Preface for J-PAND Supplement Issue: Project on Reducing the Risk of Nuclear Weapons Use in Northeast Asia (NU-NEA)

David F. von Hippel, Peter Hayes, Shatabhisha Shetty, Tatsuiro Suzuki and Fumihiko Yoshida

*Nautilus Institute for Security and Sustainability, Eugene, OR, USA; †Nautilus Institute for Security and Sustainability, Berkeley, CA, USA; ‡Asia-Pacific Leadership Network, Seoul, ROK; §Research Center for Nuclear Weapons Abolition, Nagasaki University, Nagasaki, Japan

ABSTRACT

This supplement issue of Journal for Peace and Nuclear Disarmament presents the papers commissioned in 2021 to support the Project on Reducing the Risk of Nuclear Weapons Use in Northeast Asia (NU-NEA). The NU-NEA project was developed to study the risk contours and conflict terrain for war and nuclear escalation in and around the Korean peninsula. This study is being carried out in part by developing a set of plausible “use cases” for nuclear weapons in NEA, that is, cases in which a combination of nuclear weapons deployments, political, economic, or other circumstances in the region and/or internationally, and specific “triggering events” lead a state or non-state actor to detonate a nuclear weapon in the region (“first use”), followed by evolution of the nuclear conflict and its ultimate consequences. The commissioned papers that informed use case preparation were prepared by a group of authors from many nations and backgrounds, spanning topics from the history of the division of the ROK and DPRK to ROK military strategy, ballistic missile inventories and capabilities, counterforce issues, and many others. Nuclear use cases have been developed not to suggest probable outcomes, but to identify plausible outcomes so that policies can be devised and implemented to avoid any use of nuclear weapons, with the ultimate project goal being “let Nagasaki be the last.”

As geopolitical tensions rise around the world – the latest example, as of this writing, being Russia’s invasion of Ukraine – the manifold ways in which nuclear weapons might be used increases. In January 2022, a statement was signed by five states possessing nuclear weapons. The statement’s intention was to reduce the risk of a nuclear conflict starting by affirming “that a nuclear war cannot be won and must never be fought” (White House 2022). That this statement seems to have almost immediately subverted by Russian actions in late February 2022, with accompanying statements by Russian President Vladimir Putin referring to Russia’s nuclear arsenal, and threatening defeat...
and unspecified but “dire [or possibly ‘ominous’, as translations vary] consequences” against aggressors (Lizza 2022), accentuates the persistence and unpredictability of the nuclear threat.

The potential for nuclear weapons use, whether accidental, or resulting from a miscalculation of a rival’s intent, or deliberate, is arguably growing, and nowhere is this more evident than in the Northeast Asia region (NEA). Northeast Asia is home to two declared nuclear weapon States and United Nations Security Council members, the People’s Republic of China (the PRC or China) and the Russian Federation (Russia). China has been building its nuclear arsenal in both number and types of weapons. The territory of Russia within NEA, the Russian Far East, is home to major nuclear submarine and naval bases. NEA also includes one de-facto nuclear weapon State – the Democratic People’s Republic of Korea (DPRK) – that has built and expanded its nuclear arsenal and delivery systems over the last two decades. Though they have not, due to national commitments and international agreements, developed nuclear weapons, the Republic of Korea (ROK) and Japan have large nuclear power programs and the technical where-withal to develop nuclear weapons rapidly. In the midst of these nations sits Mongolia, which has uranium resources but neither nuclear power nor nuclear weapons and has declared itself a “nuclear weapons free zone”. The definition of Northeast Asia used in this Supplement Issue includes Taiwan, as a likely flash point for potential conflict without which any consideration of nuclear use cases in the region would be incomplete. In addition to these NEA neighbors, an accounting of the presence of nuclear weapons and nuclear deterrence dynamics in the region must include the United States, which has several major military bases in NEA, including in the ROK, Japan, and, to the south, Guam. Although US nuclear weapons were removed from the Korean Peninsula and from US surface warships in 1991, the United States provides “extended nuclear deterrence” to the ROK and Japan under bilateral security arrangements, and, unofficially (although meaningfully), maintains a defense commitment to Taiwan through the 1979 Taiwan Relations Act (American Institute in Taiwan n.d.), although the latter does not constitute a guarantee that the United States will intervene in a conflict involving Taiwan.

Geopolitics in NEA has increased the threat of nuclear war in NEA. Regional geopolitical considerations include great power rivalries between the United States and China, simmering territorial disputes between many of the NEA nations, and “strategic drift” as the United States has arguably failed to consistently keep pace with a changing military, economic, and policy environment in the region, coupled with the increased variety and number of nuclear weapons in the region. Central to, though not the only driver of this increased nuclear threat, is the situation on the Korean peninsula. The failure to engage the DPRK in a sustained manner on its nuclear weapons program and related issues has forced the international community to revert to relying primarily on military containment and isolation of the DPRK through United Nations Security Council sanctions and other measures. As the DPRK’s nuclear arsenal grows, even in its isolation, so does the risk that the DPRK or another party will, purposefully or through miscalculation, start a crisis leading to a conventional war that could escalate to the use of nuclear weapons.

Nuclear weapons issues on the Korean peninsula are interlinked in complex ways with other regional and global challenges. The COVID-19 pandemic has forced the DPRK deeper into isolation and has made it more difficult for even the Moon Jae-in administration in the ROK, which generally favored engagement with the DPRK, to move
forward significantly in reducing ROK-DPRK tensions. The overwhelming superiority of the combined ROK/US forces arrayed against the DPRK in conventional (non-nuclear) weapons further exacerbates the potential that the DPRK will resort to nuclear weapons use if it judges that it faces an immediate existential threat. China has been moving forward with building and arming its blue water navy and developing new missile systems, including greatly expanding its intercontinental ballistic missile facilities. China has also continued to stake and pursue territorial claims around islets in the South China Sea and has become increasingly assertive about Taiwan’s reunification with Mainland China. As such, risks of nuclear use involving China have risen as well. Nuclear weapons are present on the US, Russian, and Chinese submarines in the Pacific (Finaiole, Bermudez, and Hart 2021). Submarines from all of these countries, as well as the DPRK, the ROK, and other nations, operate in the Pacific, with dangers of interaction underscored by an alleged February 2022 anti-submarine warfare incident in the Kuril Island chain that sites between Japan and Russia. In this incident, Russian military sources claim that a US Virginia-class submarine was chased from a location within Russian territorial waters by a Russian warship, although the incident has been denied by the US Navy (Newdick 2022). The growing concentration of surface and submarine military assets in NEA waters makes conflict, intentional or inadvertent, more likely, and further increases nuclear use risks. The ongoing war in Ukraine and the apparent increase in nuclear deterrence forces alert level in Russia arguably accentuates the threat of, for example, an inadvertent nuclear launch involving submarines or other nuclear-capable assets in the Sea of Okhotsk or the Northern Pacific (Roth et al. 2022).

The actors, issues, and military assets present in Northeast Asia thus offer a large, complex and multifaceted universe of potential opportunities for nuclear weapons use to take place in the region. The multiple possible futures, ranging from those in which tensions are eased and risks reduced to those involving use of conventional and/or nuclear weapons in limited to even global nuclear war, need to be assessed to understand what actions may start a nuclear conflict, and what actions are needed to avoid the worst-case scenario, which is a nuclear war. The Project on Reducing the Risk of Nuclear Weapons Use in Northeast Asia (NU-NEA) was thus developed to study the risk contours and conflict terrain for war and nuclear escalation in and around the Korean peninsula.

The NU-NEA project, the first year of which is reported on in this Special Issue, has been to develop a range of possible and plausible cases that involve nuclear weapon use in the region, including possible escalation to a larger scale of nuclear war through counterstrikes. These cases have been prepared with a focus on use cases involving the Korean Peninsula in a regional and global geo-strategic context, and thus possibly involving actual weapons use in places other than Korea. The goal has been to provide enough specificity in the definition of the use cases to sufficiently inform the estimates of the impacts of those cases so that modeling of the cases can be implemented in the second year of the project. The use cases developed are described in the NU-NEA Project’s Year 1 Report, Possible Nuclear Use Cases in Northeast Asia: Implications for Reducing Nuclear Risk (RECNA-Nagasaki University, Asia Pacific Leadership Network, and Nautilus Institute 2022). The use cases presented have been reviewed by the project team and by a group of experts, many of whom have prepared commissioned papers for the project, then revised by the project team. The papers that informed use case preparation were prepared by a group of authors from many nations and
backgrounds, spanning topics from the history of the division of the ROK and DPRK to ROK military strategy, ballistic missile inventories and capabilities, counterforce issues, and many others. The papers commissioned by the project comprise the remainder of this Supplement Issue. Members of the Panel for Peace and Security of Northeast Asia (PSNA) provided further external review of the nuclear use cases developed during an online event.

The nuclear use cases resulting from this work, as reflected in the Year 1 Report, offer 25 pathways to nuclear war, with “first users” of nuclear weapons including the DPRK, the US, China, Russia, nations not currently possessing nuclear weapons, and non-state actors. These 25 cases, as varied as they are, are only a small fraction of the possible and plausible pathways to nuclear war in the region. Even this admittedly limited variety of cases, however, serves to clearly indicate that the terrain of nuclear risk is far more treacherous than most policymakers comprehend, as there is a tendency among policymakers and their advisors to focus only on those “probable” pathways that offer the illusion of control. The range of nuclear use cases shown here thus underscores the urgency to escape this terrain altogether – that is, to eliminate the risk from nuclear weapons – rather than try to continue to manage and avoid risk of nuclear war through modest adjustments to nuclear policies and deployment. That is, the risks shown highlight the need to expeditiously develop and pursue policies of threat reduction involving actors on and around the Korean peninsula and in Northeast Asia more broadly.

The second year of work in the NU-NEA project, starting in Spring of 2022, will assess potential consequences of a subset of the nuclear use cases defined in Year 1. Year 2 work will address a wide range of possible consequences, providing estimated quantitative and qualitative results of immediate impacts including fallout, fatalities, environmental damages, and physical damages associated with the use cases modeled. These results, in turn, will inform the more detailed development of policy alternatives that might be implemented to reduce and eventually eliminate the risk of nuclear weapons use. The definition of policy options in Year 3 will continue a process started in the Year 1 NU-NEA work. “Let Nagasaki be the last” is our ultimate goal.

Disclosure Statement

No potential conflict of interest was reported by the author(s).

Funding

The NU-NEA project partner organizations are the Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA), Nautilus Institute (NI), and the Asia Pacific Leadership Network for Nuclear Non-Proliferation and Disarmament (APLN), with the cooperation of the Panel on Peace and Security of Northeast Asia. The NU-NEA project is funded by Nagasaki University and the John D. and Catherine T. MacArthur Foundation.

Notes on Contributors

David F. von Hippel is a Senior Associate at the Nautilus Institute for Security and Sustainability.
Peter Hayes is an Honorary Professor, Center for International Security Studies; Executive Director, Nautilus Institute for Security and Sustainability.

Shatabhisha Shetty is the Executive Director for the Asia Pacific Leadership Network.

Tatsujiro Suzuki is a Vice-director of Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA), Japan.

Fumihiko Yoshida is the Director of Research Center for Nuclear Weapons Abolition, Nagasaki University (RECNA), Japan.

References

American Institute in Taiwan. n.d. “Taiwan Relations Act (Public Law 96-8, 22 U.S.C. 3301 Et Seq.).” January 1, 1979. https://www.ait.org.tw/our-relationship/policy-history/key-u-s-foreign-policy-documents-region/taiwan-relations-act/

Finaiole, M., J. Bermudez, and B. Hart. 2021. “A Glimpse of Chinese Ballistic Missile Submarines”. Center for Strategic and International Studies, August 4. https://www.csis.org/analysis/glimpse-chinese-ballistic-missile-submarines

Lizza, R. 2022. “POLITICO Playbook: War in Europe.” Politico, February 24. https://www.politico.com/newsletters/playbook/2022/02/24/war-in-europe-00011319

Newdick, T. 2022. “Russia Doubles Down On Claims A U.S. Submarine Was In Its Waters Despite Denial”, The Drive, 14 February. https://www.thedrive.com/the-war-zone/44287/russia-doubles-down-on-claims-a-u-s-submarine-was-in-its-waters-despite-denial

RECNA-Nagasaki University, Asia Pacific Leadership Network, and Nautilus Institute. 2022. “Possible Nuclear Use Cases in Northeast Asia: Implications for Reducing Nuclear Risk.” Project on Reducing the Risk of Nuclear Weapons Use in Northeast Asia (NU-NEA). https://www.recna.nagasaki-u.ac.jp/recna/bd/files/Year_1_NU-NEA_Report_E_220128-1.pdf

Roth, A., S. Walker, J. Rankin, and J. Borger. 2022. “Putin Signals Escalation as He Puts Russia’s Nuclear Force on High Alert.” The Guardian, February 27. https://www.theguardian.com/world/2022/feb/27/vladimir-putin-puts-russia-nuclear-deterrence-forces-on-high-alert-ukraine

White House. 2022. “Joint Statement of the Leaders of the Five Nuclear-Weapon States on Preventing Nuclear War and Avoiding Arms Races.” January 3. https://www.whitehouse.gov/briefing-room/statements-releases/2022/01/03/p5-statement-on-preventing-nuclear-war-and-avoiding-arms-races/