and creating greater distance from future nuclear crises.

But these categories and their recommendations are not fixed and can be pursued simultaneously. For example, declaring mutual co-existence with China and North Korea can happen in parallel with investment in non-offensive defense research, defunding the SLCM-N cruise missile, multilateralizing an anti-satellite testing moratorium, and negotiating end-use restrictions on missile sales. We wish to stress that these categories represent a logical progression, and merely define the content from which diplomatic and political actors can assemble strategies to reduce nuclear risks.

Warming Actions—Rhetorical and Diplomatic Gestures

- Rescope extended deterrence dialogues between Japan and South Korea for risk reduction (Japan, ROK, US)
- Declare mutual co-existence with China and North Korea, end to the Korean War, and recognize reciprocal vulnerability between Chinese and US nuclear forces (US)
- A nuclear no-first use dialogue (China, US)
- Revive the "non-offensive defense" research agenda (Japan, US, ROK)
- A "No Leadership Assassinations" pledge (US, DPRK, China, ROK, Japan)
- A US strategic dialogue with North Korea (US, DPRK)

Ripening Actions—Individual Restraint

- A "no nuclear deployment" executive order (US)
- Elevate the CTBT (Japan, US, China, ROK, DPRK)
- Checks and balances on South Korea's "Three-Axis" deterrence policy (ROK, US)
- End-use restrictions on missile and drone sales (US, China, Japan, ROK)
- Codify the US moratorium on anti-satellite testing (US)
- Support the Restricting First Use of Nuclear Weapons Act (US, Japan, ROK, China DPRK)
- Defund the nuclear-armed SLCM-N (US)
- Pause and investigate permanently halting development of ground-based intermediate-range missiles (US, China, ROK, DPRK)
- A declaration of nuclear inventory from North Korea and China (DPRK, China)
- Rollback the US "Ground-Based Strategic Deterrent" (US)

Reciprocal Transformations—Bilateral and Multilateral Initiatives

- Multilateralize a moratorium on anti-satellite testing (Japan, US, China, ROK, DPRK)
- Advanced conventional arms freeze (Japan, US, China, ROK, DPRK)
- A missile-launch notification regime (Japan, US, China, ROK, DPRK)

- A “no-dead-hand” nuclear restriction (China, DPRK, US)
- A ban on low-yield “tactical” nuclear weapons (China, DPRK, US)
- Support a 2% defense conversion for the US and Northeast Asia (Japan, US, China, ROK, DPRK)
- A “nuclear-free seas” initiative with North Korea (DPRK, China, US, ROK)

WARMING ACTIONS

Policy Proposal: Rescope Extended Deterrence Dialogues with Japan and South Korea for risk reduction

Recommendation

Japan, the United States, and South Korea should propose and negotiate risk-reduction goals in extended deterrence-related engagements with Japan and South Korea.

Reasoning

Since 2010, the US Office of the Secretary of Defense and the State Department have institutionalized dialogue consultations with Japan and South Korea respectively addressing their concerns with nuclear security and the credibility of US extended deterrence commitments.

In practice, these dialogues have functioned as vehicles for expanding the role of nuclear weapons in regional security and legitimating an increase in the frequency of nuclear-related military exercises and weapons deployments—policy decisions that, contrary to the well-intentioned assumption of policymakers, have made the region less secure and goaded North Korea to advance its nuclear capabilities further and faster. These dialogues should be rescoped to serve as a venue for allies to have honest conversations about the most effective ways to ensure that deterrence policies deter—rather than provoke—and reduce exposure to nuclear and militarized violence without the prejudicial assumption that more nuclear signaling equals more deterrence (for which there is no unique evidence).

If the end goal of extended deterrence dialogues is to minimize the chances of an ally being attacked by nuclear weapons, the dialogues should be agnostic about the best ways to achieve that goal.

Military restraint, arms limitations, and diplomatic initiatives are logical and proven means of reducing nuclear risk.

This proposal facilitates reducing nuclear risk by managing ally fears of abandonment and making allies stakeholders in US initiatives that aim to make Northeast Asia more stable. Allies are a potential spoiler in any attempt to deviate from a status quo that has only grown more dangerous over the past 15 years. A communication stream that takes ally extended-deterrence related concerns seriously while ensuring the conversations remain faithful to the end goal—no nuclear use—amount to a rear-guard action that facilitates other risk-reduction policy proposals.

Implementation

This proposal is feasible because risk-reduction measures and extended deterrence measures purport to have the same desired aim of foreclosing on the prospect of nuclear use. There exists no restriction on the content of conversations about extended deterrence among allies. And there is no cost to this proposal—existing budgets already fund the dialogues and ally defense ministries already allocate time and personnel to the holding the consultations.

Risks Addressed

Rescoping extended deterrence dialogues primarily addresses situational sources of risk. Several of our prior-year nuclear use-case scenarios hinged on extended deterrence considerations and ally conduct in the midst of crisis.

In one scenario, the United States used nuclear weapons on the grounds that a North Korean HEMP burst had triggered US extended deterrence commitments.

In a second scenario, North Korea misperceived the aggressive intentions of the alliance because of South Korean military actions, leading it to launch nuclear weapons in what it believed was a preemptive, defensive attack.

In a third scenario, North Korea perceived the alliance as "weak," feeling emboldened to take military action that triggered South Korean retaliation, spiraling into nuclear use.

In all these cases, alliance decision-making was a major factor in the circumstances that led to nuclear conflict. The proposed rescoping of the extended deterrence dialogue mechanism potentially tightens coordination with allies in a manner that simultaneously avoids automatic thresholds for nuclear use, undue perceptions of "weakness," and false-positive nuclear preemption.

Policy Proposal: Declaring Mutual Co-Existence, No Regime Change, Reciprocal Vulnerability

Recommendation

The United States should match the deeds prescribed in this report with words that reflect its changed outlook on nuclear weapons and security issues.

Specifically, the US government should publicly reiterate that it:

- Seeks mutual co-existence with China and North Korea.
- Considers the Korean War to be over.
- Recognizes the reciprocal vulnerability of US and Chinese nuclear forces to each others' targeting capabilities.

Reasoning

These declarations lack power on their own, but when they reflect changes in US policy practice—that is, material shifts in US nuclear and defense policy, as well as corresponding diplomatic initiatives—they become a necessary part of ripening the regional security environment to make it more amenable to demilitarized and tit-for-tat confidence-building measures. Moreover, recognizing the reality that nuclear forces are reciprocally vulnerable to attack weakens imperatives for both arms-racing and nuclear-first use.

Implementation

The US government—including previous US presidents—have issued statements that recognize all of these realities, but they have never done so consistently and none of these reflect actual US policy positions. In 2019, the Korean War was nearly declared over. The United States already acknowledges a condition of mutual vulnerability with Russia. And the United States was willing to accept mutual co-existence with the Soviet Union during the darkest days of the Cold War. Any president willing to alter the balance of relations in Northeast Asia would have ample precedent for taking these declaratory actions. This proposal is ideally combined with the proposal on a "No Leadership Assassinations" Pledge described later in this section on warming actions.

Risks Addressed

This proposal aims squarely at addressing structural risks of nuclear use by softening the environment within which China and North Korea take their strategic decisions. Declarations by themselves do not necessarily achieve anything, but linking them with other policies prescribed in this report ripens the decision-making environment in ways favorable to restrained and cooperative policymaking.

Policy Proposal: A Nuclear No-First Use (NFU) Dialogue between China and the US

Recommendation

The United States and China should institutionalize a dialogue on nuclear strategy, stability, perceptions of NFU commitments, mutual vulnerability, and perspectives on deterrence. In the process of the dialogue, the US should well establish close communication with allies to address their security concerns for NFU while at the same time encouraging them to take a constructive approach.

Reasoning

The primary argument against the United States declaring an NFU policy is that adversaries will not believe it and will therefore proceed with planning and assuming that the United States could launch nuclear first-strikes if it sees advantages in doing so. This opposition to declaring NFU is based partly on "cheap-talk" reasoning—words alone will not change adversary perceptions of something as costly as nuclear use—and partly on the mirror-image reality that many US policymakers do not believe China's already-existing rhetorical commitment to NFU.

A strategic dialogue about NFU would begin to address two-way credibility problems. An NFU-related dialogue between China and the United States would also facilitate other policy moves prescribed in this report, including providing a vehicle for communicating Washington's thinking as it undertakes internal changes to implement a no-first use policy, which would involve individual and reciprocal actions to restrain the threat, use, and buildup of nuclear weapons (contra simply a declaration of no-first use, which might not involve any material actions).

Implementation

Nuclear experts, strategists, and former officials from the United States and China met annually in strategic stability dialogues that were suspended with the onset of great-power rivalry during the Trump administration. Prior to the 2023 San Francisco summit between Xi Jinping and President Biden, both sides agreed to engage in broad, publicly undefined talks on nuclear and strategic issues.[27] And there have been signs from Chinese scholars that China is open to specifically engaging in talks with the United States about NFU policies as an opening to discuss a range of issues relating to deterrence, reassurance, and the credibility of commitments by both sides.[28] There is a window, in other words, to broach the topic of NFU with China as a means of having an enlarged conversation about mutual strategic concerns.

Risks Addressed

The point of strategic dialogues like this is to maximize clarity and predictability in how actors perceive one another. Even in the worst case, their attendance/suspension become signaling tools that help clarify actor intentions. Misperception was at the heart of several of our nuclear use-case scenarios, including more than one involving nuclear conflict between China and the US.

A dialogue around NFU could indirectly support risk reduction if it shrinks the space for miscalculations and enables other stabilizing—even cooperative—policy choices that would be difficult to pursue otherwise.

Policy Proposal: Reviving the "Non-Offensive Defense" Research Agenda

Recommendation

The governments of Japan, the United States and South Korea, as well as concerned philanthropic foundations, should sponsor a revival of "non-offensive defense" in strategic studies research.

27 Michael Gordon, "China, U.S. to Meet for Rare Nuclear Arms-Control Talks," *Wall Street Journal* (November 1, 2023), https://www.wsj.com/politics/national-security/china-agrees-to-arms-control-talks-with-u-s-87a44b38

28 Tong Zhao, "It's Time To Talk About No First Use," *Foreign Policy* (November 6, 2023), https://foreignpolicy.com/2023/11/06/united-states-china-nuclear-meeting-no-first-use-arms-control/

Reasoning

During the 1970s and 1980s, security scholars in Europe—and eventually the United States—built a robust program of "non-offensive defense" (NOD) research. It incubated a repertoire of ideas for how to shape defense policy to reduce risks of military aggression and create space for arms control and disarmament initiatives.[29] The "nuclear freeze" movement of the 1980s emerged from and had the backing of the same milieu of scholars and analysts that were focused on the non-offensive defense research agenda.[30]

However, with the end of the Cold War, the philanthropic foundations and governments that had supported NOD research shifted their priorities overwhelmingly to non-military issues, leaving the knowledge base that frames and guides nuclear and defense strategies without alternatives to a deterrence paradigm. The generally recognized contemporary problem of over-reliance on deterrence—a way of thinking that perpetuates existential risks that no person can fully control—is inadequate to the needs of global security. But without sustained investment in alternative concept development that accounts for the concerns addressed by deterrence itself, efforts to reduce nuclear risk will always be held hostage to the exigencies of national security.

Implementation

Japan's pacifist tradition makes it a natural leader on non-offensive strategic thinking. Reviving the long-dormant tradition of NOD research could be driven by state sponsorship or by academic, civic, and philanthropic institutions dissatisfied with the narrow range of policies that are rationally available to reduce nuclear risk. Relative to national defense expenditures, the cost would be extremely low, and the potential upside is the prospect of building a knowledge base that makes it possible for humanity to escape recurring crises that threaten mass extinction.

Risks Addressed

This proposal aims to address structural risks of nuclear use, indirectly and over time. It is obvious that states are not making themselves more secure by arms-racing, brinkmanship, and deployments of force, but they do it anyway. Our nuclear use-case scenarios revealed that policymakers in every nation tend to feel trapped by circumstances, and are often unable to make sense of events except with reference to deterrence policies that perpetually hold them and their successors at risk of catastrophe.

29 See, for example, Bjorn Moller and Hakan Wiberg, eds., *Non-Offensive Defence for the 21st Century* (Boulder: Westview Press, 1994); Dietrich Fischer and Alan Bloomgarden, "Non Offensive Defense," *Peace Review* Vol. 1, no. 2 (1989), pp. 7-11; Wilhelm Agrell, "Offensive versus Defensive: Military Strategy and Alternative Defence," *Journal of Peace Research* Vol. 24, no. 1 (1987), pp. 75-85.

30 Randall Forsberg, *Toward a Theory of Peace: The Role of Moral Beliefs* (Ithaca: Cornell University Press, 2019).

Policy Proposal: A US Strategic Security Dialogue with North Korea

Recommendation

Given the increasing risk of accidental or unintended nuclear weapons use due to misperceptions or misunderstanding, the United States should propose an ongoing, multilevel strategic security dialogue with North Korean defense and intelligence counterparts aimed at complementing foreign ministry-led diplomatic talks and exchanging information about US and North Korean strategic thinking and threat perceptions.

Reasoning

Managing risks of misperception and miscalculation require a maximally accurate understanding of how North Korea thinks about coercion, nuclear doctrine, and conditions of nuclear use. Secondarily, having US national security officials build (admittedly thin) social ties to North Korean officials could help soften the sense of siege that prevails among North Korean elites and may encourage advocacy for less hardline policies within North Korean bureaucratic decision-making.

Implementation

At multiple points in past decades, parts of the North Korean security state, including the Korean People's Army (KPA), have expressed interest in dialogue with the US military. In relative terms, the KPA and the security apparatus have far more influence within Kim Jong Un's regime than its Ministry of Foreign Affairs.

Extremely detailed proposals for how to run a security-dialogue process with North Korea already exist but have simply not been attempted.[31]

Risks Addressed

This proposal supports other recommendations made in this report and indirectly helps ameliorate situational risks associated with crisis instability.

When rivals' military doctrines are logically incompatible or based on inaccurate expectations of how the other side will respond to your deployment of force, deterrence becomes a source of conflict escalation.[32] In our nuclear use-case scenarios, the most common pathway to nuclear use involved one side or the other misperceiving and thereby incorrectly anticipating how its adversary would react to military deployments or targeted strikes. North Korean military leaders' exposure to US strategic perspectives—and US insights into North Korean military doctrine and strategic thought—

31 For the most detailed proposal and a partial history of KPA interest in dialogue, see Van Jackson, *How to Engage the Enemy: The Case for National Security Diplomacy with North Korea* (Washington, DC: US Institute of Peace, 2020), https://www.usip.org/publications/2020/09/how-engage-enemy-case-national-security-diplomacy-north-korea

32 This problem is called doctrinal difference theory. Christopher Twomey, *The Military Lens: Doctrinal Difference and Deterrence Failure in Sino-American Relations* (Ithaca: Cornell University Press, 2010).

could help minimize the chances of misunderstandings that risk leading to nuclear escalation. Counterpart relationships between US and DPRK national security institutions might also facilitate communication during a crisis.

Policy Proposal: A "No Leadership Assassinations" Pledge

Recommendation

The United States, in parallel with Northeast Asian governments, should commit to not targeting national leaders for preemptive or preventive assassination.

Reasoning

On its own, a no-assassinations pledge amounts to "cheap talk"—rhetoric with no inherent credibility. The same could be said about any declaratory policy or government statement. But taken in the context of other restraint-oriented pledges and policy actions, such a commitment would contribute to creating greater distance from crisis and a security environment more amenable to spirals of cooperation rather than conflict.

Implementation

A no-assassinations pledge has been discussed in the nuclear policy community as a way to reduce risks associated with the clash of North and South Korean military doctrines,[33] which is widely understood to exhibit peak nuclear precarity relative to other rivalry dyads in Northeast Asia. But its value for reducing crisis pressures applies to the entire region. Any leadership that gets targeted will demand retaliation, thereby initiating a cycle of escalation and counter-retaliation that could prove impossible to control.

Risks Addressed

A no-assassinations pledge would directly address a specific trigger for nuclear first-use in one of our nuclear use-case scenarios—the use-or-lose pressure of a leadership facing the prospect of imminent death or last-ditch deterrence through escalation.

33 See, for example, Panda, Indo-Pacific Missile Arsenals, pp. 92-3.

RIPENING ACTIONS

Policy Proposal: A "No Nuclear Deployment" Executive Order

Recommendation

The US president should issue an executive order (EO) restricting nuclear-capable bomber deployments to the Korean Peninsula.

Reasoning

Nuclear crises do not appear out of nowhere—they emerge from situations of acute confrontation. Ameliorating the confrontational context reduces the prospects of crises erupting.
US nuclear-capable bombers have been used in the past primarily as a signaling tool toward North Korea, and secondarily as a reassurance signaling tool toward South Korea at the expense of greater hostility with the North. Bridling this kind of crude signaling is a means of managing stable relations.

Implementation

Presidential Executive Orders carry the force of law and do not require the authorization of any other branch of government. There is also precedent for such a restriction on bomber deployments. From the time of the first summit between Trump and Kim Jong Un in June 2018 until roughly 2020, the United States maintained a voluntary moratorium on nuclear-capable bombers (specifically the B1B and B-52 bomber aircraft, even though the B1B is no longer nuclear-capable) visiting in or around the Korean Peninsula. That period was also the calmest between the United States and North Korea in more than a decade. An EO would simply formalize that prior policy direction.

Risks Addressed

Restricting nuclear-capable bomber deployments would reduce situational risk in Korea by restraining one of the most provocative signaling tools available in the US arsenal. Because nuclear bomber deployments have a track record of achieving nothing in relation to North Korea except sometimes goading hostile rhetoric and incentivizing North Korean missile tests,[34] suspending them would amount to a confidence-building gesture that also reduces opportunities for North Korean leadership to discriminate between conventional and nuclear weapons platforms. So doing could ameliorate some of the risk in one of our nuclear use case scenarios that saw North Korea resort to nuclear-first use because it misperceived that it was facing an imminent nuclear attack from the United States.

34 Van Jackson, "The Trouble with the B-52 Bomber Overflight Against North Korea," *The Diplomat* (January 12, 2016), https://thediplomat.com/2016/01/the-trouble-with-the-us-bomber-overflight-against-north-korea/.

Policy Proposal: Elevate the Comprehensive Nuclear Test-Ban Treaty

Recommendation

The US president should issue an executive order expressing the intent to ratify the Comprehensive Nuclear Test-Ban Treaty (CTBT) and directing US compliance with the CTBT until then. With leadership from Japan and South Korea, it should simultaneously seek North Korean entry into the CTBT, Chinese ratification of the CTBT, and Russian re-entry into the CTBT.

Reasoning

An era increasingly defined in terms of "great-power rivalry" needs to constrain how arms competition between nuclear states finds expression. If either China or the United States is tempted to engage in nuclear testing—whether for signaling purposes or research and development—the other side will feel free to do the same and may even feel compelled to do so.

At the same time, the secular decline in traditional arms control has coincided with an emphasis on nuclear modernization and expansion by states with nuclear weapons—including the United States. Arresting that trend, or at least slowing it, requires taking measures to shore up what remains of a global regime of norms and treaties, of which the CTBT remains a part.

Implementation

An executive order (EO) addressing unilateral CTBT compliance would have the force of law and largely restate the policy adherence to the CTBT, which the United States maintains. Russia's withdrawal from the CTBT in 2023 was undertaken on the grounds that the United States had not ratified the CTBT. North Korean nuclear testing has not violated the CTBT because it was not a party to it. China has already signed the CTBT (and complies with its terms) but—like the United States—has simply not ratified it.

Risks Addressed

Elevating the CTBT by seeking Russia's re-entry, Chinese and US expressions of intent to ratify,and North Korean de facto compliance would indirectly address the structural risks of nuclear use. Nuclear tests create a sense of both urgency and competitive one-upmanship that becomes kindling for future nuclear crisis. The CTBT makes an incremental contribution to reducing structural risk by discouraging nuclear signaling through testing and alleviating—rather than heightening—the urgency driving nuclear modernization.

Policy Proposal: Checks and Balances on South Korea's "Three-Axis Deterrence" Policy

Recommendation

South Korea and the United States should jointly propose ways to regulate and restrain South Korea's "three-axis deterrence" policy linking precision-guided munitions, a doctrine of Korean Massive Punishment and Retaliation (KMPR), and ballistic missile defenses.

This could include measures that: ensure the United States remains "in the loop" as part of any South Korean decision to launch cruise missiles or unmanned aerial systems at North Korean targets; establish clear thresholds or scenarios for invoking KMPR strikes; forswear assassination attacks on national leadership (one of our separate recommendations); and build public confidence that "three-axis deterrence" is a strictly retaliatory (not preemptive) policy.

Reasoning

South Korea advertises its "three-axis deterrence" policy as a non-nuclear countermeasure to balance North Korea's nuclear weapons, thereby deterring North Korean aggression. But that claim misunderstands the role of North Korean nuclear weapons in a way that actually heightens risks of nuclear use through crisis instability.

North Korea sees its nuclear weapons as an antidote to its position of structural insecurity vis-à-vis the United States and its alliance with South Korea.[35] If North Korea has a first-use, asymmetric escalation nuclear posture—and there are indications it does—then threatening its regime leadership with missile strikes substantially increases the likelihood of North Korean nuclear use by either putting it on a hair trigger or pushing it closer to a use-or-lose mindset.[36] If North Korea instead has a second-use, assured retaliation nuclear posture, then South Korea has no need to counterbalance North Korean nuclear weapons and derives no benefit from escalating an asymmetric arms race. It is also possible that North Korea's possession of nuclear weapons endows it with a sense that it can engage in non-nuclear coercive activity toward South Korea or the United States with impunity, but the remedy in that case must either be to arrest the rivalry itself—thereby making relations inhospitable to coercion—or retaliatory punishment (not preemption) of North Korean transgressions.

Implementation

South Korea has created an entire organizational apparatus to support this "three-axis deterrence" policy—including formation of a Korean Strategic Command meant to be a counterpart to US

35 Van Jackson, *On the Brink: Trump, Kim, and the Threat of Nuclear War* (Cambridge: Cambridge University Press, 2018).

36 James Acton and Ankit Panda, "North Korea's Doctrinal Shifts Are More Dangerous Than Missile Launches," *Foreign Policy* (November 4, 2022), https://foreignpolicy.com/2022/11/04/north-korea-nuclear-doctrine-more-dangerous-than-missile-launches/

Strategic Command. That means there is a central entry point in the Korean government for reforming deterrence policies. Because South Korea still relies heavily on the United States for the intelligence, surveillance, and reconnaissance (ISR) capabilities required to launch precision strikes against North Korean targets, the United States should have some ability to insist on some checks and balances to ensure deterrence policies are not primed for failure.

Risks Addressed

Checking the escalatory potential of South Korea's three-axis deterrence policy would be a major step toward reducing both structural and situational risks.

Structurally, South Korea's approach to deterrence creates every incentive for North Korea to adopt **a first-use nuclear posture regardless whether that actually is its current posture.**

Situationally, one of our nuclear use-case scenarios involved North Korea resorting to nuclear first-use because it misperceived an imminent attack on North Korean leadership. South Korea's "three-axis deterrence" policy makes that misperception in the midst of crisis much more likely—it is in fact a direct statement of the policy. Conditioning or restraining the policy thus becomes one specific way of reducing situational risk in Korea.

Policy Proposal: End-Use Restrictions on Missile and Drone Sales to Avoid Targeting Nuclear Weapon Systems

Recommendation

Precision-guided munitions should not target nuclear weapons systems to avoid inadvertent nuclear escalation. China should introduce end-use restrictions on its missile and drone sales. Japan and South Korea should pledge not to target Chinese or North Korean nuclear-related weapons systems with advanced cruise missiles or drones. And the United States should require end-use restrictions on the sale or transfer of any drone or cruise missile system capable of targeting Chinese or North Korean nuclear-related operations.[37] At present, this means the Tomahawk land-attack cruise missile system, which the State Department approved Japan to purchase in 2023,[38] but it should also apply to unmanned aerial systems. The restriction could entail either a commitment to no operational use of the missile outside of alliance (with the US) command and control arrangements, or an agreement by the end user not to use its munitions for nuclear targeting.

37 A narrower version of this recommendation first appeared in Panda, *Indo-Pacific Missile Arsenals,* p. 90.

38 "US State Dept OKs potential sale of 400 Tomahawk missiles to Japan-Pentagon" *Reuters* (November 18, 2023), https://www.reuters.com/business/aerospace-defense/us-state-dept-oks-potential-sale-400-tomahawk-missiles-japan-pentagon-2023-11-17/

Reasoning

The goal of the restriction is to ensure that the end users of US (and Chinese) precision-guided munitions do not use those weapons to target the nuclear command, control, and communication (NC3) or nuclear forces of adversaries because so doing would risk nuclear escalation. Allies that abide by the proposed end-use restriction reduce the possibility of nuclear escalation during a conventional conflict.

Implementation

As Ankit Panda points out, "existing U.S. law concerning arms exports already requires that decisions take into consideration whether the supply of a requested item could 'increase the possibility of outbreak or escalation of conflict.'"[39] The proposal here simply extends that requirement to stress not only conventional but also unintended or avoidable nuclear conflict, and to solicit pledges that align with end-use restrictions.

Risks Addressed

This proposal addresses the situational risk associated with striking nuclear-related targets in a conventional conflict. In our nuclear use-case scenarios, one pathway to nuclear first-use involved nuclear-armed belligerents (China or North Korea) facing a use-or-lose situation in which its NC3 were being destroyed by conventional forces. Any conventional war with nuclear-armed powers introduces the heightened risk of nuclear escalation, but that risk increases substantially once its nuclear forces are being targeted. Conventional warfare that escalates to nuclear use is self-defeating, so all war preparations—which is what rationalizes the transfer of US precision-guided munitions—must proactively avoid nuclear-related targeting. Allies must abide by this constraint just as the US forces must.

Policy Proposal: Codify the US Moratorium on Anti-Satellite Testing

Recommendation

The United States should codify and expand its unilateral ban on direct-ascent anti-satellite (ASAT) missile testing.

Reasoning

The security studies literature, as well as one of our year three commissioned policy papers, identified dual-capable systems and technologies that intersect with NC3 as posing unique risks of nuclear escalation that did not exist in prior eras.[40] As satellites and cyberspace become sites

39 Panda, *Indo-Pacific Missile Arsenals,* p. 90.

40 James Acton, "Escalation Through Entanglement: How the Vulnerability of Command-and-Control Systems Raise the Risks of An Inadvertent Nuclear War," *International Security* Vol. 43, no. 1 (2008), pp. 56-99.

where nuclear and conventional functions intermingle, inadvertent targeting and inadvertent nuclear escalation are a growing risk. One way of reducing that risk is through ASAT testing restrictions, because ASAT attacks are the primary means of targeting dual-capable systems in space.

Implementation

In 2022, the Biden administration announced a unilateral moratorium on ASAT missile tests with the explicit hope of shaping space-related norms in the direction of nuclear stability.[41] Given the American military's heavy reliance on space-based communications relative to China, Russia, and North Korea, it is uniquely vulnerable if terrestrial warfare extends to attacking satellites in space. It is therefore in America's interest (and that of the global economy) to discourage both space warfare and the practice of targeting satellites for research and development purposes. While all parties would benefit from a permanent ban on ASAT missile testing, a US unilateral ban does not need to be contingent on what other nations do since US ASAT tests would not create any deterrence advantage.

Risks Addressed

An ASAT testing ban would indirectly reduce structural risks of nuclear first-use by way of shaping international norms in space. It helps shift the context of future nuclear decisions to be more predictable, less urgent, and therefore more stable. Nuclear crises are less likely to emerge if the actions of nuclear states are taken within a thicket of restraint-oriented norms and practices.

Policy Proposal: Support the Restricting First Use of Nuclear Weapons Act

Recommendation

The US Congress should assert congressional war powers to restrict the US president's unilateral authority to launch nuclear weapons except when Congress has authorized war. US allies should also support (or at least not to oppose) such move.

Reasoning

The US president has the legal authority to launch a nuclear war *for any reason* without prior consultation with other branches of government. Bridling the ability for a single person to launch nuclear war would strengthen the credibility of future US declarations of nuclear no-first use. It would also alleviate some of the existing first-use instability fears that China and North Korea harbor, which in turn would encourage those governments to pursue more restrained nuclear postures.

41 FACT SHEET: Vice President Harris Advances National Security Norms in Space (April 18, 2022), https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/18/fact-sheet-vice-president-harris-advances-national-security-norms-in-space/#:~:text=Today%20at%20Vandenberg%20Space%20Force,for%20responsible%20behavior%20in%20space

Implementation

Congressional members introduced legislation in 2016 and 2021 to restrain presidential nuclear launch authority except when war has been congressionally authorized.[42] The legislation exists, has previously garnered minority support in the Congress, and has the backing of advocacy groups and civil society organizations. Restricting launch authority, moreover, is a move that the United States can undertake on its own without making it contingent on negotiations with China or North Korea.

Risks Addressed

This proposal to support the *Restricting First Use of Nuclear Weapons Act* addresses both structural and situational sources of risk.

Structurally, Northeast Asia's arms-racing instability risk derives partly from Chinese and North Korean imperatives to ensure the survivability of their respective nuclear arsenals from US nuclear attacks. Limiting the conditions during which the US president could legally launch nuclear weapons to occasions of congressionally authorized warmaking gives added incentives for both China and North Korea to avoid war as a way to avoid exposure to nuclear attack. It also alleviates the need for either China or North Korea to plan for preemptive nuclear first-use scenarios themselves.

Situationally, this proposal deals squarely with one of our nuclear use-case scenarios—"US Leadership Hubris"—in which a hubristic, erratic US president opted to launch nuclear weapons punitively, out of a not-thoroughly-considered personal conviction that it would "deter" future North Korean nuclear use.

Policy Proposal: Defund the Nuclear-Armed Sea-Launched Cruise Missile (SLCM-N)

Recommendation

The US Congress should defund the SLCM-N and the Pentagon should reject making the SLCM-N a program of record in its defense budget submissions.

Reasoning

America's ability to deter adversary nuclear attacks is not helped by the development and acquisition of nuclear-armed cruise missiles. The SLCM-N could introduce further risks of deterrence failure because it could raise the discrimination problem—"The inability of states to distinguish whether an incoming cruise missile is nuclear or conventional will compound doubt and uncertainty, posing

42 Press Release, "Senator Markey and Rep. Lieu Announce Reintroduction of Bill to Limit U.S. President's Ability to Start a Nuclear War," Office of Senator Ed Markey (January 19, 2021), https://www.markey.senate.gov/news/press-releases/01/19/2021/senator-markey-and-rep-lieu-announce-reintroduction-of-bill-to-limit-us-presidents-ability-to-start-a-nuclear-war

a serious threat to crisis communication, stability, and control."[43] Arguments that insist SLCM-N does not heighten the discrimination problem because air-launched cruise missiles already exist confuse the ease/difficulty of tracking air-launched versus sea-launched platforms. Congressional advocates of the SLCM-N argue it helps fill a "missile gap" with China, and that more missiles will increase overall lethality of friendly forces, thereby strengthening deterrence. However, this is simply untrue. Capability differences are not inherently a problem, and deterrence does not depend on plugging "gaps" or capability imbalances. In the most optimistic case, the purported deterrence benefits that advocates of SLCM-N expect are redundant with existing capabilities.[44]

Implementation

US nuclear modernization plans already provide for B61 bombs, air-launched cruise missiles, and a new nuclear warhead for the Trident D5 SLBM. As George Perkovich has noted, "These systems can, together, do anything the SLCM-N can do."[45] The Biden administration's FY24 budget submission initially excluded a request for SLCM-N funding, despite support for it from congressional Republicans, because its risks were not thought through and its potential use cases created complications for US conventional capabilities.[46] Because our recommendation is to defund this capability, taking this step to preserve stability actually saves money.

Risks Addressed

Defunding the SLCM-N reduces structural risk as a rearguard action, recognizing that the SLCM-N capability would "preclude future arms control treaties" as long as the US Navy maintains a policy that would prohibit verification of whether its ships are carrying nuclear payloads.[47] It also reduces situational risk that presents as a discrimination problem: one of our nuclear use-case pathways involved North Korean and Chinese misperceptions respectively of US/ally military intent. The discrimination problem heightens that misperception risk, and eliminating the SLCM-N helps to marginally reduce it.

43 Andrew Facini and Christine Parthemore, Risk Roundup: The Nuclear Sea-Launched Cruise Missile," *Council on Strategic Risks* (June 15, 2022), https://councilonstrategicrisks.org/2022/06/15/risk-roundup-the-nuclear-sea-launched-cruise-missile/

44 Michiru Nishida, "Are U.S. Nuclear Sea-Launched Cruise Missiles Necessary? A Japanese Security Analysis" https://councilonstrategicrisks.org/wp-content/uploads/2022/02/Are-U.S.-Nuclear-Sea-Launched-Cruise-Missiles-Necessary_A-Japanese-Security-Analysis_BRIEFER-30_2022_02_09.pdf.

45 George Perkovich, "Taxpayers Should Question the Pitch to Fund Another Naval Nuclear Weapon," *Carnegie Endowment for International Peace Policy Outlook* (May 12, 2022), https://carnegieendowment.org/2022/05/12/taxpayers-should-question-pitch-to-fund-another-naval-nuclear-weapon-pub-87120

46 "TAKE ACTION: No Funding for Nuclear-Armed Submarine-Launched Cruise Missiles," *Arms Control Association* (2023), https://www.armscontrol.org/take-action/no-SLCMN-funding

47 Perkovich, "Taxpayers Should Question the Pitch to Fund Another Naval Nuclear Weapon."

Policy Proposal: Pause and Investigate Permanently Halting Development of Ground-Based Intermediate-Range Missiles

Recommendation

The United States should pause—and evaluate the merits of a permanent end to—the development of all ground-launched, land-attack missiles with strike ranges between 500km and 5,500km. It should then propose China, North Korea, and South Korea freeze development of missiles within this range capability. It should propose China, Russia, North Korea, Japan and South Korea also declare the same and China, Russia and North Korea immediately freeze development of nuclear missiles within this range capability.

Reasoning

The United States and Soviet Union signed the Intermediate-Range Nuclear Forces (INF) Treaty in 1987 for the express purpose of reducing the substantial nuclear risk associated with a category of weapon that added little to any argument that might be made on behalf of deterrence. Whatever deterrent benefit nuclear weapons had could be realized at an intercontinental range. But in the intermediate range, adversaries would find it difficult—even impossible—to discriminate between a conventional (non-nuclear missile) and a nuclear attack.

Since the United States withdrew from the INF Treaty in 2019, it has resumed testing and developing ground-launched cruise missiles (GLCMs) with a range of 500+km. Pausing further development while studying potential alternative defense and deterrence concepts can serve as both a tension-reducing measure and an opportunity to evaluate lower-risk alternatives.

Implementation

This proposal requires no new budgetary appropriations (in fact, it saves money). The purported benefit of GLCMs is in support of a strategic concept (archipelagic defense) that remains controversial and that the Department of Defense has never officially endorsed. Moreover, the most-likely host of GLCMs is Guam, which would require further exploiting a territory denied self-determination (itself an unsustainable political problem that the United States has chosen to ignore). If study into the merits of GLCMs finds that there is a strategic case for the permanent end GLCM production, the next step of this proposal would entail a regional verification mechanism that includes on-site inspections, thereby preventing the Russian violation scenario that the United States used to justify its withdrawal from the INF Treaty. Such a regional verification mechanism will be a significant confidence-building measure.

Risks Addressed

Halting intermediate-range missiles alleviates both structural and situational risks. Structurally, intermediate-range missiles represent an escalation of the Sino-US arms-racing dynamic. To the extent that US intermediate-range missiles nullify the advantages of China's missile forces, they compel China to further expand and diversify its missile capabilities.

In a crisis, adversaries will find it difficult to know whether they are being targeted by US conventional or nuclear-tipped missiles and may therefore be forced to assume they face a nuclear attack. This proposal directly addresses the mechanism (the discrimination problem) that heightens misperception. Removing US intermediate-range missiles from the adversary equation reduces the chances for misperception in the fog of war.

Policy Proposal: A Declaration of Nuclear Inventory from North Korea and China

Recommendation

North Korea and China should offer to furnish a full accounting of its nuclear warheads and fissile material.

Reasoning

For skeptical policymakers in Washington, Seoul, and Tokyo, North Korea's unwillingness to offer full transparency about its nuclear capabilities undermined the arms-reductions momentum summit diplomacy between the United States and North Korea in 2018 and 2019. Worse, it became the key measure of proof that North Korea had no intention of fulfilling its various rhetorical commitments to denuclearization. China, moreover, has rapidly expanded the number of missile silos and it remains unclear to analysts how many house nuclear warheads or missiles. A declaration of nuclear inventory from North Korea and China would therefore simultaneously serve as a confidence-building measure, a check against anti-arms control hawks seeking to prioritize war planning over war prevention, and an indicator of a more predictable security environment.

Implementation

The robustness of North Korea's nuclear deterrent—and therefore its relative sense of security—is not affected by revealing the size, number, and even location of its nuclear capabilities. It is reasonable to assume US intelligence already knows not only about the full scope of North Korea's nuclear capabilities; it knows what the North Korean leadership does not admit to possessing. But for deterrence this matters little—the US military already targets key sites in North Korea and under no circumstances could it destroy all North Korean nuclear capacity before North Korea is able to launch retaliatory strikes. Accordingly, North Korea retains an assured retaliation nuclear deterrent regardless of what it reveals about its nuclear disposition.

Moreover, during the presidential summit diplomacy of 2018 and 2019, Kim Jong Un had expressed a willingness to furnish full transparency about its nuclear inventory as part of a larger rapprochement-and-denuclearization process. That process was sabotaged by poor planning, distrusting agents in the US and Pyongyang, North Korea's misplaced expectations of upfront sanctions relief, and the US

insistence that North Korean disarmament precede a durable improvement in bilateral relations.[48] All of those process-sabotaging issues can be managed by first ripening the geopolitical context within which Washington requests a declaration of nuclear inventory.

Risks Addressed

A declaration of nuclear inventory would constitute an important North Korean contribution to reducing structural risk of nuclear conflict in Northeast Asia. When taken together with other confidence-building initiative and military restraint-oriented processes, North Korean nuclear transparency helps create greater distance from militarized crises and preempts skeptical political actors opposed to relations of cooperative co-existence.

Policy Proposal: Rollback the "Ground-Based Strategic Deterrent"

Recommendation

All regional stakeholders should reduce their reliance on ground-based missile forces for deterrence, but the United States specifically should reduce the risk associated with reliance on ICBMs as a "ground-based strategic deterrent" in three steps:

- Cut the overall inventory of the ICBM force by at least 100 missiles
- De-nuclearize them, placing only conventional warheads on ICBMs
- Place remaining ICBMs on mobile platforms

Reasoning

ICBMs have traditionally been thought of as one leg of a holy nuclear deterrence triad alongside nuclear-armed bombers and nuclear-armed submarines. But the United States does not need the ICBM in order to remain capable of deterring others from nuclear attacks. One aspect of the ICBM's supposed unique value in the triad is that it gives the president the ability to launch a nuclear warhead instantaneously (with bombers and submarines as delivery vehicles, there is both a longer time before the warhead reaches the target and more steps in the process of delivering the warhead to the target). But if the United States has the assured ability to retaliate against nuclear use, which the other legs of the nuclear triad ensure, then the ICBM is superfluous, needlessly leading an enemy's nuclear-armed missiles to target the continental United States.

48 Uri Friedman, "Inside the Collapse of Trump's Korea Policy," *The Atlantic* (December 19, 2019), https://www.theatlantic.com/politics/archive/2019/12/donald-trump-kim-jong-un-north-korea-diplomacy-denuclearization/603748/; Ankit Panda and Vipin Narang, "The Hanoi Summit Was Doomed from the Start," *Foreign Affairs* (March 5, 2019), https://www.foreignaffairs.com/articles/north-korea/2019-03-05/hanoi-summit-was-doomed-start

Implementation

While the deterrence benefits of ICBMs remain at best murky, the cost and risks associated with ICBMs have become both more contentious politically and controversial among nuclear analysts.[49] As a status quo, US ICBMs are highly vulnerable to enemy targeting and not at all survivable. Placing them on mobile platforms, rather than in fixed silos, would help. It would also allow for the United States to reduce the total number of ICBMs from 400 to 300, with 150 in a mobile basing mode, possibly with two warheads each. The gain in survivability would more than compensate for the fewer numbers of launchers compared to present plans."[50]

And because the US missile force is both precise and long-range, the United States can convert its ICBMs into a "conventional prompt global strike system" without losing any ability to hold enemy nuclear forces at risk.[51]

Risks Addressed

This proposal primarily addresses situational risks of nuclear use. In one of our nuclear use-case scenarios—"US Leadership Hubris"—a highly risk-acceptant US president acted on his sole authority to escalate a conflict to nuclear-first use without adequate checks on his judgment. Eliminating the ICBM as a strategic deterrent reduces the temptation for a president to live out this scenario.

RECIPROCAL TRANSFORMATIONS

Policy Proposal: Multilateralize a Moratorium on Anti-Satellite Testing

Recommendation

Japan should lead a diplomatic effort to multilateralize the US moratorium on direct-ascent anti-satellite (ASAT) missile testing.

49 See, for example, Emma Claire-Foley, T*he Real Cost of ICBMs: U.S. Economic Development Beyond Defense Spending* (Washington, D.C.: Global Zero, 2022), https://www.globalzero.org/wp-content/uploads/2022/06/The_Real_Cost_of_ICBMs.pdf; Sarah Lazare, "Biden is Using the Ukraine Crisis to Justify Dangerous Investments in Nuclear Weapons," *In These Times* (March 28, 2022), https://inthesetimes.com/article/biden-budget-pentagon-nuclear-weapons-icbm-russia-ukraine; Fred Kaplan, "The Missile Trap," *Slate* (March 10, 2021), https://slate.com/news-and-politics/2021/03/icbm-gbsd-missile-lobby.html

50 Stephen Cimbala and Lawrence Korb, "Rethinking the US strategic triad: When it comes to nuclear platforms, how many are enough?" *Bulletin of Atomic Scientists* (December 20, 2023), https://thebulletin.org/2023/12/rethinking-the-us-strategic-triad-when-it-comes-to-nuclear-platforms-how-many-are-enough/

51 Ibid. See also Jeffrey Lewis and Scott Sagan, "The Nuclear Necessity Principle: Making U.S. Targeting Policy Conform with Ethics and the Laws of War," *Daedalus* Vol. 145, no. 4 (2016), pp. 62-74; Dan Plesch, "Could the US Win World War III Without Using Nuclear Weapons?" *The Conversation* (April 19, 2018), https://theconversation.com/could-the-us-win-world-war-iii-without-using-nuclear-weapons-94771

Reasoning

The security studies literature, as well as one of our year three commissioned policy papers, identified dual-capable systems and technologies that intersect with NC3 as posing unique risks of nuclear

escalation that did not exist in prior eras.[52] As satellites and cyberspace become sites where nuclear and conventional functions intermingle, inadvertent targeting and inadvertent nuclear escalation present a growing risk. All Northeast Asian governments have a stake in reducing that risk. Multilateralizing the US moratorium would create a stabilizing restraint-oriented regime where currently only one government has committed to restraint.

Implementation

Japan is an advanced technological power with no offensive space-based capability, making it a natural leader on ASAT restraint policies.

Risks Addressed

An ASAT testing ban would indirectly reduce structural risks of nuclear first-use by way of shaping international norms in space. It helps shift the context of future nuclear decisions to be more predictable, less urgent, and therefore more stable. Nuclear crises are less likely to emerge if the actions of nuclear states are taken within a thicket of restraint-oriented norms and practices.

Policy Proposal: A Regional Missile-Launch Notification Regime

Recommendation

The US government, along with all Northeast Asian governments, should negotiate an agreement to have a common protocol of notification prior to all missile launches whose range exceeds 300km.

Reasoning

Establishing agreed-upon norms for informing interested parties prior to launching missiles reduces the chances of a surprise reaction by others when missile launches are conducted. Surprise is a crucial condition of all crises,[53] so reducing the space for surprise reduces the likelihood of crises occurring.

52 James Acton, "Escalation Through Entanglement: How the Vulnerability of Command-and-Control Systems Raise the Risks of An Inadvertent Nuclear War," *International Security* Vol. 43, no. 1 (2008), pp. 56-99.

53 The three attributes of crisis are surprise, unusual or short time durations for decision-making, and perceptions of important values being threatened. See Charles Herman, *Crises in Foreign Policy* (Indianapolis, Bobbs-Merrill, 1969).

Implementation

This regime could build on existing precedents for prior notification of missile launches across the region. Russia and China already notify each other prior to missile launches in excess of 2,000km.[54]

North Korea sometimes—but not often—issues general notifications to mariners (NOTAM) before missile launches.[55]

There is some support for this proposal in the nuclear analyst community.[56] Such a regime also entails no strategic vulnerability—all information shared is information that can be collected via open-source and technical intelligence means after a launch, meaning that it entails no security compromises on the part of the notifying nation. *If* patterns of cooperation can be established in Northeast Asia, then the predictability presented in this proposal would be viable as a low-cost public good in the common interest of each government.

Risks Addressed

A missile-launch notification regime is a measure that primarily addresses structural risks of nuclear use—minimizing the space for crises to emerge in the first place—rather than helping to manage any given crisis. If the notification includes information about the missile's trajectory and payload, it avoids any possibility of catalyzing action-reaction cycles that fuel perceptions and miscalculations.

Policy Proposal: Advanced Conventional Arms Freeze

Recommendation

The United States should propose a 12-month freeze (with the possibility of extension) in the testing, production, and new deployment of advanced conventional weapons. The freeze would apply to the United States and all Northeast Asian militaries.

Reasoning

The nuclear freeze campaign of the 1980s sought to arrest the US-Soviet nuclear arms race while creating political space for leaders to pursue confidence-building and weapons-reduction measures.[57] This proposal would extend the logic of the nuclear freeze movement to conventional armaments—buy space and time for leaders to convert some of their diplomatic capital into non-military, non-antagonistic purposes by first agreeing to pause further development of advanced conventional munitions.

54 Ankit Panda, I*ndo-Pacific Missile Arsenals: Avoiding Spirals and Mitigating Escalation Risks* (Washington, DC: Carnegie Endowment for International Peace, 2023), p. 90.

55 https://www.faa.gov/air_traffic/publications/us_restrictions/media/notice-for-the-north-korea-pyongyang-fir.pdf

56 Ankit Panda, for example, proposed a narrower, China-focused version of this in Panda, *Indo-Pacific Missile Arsenals*.

57 See especially Henry Maar III, *Freeze! The Grassroots Movement to Halt the Arms Race and End the Cold War* (Ithaca: Cornell University Press, 2022).

Implementation

If a conventional freeze proposal is introduced suddenly into a context of escalating arms-racing, it will fall on deaf ears. But in a context where other stability-oriented reforms are also being undertaken, a conventional freeze becomes a natural complement to a larger effort to reduce nuclear risk. And because it proposes simply pausing military advancements for the duration of one defense budget submission, implementation introduces no added risk or insecurity for any stakeholder.

In the longer-term, this proposal should be accompanied by the development of a regional verification mechanism.

Risks Addressed

Pursuing cooperative and stability-favoring measures under conditions of nuclear precarity requires diplomatic space. This proposal, especially in tandem with other recommendations in this report, helps open that diplomatic space. In that way, a conventional freeze would address structural risks, temporarily alleviating acutely felt pressures toward arms-racing in favor of mutual restraint.

In so doing, it allows for the deferral of decisions that might increase risks of nuclear first-use while doubling as a confidence-building measure.

Policy Proposal: A "No-Dead-Hand" Nuclear Restriction

Recommendation

The United States, China, and North Korea should forswear establishing "fail-deadly" perimeter detection systems that automatically trigger nuclear-armed missile launches based on radar identification of incoming missiles (known as dead-hand triggers).

Reasoning

Dead-hand triggers have the sole purpose of deterrence. They exist to remove doubts about the credibility of a retaliatory nuclear strike in the event a nation is attacked by nuclear weapons.

The marginal apparent advantage a dead-hand offers for calculations of deterrence also introduces obscene risks of technical glitches or false-positive radar detection leading to inadvertent nuclear launches. The likelihood of such accidents is low, but there is precedent to worry about the possibility of them, and the stakes of such an outcome are too large to simply accept.[58]
A no-dead-hand commitment by the United States, China, and North Korea would directly mitigate one specific form of nuclear first-use pressure (that of inadvertent first-use).

58 David Hoffman, *The Dead Hand: The Untold Story of the Nuclear Arms Race and Its Dangerous Legacy* (New York: Anchor, 2010).

Implementation

As of 2022, the US Department of Defense assessed that China's PLA was in the process of establishing a launch-on-warning (LOW) nuclear posture—similar to a dead-hand trigger in that it assures nuclear retaliation but its process does not entail automaticity.[59] However, China has also advocated for nations to avoid such risk-generating approaches to nuclear deterrence.[60] Because China has not fully developed the early-warning capability needed to implement this posture, now is the time to disincentivize it.

Risks Addressed

This proposal addresses a major source of situational risk between China and the United States. In our nuclear use-case scenarios, one involved a war over Taiwan in which China resorted nuclear first-use on the logic of escalate-to-de-escalate. But in that scenario, China had neither a dead-hand nor a launch-on-warning nuclear posture. There is a high risk that US targeting of the Chinese mainland (which is built into US contingency planning for a conflict) would trigger Chinese nuclear first-use for false-positive reasons.

Policy Proposal: A Ban on Low-Yield "Tactical" Nuclear Weapons

Recommendation

The United States should propose an accord with China and North Korea to ban low-yield "tactical" nuclear weapons. Because any use of nuclear weapons no matter the yield is strategically consequential, "tactical" may seem a misnomer, but it is the common term of art for low-yield nuclear warheads intended for battlefield use. What constitutes low-yield includes nuclear artillery, backpack nuclear warheads, and nuclear landmines.

Reasoning

Because tactical nuclear weapons can have a much lower detonation yield than ICBMs or medium-range ballistic missiles (MRBMs), they invite the extremely risky perception that they are more "usable." During the Cold War, the US military deployed tactical "backpack" nuclear weapons to the Korean Peninsula because it addressed a step in the metaphorical "escalation ladder."[61] They were designed to be a nuclear-use option on the way to but still short of mutually assured destruction. Logically, tactical nuclear weapons invite nothing but risk and it is imperative to halt their development and proliferation in both Northeast Asia and in the US arsenal.

59 *Military and Security Developments Involving the People's Republic of China 2022: Annual Report to Congress* (Washington, DC: US Department of Defense, 2022), p. 99.

60 Ibid.

61 There is no such thing as an escalation ladder—it is a metaphor that gives the impression that escalation can be ratcheted and/or dominated by developing the right mix of capabilities.

Implementation

America's tactical nuclear weapons during the Cold War did not appreciably deter its enemies, and their global withdrawal at the end of the Cold War had no negative measurable consequence. Today, neither China nor the United States has a foreseeable deterrence advantage in developing tactical nuclear weapons. North Korea does claim to have what it calls tactical nuclear weapons, but they use the phrase as shorthand for any operational nuclear warhead designed to reach as far as Guam.

True low-yield warheads are within North Korea's ability to develop, but the expense of doing so is not necessarily in Kim Jong Un's interest considering that they would not enhance North Korea's ability to deter US and South Korean capabilities. *If* Northeast Asia can enter into militarily restrained, diplomatically cooperative patterns of relations, then an agreement to ban tactical nuclear warhead development should be easy to secure.

Risks Addressed

Tactical nuclear weapons increase both structural and situational risk, and so foreclosing on their proliferation in Northeast Asia would diminish both structural and situational risk.

Structurally, the relatively low nuclear yield and "battlefield" operational connotation pushes the competitive arms dynamic between belligerents in a direction that encourages all sides to embrace first-use or launch-on-warning nuclear postures. Arresting that dynamic benefits stability for the US-China dyad as well as the US-North Korea dyad. Situationally, two of our nuclear use-case pathways involved North Korea resorting to nuclear first-use—in one it was because it misperceived US and ROK military intent, and in the other it was a "demonstration" attack against a South Korean target for coercive purposes. In both types of nuclear first use, "tactical" nuclear warheads would have been the preferred weapon for nuclear escalation.

Policy Proposal: Support a 2% Defense Conversion to Support Non-Military UN Goals

Recommendation

Northeast Asian governments, as well as the United States, should agree to redirect two percent of their defense spending to a UN fund that addresses public health, climate adaptation, global poverty, and inequality.

Reasoning

In 2021, dozens of Nobel laureates launched a "Peace Dividend" campaign, demanding that two percent of military spending by all governments be directed toward UN programs that addressed

root causes of insecurity.[62] Although two-percent reductions in defense are modest, they would contribute to slowing and perhaps arresting Northeast Asia's arms-racing pressures. Moreover, because military problems arise from political and socio-economic contexts of competitive exclusion and power accumulation, diverting a portion of military spending toward upstream sources of insecurity would bring greater proportionality to the gross mismatch in how governments allocate resources in response to existential threats.

Implementation

Notwithstanding the narrow bureaucratic interests of military institutions, this proposal would give every government the excuse to reallocate more global resources toward global problems. For the United States in particular, the two-percent diversion could come from some of the recommendations in this report—defunding SLCM-N, foregoing the development of intermediate-range ground-launched cruise missiles, reducing the ICBM inventory, and converting ICBMs to a non-nuclear prompt global strike regime. For a country like North Korea, which relies on the military as its largest employer, its defense savings could be internally redirected (toward economic programs, for example) rather than transferred to a global UN fund.

Risks Addressed

Converting two percent of defense spending to deal with global insecurity challenges works indirectly to address structural risks of nuclear use. It provides confidence-building momentum. It also makes a material contribution to some of the recommendations in this report that, taken together, ripen the geopolitical context in a manner that enables the prospect of replacing conflict spirals with cooperation spirals. The crises that give rise to nuclear first-use possibilities are less likely to occur when belligerents are in a restrained, amiable mode. Finally, the imperative to accelerate nuclear modernization is less acute if funding for it is reduced.

Policy Proposal: A Nuclear-Free Seas Initiative with North Korea and China

Recommendation

The United States should move toward a nuclear-weapons-free zone in Northeast Asia by negotiating a monitored, mutual ban on nuclear weapons within the Exclusive Economic Zones (200 nautical miles) of the Korean Peninsula's coastlines.

Reasoning

Had this initiative been introduced 10 years ago, North Korea would not currently have a submarine-launched ballistic missile (SLBM) capability. North Korea's SLBMs make North Korean missile

62 Dan Sabbagh, "'Colossal Waste': Nobel Laureates Call for 2% Cut to Military Spending Worldwide," *The Guardian* (December 14, 2021), https://www.theguardian.com/world/2021/dec/14/nobel-laureates-cut-military-spending-worldwide-un-peace-dividend

launches harder to track and effectively gives it a secure second-strike retaliatory capability, which substantially increases the costs of any US or South Korean military actions (whether preemptive, preventive, or retaliatory).

The role of SLBMs in North Korean nuclear strategy is not fixed; the overall lethality of SLBMs could progress much further, and the more that North Korea puts nuclear-armed submarines out to sea the greater the opportunity for accidents or inadvertent crises to ensue. A nuclear-free seas initiative would, at a minimum, inhibit North Korean SLBM operational readiness and disincentivize its further development.

Implementation

A nuclear-free seas initiative would constitute a maritime-delimited implementation of a Northeast Asia Nuclear Weapons-Free Zone.[63] In several past statements dating back to the 1990s, North Korea has agreed in principle to restricting how and the extent to which it deploys nuclear weapons as long as so doing entailed reciprocal restraint from the US.[64]

Risks Addressed

Nuclear-free seas reduce risk in the same way as a nuclear-weapon-free zone. In addition to helping generate momentum toward more restrained, cooperative behavior—including the establishment of a regional nuclear-free zone—a nuclear-free seas initiative would address structural risks of nuclear use by attempting to: "reverse the on-going attempt by the DPRK to acquire and strengthen its nuclear deterrent, as well as the counter military actions by Japan and the ROK by means of the strengthened U.S. extended deterrence including nuclear components."[65] The ongoing monitoring of nuclear-free seas would, moreover, entail a minimum amount of operational coordination across the US, North Korean, and South.

63 John Endicott and Alan Gorowitz, "Track II Cooperative Regional Security Efforts: Lessons From the Limited Nuclear-Weapons-Free Zone for Northeast Asia," *Pacifica Review: Global Change, Peace & Security* Vol. 11, no. 3 (1999), pp.293-323.

64 For a chronology of North Korean precedents supporting the idea that it would commit to a nuclear-weapon-free zone, see Hiromichi Umebayashi, "A Proposal for a Nuclear-Weapon-Free Zone," paper presented at the Kim Dae Jung Presidential Library Conference, "Toward Nuclear-Free Korea and Northeast Asia: Issues and Agenda for Action" (December 10, 2014), https://www.recna.nagasaki-u.ac.jp/recna/en-recnaseye/no3-en

65 Umebayashi, "A Proposal for a Nuclear-Weapon-Free Zone."

CONCLUSION

In our preceding recommendations, we have described the reasoning, plausibility, and potential impact of each. Still, some readers might find certain of these proposals far-fetched all the same. It is natural to scan a list of recommendations and dismiss the ones that seem impractical in the context of Northeast Asian security today—but the context of Northeast Asian security today is what must be reshaped in order to make meaningful risk-reducing policies possible.

Northeast Asia is barreling toward nuclear precarity. Policies oriented toward increased, stronger, or enhanced deterrence are making the region less secure. In a region facing compounding nuclear risks, accelerating militarization, and chauvinistic rhetoric, something must be done. To make ambitious cooperative measures aimed at bridling the threat of nuclear weapons politically feasible, governments must warm and ripen the regional security environment so that leaders are able to embrace a less destructive path. The declaration, "Let Nagasaki be the Last!" is an ambitious demand, matched by our ambitious proposals. We call on leaders from the United States and Northeast Asia to help the world ensure that Nagasaki will indeed be the last.[66]

66 The policy recommendations in the body of the report were roughly ordered from most-to-least feasible measures for reducing structural or situational risks, based on the inputs of rank-orderings provided by more than a dozen nuclear and Northeast Asia experts. The recommendations below are ordered differently, with country-specific recommendations listed at the top. Several policy recommendations are shared across countries; those are listed at the bottom.

WE CALL ON **JAPAN** TO:

1. Lead a diplomatic campaign to multilateralize a moratorium on ASAT testing, expanding the model adopted by the United States to include China, North Korea, Japan, and South Korea.
2. Lead an effort to elevate the CTBT, including a principle of "no-first test."
3. Pledge not to target nuclear systems with precision-guided munitions (missiles or drones).
4. Embrace a rescoping of extended deterrence dialogues with the US to encompass reassurance and nuclear-risk reduction measures.
5. Promote a region-wide (including US) halt to further development of intermediate-range ground launched missiles.
6. Support the US Restricting First Use of Nuclear Weapons Act, and encourage Northeast Asian governments to adopt similar legislation.
7. Support a freeze of advanced conventional weapons and reallocate 2% of the defense budget saved to UN programs; lobby Northeast Asian governments to do the same.
8. Commit to a "No Leadership Assassinations and No Forced Regime Change" pledge.
9. Support development of a region-wide missile launch notification regime.
10. Invest in research on non-offensive defense strategic thinking.

WE CALL ON **SOUTH KOREA** TO:

1. Introduce measures to check and reduce risks associated with South Korea's "Three-Axis" deterrence policy.
2. Support a diplomatic campaign to multilateralize a moratorium on ASAT testing, expanding the model adopted by the United States to include China, North Korea, Japan, and South Korea.
3. Embrace a rescoping of extended deterrence dialogues with the US to encompass reassurance and nuclear-risk reduction measures.
4. Support efforts to elevate the CTBT, including a principle of "no-first test."
5. Promote a region-wide (including the US) halt to further development of intermediate-range ground launched missiles.
6. Support the US Restricting First Use of Nuclear Weapons Act, and encourage China and North Korea to adopt similar legislation.
7. Move toward a nuclear-weapons-free zone in Northeast Asia by negotiating a monitored, mutual ban on nuclear weapons within the Exclusive Economic Zones (200 nautical miles) of the Korean Peninsula's coastlines.
8. Support a freeze of advanced conventional weapons and reallocate 2% of the defense budget saved to UN programs; lobby Northeast Asian governments to do the same.
9. Commit to a "No Leadership Assassinations and No Forced Regime Change" pledge.
10. Support development of a region-wide missile launch notification regime.
11. Invest in research on non-offensive defense strategic thinking.

WE CALL ON **THE UNITED STATES** TO:

1. Declare an end to the Korean War and a willingness to live in mutual co-existence with China and North Korea, as well as publicly recognize the condition of mutual vulnerability that exists with both states' nuclear forces.
2. Propose a no-first use nuclear dialogue with China.
3. Codify the US moratorium on ASAT testing and continue supporting efforts to multilateralize the moratorium.
4. Issue a "No Nuclear Deployment" executive order instructing US forces to refrain from nuclear deployments to the Korean peninsula except by presidential direction.
5. Introduce end-use restrictions on the sale and transfer of precision-guided munitions (missiles and unmanned systems).
6. Lobby the congress to pass the US Restricting First Use of Nuclear Weapons Act, and encourage China and North Korea to adopt similar legislation.
7. Defund the nuclear variant of the Sea-Launched Cruise Missile (SLCM-N), which introduces heightened nuclear risks without an adequate deterrence benefit.
8. Begin a strategic security dialogue with North Korea.
9. Propose rescoping extended deterrence dialogues with Japan and South Korea to encompass reassurance and nuclear-risk reduction measures.
10. Halt development of ground-based, intermediate-range missiles and encourage all Northeast Asian governments to do the same.
11. Negotiate a ban on low-yield "tactical" nuclear weapons with China & North Korea.
12. Negotiate a "no-dead-hand" (fail deadly) nuclear restriction with China & North Korea.
13. Issue an executive order expressing the intent to ratify the CTBT and directing US compliance until then; support Northeast Asian efforts to elevate the CTBT, including a principle of 'no first test.'
14. Move toward a nuclear-weapons-free zone in Northeast Asia by negotiating a monitored, mutual ban on nuclear weapons within the Exclusive Economic Zones (200 nautical miles) of the Korean Peninsula's coastlines.
15. Support a freeze of advanced conventional weapons and reallocate 2% of the defense budget saved to UN programs; lobby Northeast Asian governments to do the same.
16. Commit to a "No Leadership Assassinations and No Forced Regime Change" pledge.
17. Support development of a region-wide missile launch notification regime.
18. Invest in research on non-offensive defense strategic thinking.

WE CALL ON **CHINA** TO:

1. Provide transparency about the full capacity of China's nuclear inventory, including warhead numbers, silos, and fissile material.
2. Participate in a no-first use nuclear dialogue with the United States.
3. Participate in a moratorium on ASAT testing, expanding the model adopted by the United States to include China, North Korea, Japan, and South Korea.
4. Participate in a region-wide (including the US) halt to further development of intermediate-range ground launched missiles.
5. Negotiate a ban on low-yield "tactical" nuclear weapons with the United States and North Korea.
6. Negotiate a "no-dead-hand" (fail deadly) nuclear restriction with the United States and North Korea.
7. Support efforts to elevate the CTBT, including a principle of "no-first test."
8. Move toward a nuclear-weapons-free zone in Northeast Asia by negotiating a monitored, mutual ban on nuclear weapons within the Exclusive Economic Zones (200 nautical miles) of the Korean Peninsula's coastlines.
9. Support a freeze of advanced conventional weapons and reallocate 2% of the defense budget saved to UN programs; lobby Northeast Asian governments to do the same.
10. Commit to a "No Leadership Assassinations and No Forced Regime Change" pledge.
11. Support development of a region-wide missile launch notification regime.

WE CALL ON **NORTH KOREA** TO:

1. Begin a strategic security dialogue with the United States.
2. Provide transparency about the full capacity of North Korea's nuclear inventory, including warhead numbers, silos, and fissile material.
3. Halt development of ground-based, intermediate-range missiles and encourage all Northeast Asian governments to do the same.
4. Negotiate a ban on low-yield "tactical" nuclear weapons with the United States and China.
5. Negotiate a "no-dead-hand" (fail deadly) nuclear restriction with China and the United States.
6. Support efforts to elevate the CTBT, including a principle of "no-first test."
7. Move toward a nuclear-weapons-free zone in Northeast Asia by negotiating a monitored, mutual ban on nuclear weapons within the Exclusive Economic Zones (200 nautical miles) of the Korean Peninsula's coastlines.
8. Support a freeze of advanced conventional weapons and reallocate 2% of the defense budget to economic development.
9. Commit to a "No Leadership Assassinations and No Forced Regime Change" pledge.
10. Participate in the development of a region-wide missile launch notification regime.

APLN ASIA-PACIFIC LEADERSHIP NETWORK
FOR NUCLEAR NON-PROLIFERATION AND DISARMAMENT

The Asia-Pacific Leadership Network for Nuclear Non-Proliferation and Disarmament (APLN) is a Seoul-based organisation and network of political, military, and diplomatic leaders and experts from across the Asia-Pacific region working to address global security challenges, with a particular focus on reducing and eliminating nuclear weapons risks.

The mission of APLN is to inform and stimulate debate, influence action, and propose policy recommendations designed to address regional security threats, with an emphasis on nuclear and other WMD (weapon of mass destruction) threats, and to do everything possible to achieve a world in which nuclear weapons and other WMDs are contained, diminished, and eventually eliminated.

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Nagasaki University is the only university in the world that has inherited a medical college having experienced the atomic bombing. Achieving a "world free from nuclear weapons" is thus a paramount concern to the University. Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA), located in a city that was attacked by an atomic bomb, is an educational and research institute which is the interdisciplinary center of local academia with a firsthand experience of the horror of nuclear weapons. Founded in 2012, its objectives encompass a twofold mission: firstly, through rigorous academic inquiry and analysis, to redefine the significance of Hiroshima and Nagasaki experiences in the light of the current world trend, and disseminate information and make proposals from various aspects towards abolishing nuclear weapons; secondly, to make best use of such a process and outcomes of its research and analysis, and contribute to university education. RECNA, as a think tank open to the local community longing for nuclear weapons abolition, operates in close cooperation with partners including Nagasaki City and Nagasaki Prefecture.

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