

Designating North Korean Nuclear Weapons as Proliferation Risks: A Proposal for Forestalling Major Power Conflict in the Event of North Korea’s Internal Collapse*

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North Korea’s nuclear weapons program, growing nuclear arsenal, and ongoing egregious violations of international nonproliferation treaties pose a significant threat to U.S. and South Korean security and a continual irritant to U.S. and Chinese relations. In the event of a collapse of the North Korean regime, Pyongyang’s nuclear weapons and nuclear complex—and the vital importance of securing both—could serve as a catalyst for conflict between the United States and China, with significant negative repercussions for South Korea. Washington and Beijing, however, have found common ground to cooperate on a range of nuclear security and nonproliferation issues and initiatives in the past. The ROK can play an important diplomatic role in encouraging future dialogues and diplomacy on nuclear issues between the United States and China that could forestall a potential North Korean internal collapse from also becoming a major power nuclear crisis. Quiet but deliberate diplomacy aimed at encouraging bilateral or trilateral cooperation on securing beleaguered nuclear complexes and “loose nukes” could lay the groundwork for Washington and Beijing to tacitly agree on responses to a North Korea collapse scenario which realize mutually beneficial outcomes on nuclear issues—while also avoiding misunderstandings that could result in armed conflict.

Keywords: United States–China relations, Nuclear risk reduction, North Korea collapse scenario, Republic of Korea major power diplomacy, U.S.–China nuclear nonproliferation cooperation

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U.S.–China Competition, Inadvertent Conflict Risk, the Korean Peninsula

Relations between the United States and People’s Republic of China (PRC) have significantly deteriorated in the last several years, and the two major powers currently view themselves as locked in a long-term competition across the Indo–Pacific. At present this competition exists below the threshold of armed conflict and both capitals appear wary of a war whose outcome would be uncertain. There are numerous potential flashpoints for conflict between the two states, however, to include their sharp divisions over the Korean Peninsula, where Washington is allied with the Republic of Korea (ROK) and Beijing backs (albeit sometimes uneasily) the Democratic People’s Republic of Korea (DPRK). The latter’s growing arsenal of nuclear weapons and their means of delivery is a serious threat to regional security and an ongoing irritant within the U.S.–China relationship.

The United States and China, however, have worked closely and effectively together in the past on a range of nuclear safety and security issues. This raises the possibility that in the event of a catastrophic collapse of the DPRK regime the two states might reach some form of tacit understanding over the imperative of preventing North Korea’s nuclear facility at Yongbyon from becoming a (human–caused) Fukushima and Pyongyang’s nuclear arsenal becoming a bunch of “loose nukes.” Washington and Beijing will not engage in a joint venture to dismantle these weapons and are highly unlikely to agree to some form of United Nations Security Council mission authorized to do so. But some form of informal agreement on a shared responsibility to secure North Korean nuclear facilities, materials, and weapons could forestall the possibility that the tangible present results of Pyongyang’s nuclear ambitions become the future catalysts for a major power conflict on the Korean Peninsula.

Treating North Korea’s nuclear arsenal as a proliferation threat and viewing North Korea’s nuclear complex as something to protect against outside hazards (whether of natural or human origin) represents a practical approach given past U.S.–Chinese nuclear safety and security initiatives. Moreover, the ROK can play a vitally important role in encouraging and facilitating these understandings—and in doing so, can also send a signal to Beijing that it has no interest in attempting to acquire or retain these weapons for its own purposes.

Past Sino–U.S. Cooperation on Nuclear Safety and Security Issues

Given the poor state of present U.S.–PRC relations, many observers of foreign affairs might express skepticism that the two states could effectively work together on issues as complex and sensitive as bolstering the security of nuclear facilities, securing and transferring fissile materials, and developing an understanding of national views

on topics such as nuclear deterrence strategies. There are significant contemporary political barriers to these forms of cooperation and engagement between Washington and Beijing at the time of this writing.

But this has not always been the case; indeed, as discussed below, as recently as 2018 U.S. and Chinese experts worked directly together to help prevent a quantity of highly-enriched uranium (HEU) from becoming a proliferation threat.¹ The two states have extensive experience in terms of both government initiatives and dialogues between non-government experts on a range of nuclear issues. As such, the building blocks for potential useful communication and tacit understandings with regard to ensuring the safety of North Korean nuclear facilities or preventing the proliferation of North Korean nuclear weapons during extraordinarily difficult circumstances exist in a number of areas.

Shared Understandings on Nuclear Safety, Security, and Nonproliferation.

China joined the United States in voting in favor of United Nations Security Council Resolution 1540 in 2004. This resolution represented a critical agreement by the members of the United Nations Security Council to establish a requirement for national governments to develop, pass, and implement laws to prevent the proliferation of WMD to non-state actors.² This includes obligations in “the areas of accounting/ securing, physical protection, border and law enforcement, export and trans-shipment” for all materials related to the manufacture of WMD, to include nuclear materials.³

(Prior to this resolution national commitments to, and domestic legislation for, measures preventing WMD proliferation were piecemeal and ad hoc across much of the international community).⁴ Both countries are also current members of the 1540 Committee, which assembles Working Groups on topics such as monitoring and cooperation with other international organizations and a Group of Experts (which has included experts provided by both states). While UNSCR 1540 is focused on addressing the challenge of preventing the proliferation of WMD to non-state actors, the resolution and committee have played an important role in establishing laws, norms, and practices strengthening the ability of many UN members to address all forms of WMD proliferation.

China also attended all three U.S.-organized Nuclear Security Summits and signed several agreements at the last summit in 2016. These included the Strengthening Nuclear Security Implementation Initiative (International Atomic Energy Agency Circular 869) and a bilateral Joint Statement on Nuclear Security Cooperation with the United States.⁵

While the two governments do not concur on issues of nuclear counterproliferation, these agreements and commitments reflect shared understandings on a range of important nuclear nonproliferation issues and activities, to include the importance of securing nuclear facilities, securing and maintaining accurate accounting of nuclear

materials, and preventing nuclear smuggling. As discussed below, these agreements on legal authorities, domestic responsibilities, and the importance of shared technical expertise and joint initiatives to realize nuclear safety, security, and nonproliferation objectives have led to direct Sino–U.S. cooperation across these areas.

Nuclear Safety

The United States and China, for example, worked closely together for several years on nuclear safety issues, with the U.S. government providing critical support to the development of a flagship facility in China for nuclear safety education and training initiatives. As part of the Nuclear Security Summit process, the United States and China agreed in 2011 to work together (with the United States providing key resources and substantive scientific and technical assistance) to establish a Center of Excellence on Nuclear Security near Beijing and a radiation detection center in Qinhuangdao, China.⁶ The former was a collaboration between China’s Atomic Energy Authority (CAEA) and the U.S. Government’s Department of Energy, National Nuclear Security Administration, National Laboratories, and Defense Threat Reduction Agency. Completed in 2016, the facility included analytic laboratory space, a large mock nuclear facility that included a Perimeter Intrusion Detection and Alarm System, and a facility (separated into live fire and non-live fire areas) for training armed guards.⁷ Once finished, the Center of Excellence provided an important (and for China, unprecedented) facility to train technicians and security staff in how to protect nuclear facilities and safely and securely account for nuclear materials, as well as laboratory space for critical nondestructive assay work (i.e. using “gamma–ray and neutron based measurement techniques” for nuclear safeguards purposes).⁸

Securing and Transporting Nuclear Materials

U.S. and Chinese nuclear scientists also collaborated in the conversion of miniature neutron source reactors (MNSR) in Ghana and Nigeria from the use of highly-enriched uranium (HEU) to low-enriched uranium (LEU). This complex process included securing the HEU, transporting it out of each country, and ensuring its safe delivery by air to secure storage facilities in China. These two efforts required years of trilateral cooperation and a close working relationship between multiple government entities, to include officials from the U.S. National Nuclear Security Administration, scientists from the U.S. Argonne National Laboratory, and scientists from China’s Institute of Atomic Energy. This close cooperation by both governments ultimately led to the successful extraction of HEU from Ghana in 2017 and Nigeria in 2018.⁹

Conversion of a Nuclear Reactor

While multilateral diplomacy to address Tehran's nuclear weapons ambitions is currently stalled, for three years the United States and China worked closely together on a planned conversion of Iran's Arak heavy water reactor. This reactor represented a focal point of multilateral negotiations due to its ability to produce plutonium (as a byproduct of its use of natural uranium as fuel), and reconfiguring the reactor became a critical element within the Joint Comprehensive Plan of Action (JCPOA). The two states sought to convert the reactor so that it would run on low-enriched nuclear fuel and as such yield only trace amounts of plutonium.¹⁰ This complex scientific, technological, and engineering process encountered a number of bureaucratic and technical hurdles but was realizing substantive progress until the United States elected to leave the JCPOA in 2018 (at which point the United Kingdom took on the role of working with China to convert the reactor).¹¹

Track 1.5/2 Dialogues on Nuclear Issues

U.S. and Chinese subject matter experts—to include current and retired government officials and military officers participating in personal, non-official roles—have also engaged in substantive Track 1.5 and Track 2 dialogues on issues such as their respective states' nuclear strategies, possible confidence-building and arms control measures, nonproliferation, and related topics.

These include a dialogue held from 2004 to 2019 (with meetings held once or twice a year) that provided a key forum for discussions on a range of nuclear deterrence and strategic security issues, to include several sessions with prominent retired officials serving as *de facto* heads of each “delegation.”¹² The dialogue also provided a forum for U.S. and Chinese experts to present proposals on potential future bilateral or P-5 nuclear confidence-building and arms control agreements. Key organizing institutions included the Naval Postgraduate School and the Hawaii-based Pacific Forum think tank on the U.S. side and the China Arms Control and Disarmament Agency and China Foundation for International and Strategic Studies on the Chinese side (notably, both Chinese institutions are directly affiliated with the Chinese government). Other initiatives in this vein have included:

- A U.S. National Academies of Science's Committee on International Security and Arms Control dialogue with the Chinese Scientists Group on Arms Control of the Chinese People's Association for Peace and Disarmament that first began in 1988, discusses a range of nuclear arms control and nonproliferation issues, and produced a joint glossary of nuclear terms published in both countries in 2008;¹³
- A U.S.–UK–China Track 2 dialogue focused on nonproliferation issues, to include discussions directly focused on identifying potential areas of joint

- cooperation in addressing “hard cases” of Nuclear Nonproliferation Treaty noncompliance;
- A Track 2 dialogue where Stanford University’s Center for International Security and Cooperation worked together with Chinese nuclear experts, to include from the China Academy of Engineering Physics, to explore potential avenues of Sino–U.S. cooperation on countering nuclear terrorism, to include cooperation on nuclear detection and nuclear forensics activities.¹⁴

The deterioration of the bilateral relationship and the COVID-19 pandemic halted or suspended a number of these and other related initiatives. These and other Sino–U.S. dialogues and engagements on nuclear topics demonstrate, however, that while the two governments have realized little progress in areas such as nuclear arms control (with Beijing repeatedly turning down U.S. offers for Track 1 government-to-government negotiations), U.S. and Chinese experts in nuclear science and security fields from key research and education institutions in each country have engaged in detailed discussions on these subjects. These dialogues have significantly improved each state’s understandings of the other’s perspectives on important nuclear issues and provided important forums for exchanging ideas on potential future bilateral cooperation.¹⁵

Notional DPRK Internal Collapse Scenario

For the purposes of examining a Korean Peninsula crisis that would likely involve both the United States and China—and have high-stakes for all parties concerned—this paper posits the following notional scenario: After a prolonged period of famine and following a devastating new, post-COVID-19 pandemic sweeping through its population, the ruling North Korean regime collapses after its leader succumbs to the disease. Various factions claim the right to assume leadership of the crippled state. As fighting breaks out between these different groups (the DPRK’s armed forces are also divided) one faction claiming they represent a new leader, designated by parallel emergency sessions of the Supreme People’s Assembly and the Congress of the Worker’s Party, appears to come to the fore in Pyongyang. They issue a request for immediate international assistance in providing food and medicine, citing the dire state of a population suffering from extreme deprivation.

Importantly, for the purposes of this scenario, the ROK, United States, and China each assess:

- The internal situation in the DPRK is chaotic, desperate, and violent. While some groups vie for control (and are prepared to fight for supremacy) many North Koreans are fleeing for whatever represents the nearest border. This

includes reports of North Korean troops abandoning their posts and/or commandeering vehicles and fuel to try and escape the country;

- The departed leader issued conflicting guidance about his succession in his final days; there is no clear “legitimate” successor, nor is this domestic political crisis likely to be resolved in the near term;
- Given the scope of the collapse of effective state control and/or infighting between factions outside of Pyongyang, the DPRK’s nuclear weapons: a) in some cases may have been abandoned or are otherwise insecure; b) may be subject to theft or transfer; c) may be used for the purposes of coercion, or employed for the purposes of aggression, by a faction within the emerging DPRK civil conflict;
- Similarly, the DPRK nuclear complex cannot be considered secure, and it is unclear to what extent scientists, technicians, security personnel, and other staff at various facilities will remain at their posts.

The collapse of North Korea’s central government and the wave of refugees likely to follow would represent a generational crisis for the ROK and should be recognized as such. In order to focus on the objective of assessing what this crisis could mean in terms of possible escalation between the United States and China, however, this short paper will focus on Washington and Beijing’s response to the possibility or probability that: a) there is no authority exercising command-and-control over North Korea’s nuclear arsenal, and b) the safety of North Korea’s nuclear complex is also in doubt.¹⁶

For China, it is likely that top-tier priorities for this crisis would include the following:

- Preventing the full unification of a ROK-led, U.S.-allied Korean state;
- Preventing a flood of refugees from DPRK streaming into, and potentially destabilizing, northeast China;
- Securing DPRK nuclear facilities, as well as WMD arsenals and their means of delivery, with an immediate objective of securing related facilities located near the China–DPRK border;
- Preventing the ROK from becoming a *de facto* nuclear state by inheriting the DPRK’s nuclear arsenal;
- Signaling to the United States and ROK that:
 - a. It will deploy the PLA to protect Chinese interests and stabilize the situation;
 - b. It does not wish for military incidents or engagements with ROK or U.S. forces;
 - c. The PLA, however, is authorized to use force in “self-defense” and to achieve objective a) above.

For the United States, it is likely that top-tier priorities would include:

- Defending its ROK ally, particularly from any violence in the nascent DPRK civil conflict that could spill over to the ROK;
- Supporting its ROK ally with what is now also a refugee and broader humanitarian crisis;
- Securing DPRK WMD and their means of delivery, safely transporting them, and then disabling, dismantling, or otherwise disposing of them.¹⁷

The above lists are intended to be illustrative, not inclusive; even so, they indicate that Beijing and Washington will have sharply divergent views on how best to respond to the crisis and what are considered potential favorable end-states. In addition, within each state's potential response options to the crisis there are multiple plausible scenarios by which Chinese and U.S. military forces may accidentally and inadvertently encounter each other. In short, in addition to the plight of North Korean civilians and the many challenges the situation will pose to the ROK, this crisis is rife with the potential for escalation between China and the United States. This includes the possibility that the two states will find themselves on a collision course over the specific matter of how to address the threat posed by the North Korean government's loss of both command-and-control over its nuclear arsenal and its broader ability to provide safety for its nuclear complex.¹⁸

At the same time, however, the common threat to regional and international safety and security posed by an unsafe nuclear complex and unguarded nuclear weapons arsenal may provide grounds for some useful forms of tacit or even (in the breach) informal cooperation between Washington and Beijing in addressing these challenges. This could forestall the prospect of major power escalation resulting from incompatible approaches to neutralizing the potential threat posed by these weapons and complex during a crisis. As demonstrated by the examples of U.S.–Chinese nuclear safety and security cooperation described above, the two states have successfully collaborated on a number of initiatives that are relevant to this notional scenario, to include:

- The importance of securing nuclear facilities in order to ensure their safety and prevent the theft or transfer of nuclear materials;
- The safe handling of fissile material (such as HEU), to include its safe extraction from an unstable and potentially dangerous environment for transport out of country to a secure storage facility;
- The ability to detect and if necessary interdict nuclear materials in order to prevent them from being smuggled out of a nuclear complex and sold or transferred to other actors;
- More broadly, the importance of a shared lexicon and ability to communicate and comprehend each state's approach to a broad range of nuclear security issues.

It is possible that within a North Korea internal collapse scenario China will conclude

its interests in resolving the crisis diverge so significantly from those of the United States and the ROK that it will simply refuse to substantively communicate with either state, to include on matters related to the DPRK's nuclear arsenal and nuclear complex. But it is also within the realm of possibility that Beijing, Washington, and Seoul all conclude that the threat posed by the potential loss, theft, or employment of these weapons (and/or the possibility of a major humanitarian and environmental disaster occurring due to accidents or incidents within North Korea's nuclear complex) is so dire that some form of communication and tacit or "unofficial" cooperation is required.

The context for this cooperation could begin with a shared understanding of a common interest in designating the nuclear weapons of any failed or collapsed state as proliferation risks and threats to international security. As members of the UNSC and NPT "nuclear states," both the U.S. and Chinese governments have a special responsibility to address potential nuclear threats to international security and take action to respond to challenges to the international nuclear nonproliferation regime. Both states could quietly agree to treat any individual North Korean nuclear weapon found or otherwise obtained by their military forces in a manner similar to how the security and customs services of UN member states are obligated to treat the recovery or interdiction of stolen or smuggled nuclear materials—that is, the weapon should be secured, transferred to a safe location, and rendered harmless.

Similarly, the two states would also have a mutual interest in ensuring the safety and security of North Korea's nuclear complex. They could perhaps tacitly agree that, given the serious hazards posed by the civil conflict to the safety of these facilities and their associated workforces, outside assistance to ensure the safety and security of these facilities should be provided. Ideally, specific assistance on these matters would be requested by a competent government authority within North Korea, but in the absence of any such authority—and within the context of this scenario—the broader appeal for aid issued by the entity claiming to represent sovereign authority could perhaps be interpreted to also include aid to its nuclear complex.

Framing the North Korean nuclear arsenal and nuclear complex within the context of the former representing a nuclear proliferation threat and the latter a potential nuclear safety hazard sidesteps a range of thorny legal and policy questions relevant to U.S. or Chinese intervention in a North Korean internal collapse scenario. Even if somewhat awkward, however, this approach provides an angle on the problem where Washington and Beijing have several shared tools (and indeed, a track record of past successful cooperative efforts) that could prove useful during a difficult and complex crisis.

Encouraging Potential Cooperation, Renewing Relationships, and Restoring Tools

The ROK can play an important role in helping create the conditions for the United States and China, within the context of the scenario presented here, to view the

neutralization of threats associated with North Korea's nuclear weapons arsenal and nuclear complex as part of a shared responsibility to prevent nuclear proliferation and nuclear power plant disasters. Defining the nuclear problem sets associated with a North Korea collapse scenario in this way can help both Washington and Beijing ground their response to the crisis in past forms of productive collaboration on nuclear safety and security issues. This could significantly reduce friction between the two within an extremely fraught crisis environment.

Cooperation to Prevent Nuclear Power Plant Disasters

China is very unlikely to agree to a direct discussion with the United States and/or the ROK on the importance of outside intervention—even on the grounds of safety—with regard to North Korea's nuclear complex during a future Korean Peninsula crisis. Facilitating diplomacy or discussions on this and related topics will likely require grounding engagement within the context of a different scenario that nevertheless will share key characteristics in common with the nuclear challenges posed by a North Korean internal collapse.

The Northeast Asian region has already had the misfortune of experiencing a nuclear power plant disaster following the 2011 tsunami that hit Japan, resulting in damage to three of Fukushima Daiichi's nuclear reactors and the melting of their respective cores after the failure of their cooling systems.¹⁹ All of the region's states (ROK, China, DPRK, Russia, and Japan) operate nuclear reactors. The risk remains that natural disasters, human error, or other circumstances could result in a future meltdown, the hazardous release of radiation, or other consequences associated with damage or destruction to a reactor, with attendant serious consequences for regional populations. Moreover, any nuclear accident or incident in Northeast Asia would also put at risk large numbers of U.S. nationals living within the region, to include significant numbers of military personnel and their dependents in ROK and Japan.

As a result of the Fukushima disaster there is a shared interest in the region in national governments being better prepared to prevent, and, if necessary, respond to potential threats to the safe operation of nuclear power plants. A carefully calibrated series of diplomatic engagements, perhaps kicked off by a ROK-hosted meeting coordinated together with the International Atomic Energy Agency (IAEA) on "responding to natural disasters threatening nuclear power plant operations," could provide future opportunities for quiet engagements between Chinese, U.S., and South Korean officials, scientists, and technicians. This could potentially allow for substantive discussions on how to coordinate (even at the minimal level of coordinating crisis communications) a timely and effective response to an imperiled regional nuclear power plant. An opening regional conference of this type would be a natural follow-on, for example, to the IAEA's "International Conference on a Decade of Progress After Fukushima-Daiichi: Building on the Lessons Learned to Further Strengthen Nuclear

Safety” held in Vienna in 2021.²⁰

Advance discussions under the auspices of how to safely respond to a natural disaster that has negatively impacted a plant, its staff, and its operations (such as loss of power supply, damage to infrastructure, staff being unable to travel to and/or remain at posts) could usefully facilitate future communications and de-confliction protocols between China and the United States in addressing nuclear challenges within a potential North Korea internal collapse scenario.

More broadly, any opportunity for China, the United States, and South Korea to hold substantive discussions—even if initially focused entirely on scientific and technical matters—on how to better understand, address, and in some situations work together to address a range of nuclear hazards (to include “incidents” that result in radioactively-contaminated environments, but whose origins could remain unspecified) would be valuable. With multiple nuclear actors already operating in East Asia, and increasing numbers of nuclear reactors and nuclear weapons within the region likely on the horizon, these discussions are increasingly important to prepare all three governments for a variety of potential future nuclear crisis scenarios (to include, for example, crises that could occur at sea).

Securing Nuclear Materials

As detailed above, the United States and China have worked closely together to assist third-party states in Africa with securely replacing HEU with LEU. While the operation in Ghana occurred in a peaceful, stable environment, the operation within Nigeria had to contend with significant security and logistical challenges due to a major outbreak of communal violence within the West African state.²¹

This latter operation provides a foundation for possible future discussion between U.S. and Chinese scientists and technical experts on jointly conducting similar operations in the future under highly challenging, insecure conditions—to include the threat of armed violence. As bilateral discussions may not be possible (China may be wary of holding talks that could be interpreted as a cover for the major powers to collude on the forcible nuclear disarmament of other states), the ROK could potentially host or quietly sponsor some form of useful engagement on this topic. One possibility could be a meeting at the United Nations or IAEA addressing how participants in future UN peacekeeping missions can work together to first secure hazardous materials within insecure environments and then transport them to safe areas. Both ROK and Chinese military forces have extensive experience with UN peacekeeping missions; while the U.S. military is no longer a major direct participant in these types of operations, the United States often provides missions with other forms of support. This meeting could serve as a point of entry for further engagements allowing for more concrete and candid discussion on removing nuclear materials (in whatever form they are found) from war zones. Similar to the discussions on nuclear safety above,

this could potentially facilitate future crisis communications and other measures between the United States and China reducing the possibility of potentially dangerous misunderstandings around efforts to locate, secure, and transport North Korean nuclear materials and nuclear weapons.

Arms Control Monitoring and Inspection

Formal on-site arms control inspections will not play a role during a North Korean internal collapse crisis, but they could prove vitally important to reaching a negotiated settlement (however realized) that provides for the peaceful end of a chaotic North Korean civil conflict and reduces the prospect for future tensions between the United States and China. Regardless of the outcome of the conflict, all the parties involved will be intensely interested in verifying the presence (or absence) of nuclear weapons at a number of sites in North Korea. Even if all the weapons are removed from the country (whether by the ROK, United States, China, or some combination of the three), at least one of these governments will want some form of verification that the weapons are no longer in North Korea. In any case, it is possible to envision a range of potential outcomes to a North Korean collapse scenario where on-site inspections of nuclear facilities, nuclear bases, and/or nuclear weapons storage locations are a vital part of a negotiated diplomatic resolution. Furthermore, all parties involved will also be interested in verifying the dismantlement of these illegal weapons, however this process is ultimately realized.

The on-site inspection of military bases and equipment for the purposes of assessing compliance with arms control treaties is a highly specialized military activity. China does not have extensive experience in this area, although it has engaged in some types of official visits and monitoring along its border with Russia associated with agreements reached by the two states following the 1969 Sino–Soviet conflict over disputed territory.²² In contrast, the United States and ROK maintain teams of highly trained on-site inspectors. Moreover, the two allies also regularly work together to prepare personnel tasked with conducting or hosting arms control inspection activities. The U.S. Defense Threat Reduction Agency and ROK Arms Verification Agency (KAVA), for example, conduct annual combined training exercises.²³ The United States has also facilitated KAVA's participation in specialized training such as a 2011 mock Conventional Forces in Europe Treaty inspection in Germany.²⁴

Moreover, the two states also have experience in verifying dismantlement activities. For the United States this encompasses past verification of the dismantlement or conversion of nuclear-capable delivery systems and conventional military equipment under the auspices of various treaties. The ROK experience is more contemporary, such as the dismantlement of North and South Korean guard posts in 2018. At the time, this measure represented an important confidence-building measure between Seoul and Pyongyang as they sought to reduce tensions along the heavily-fortified

DMZ. Although the subsequent downturn in relations between the two states has prevented further progress in this area, the process of removing the posts—to include the use of “stethoscope-like” devices by ROK soldiers to ensure there were no secret underground dugouts or hard points below dismantled North Korean sites—represents an important example of conducting inspections and verification activities to confirm compliance with an agreement.

This underscores the importance of discussing arms control processes and procedures with China, to include considering exercises or activities that could assist them in developing a cadre of trained on-site inspection personnel. This will be a very difficult task, as China is inherently suspicious of any initiative it can associate with a foreign state attempting to make its activities more transparent. It has also long stonewalled various U.S. efforts to engage it on arms control issues. Nevertheless, perhaps the ROK could realize some progress in this area; Beijing may be more amenable to Seoul approaching it with an offer of hosting some type of low-level activity (such as a tabletop exercise) focused on how to train, equip, plan for, and conduct activities for monitoring, inspecting, and verifying arms control arrangements associated with border agreements, for example. This could perhaps be a stepping stone to more sophisticated future arms control capacity-building exercises that could reap dividends for China–ROK relations, U.S.–China relations, and trilateral relations in various contexts.

Conclusion: Pre-emptively Mitigating U.S.–China Tensions Associated with Responding to the Nuclear Challenges Posed by a North Korea Internal Collapse Scenario

The potential future internal collapse of North Korea would be a multi-dimensional crisis imposing severe hardships on the North Korean civilian population and enormous challenges on the ROK. All of these difficulties would be further compounded and magnified if the crisis also catalyzed a conflict between the United States and China. North Korea’s nuclear weapons arsenal and nuclear complex will represent dangerous and potentially highly unpredictable variables within this type of scenario. It is not hard to envision these two major powers—and their militaries—having tense and risky encounters linked with separate and potentially competing efforts to address the inherent risks and threats associated with the presence of nuclear weapons within a fractious civil conflict (or the multiplicity of hazards associated with a nuclear complex within a collapsing or failed state).

While present diplomatic relations between the two states are in a deep freeze, the United States and China have realized shared nuclear safety, security, and nonproliferation objectives in the not-too-distant past. There is both a toolkit and a significant number of professional relationships that both states could apply to a future

nuclear crisis, to include on the Korean Peninsula, that could reduce the likelihood of major power conflict. The ROK could play an important role in helping renew and revitalize these areas of Sino–U.S. cooperation on a range of nuclear issues. This would be a welcome development with dividends for all three capitals in terms of a host of present and potential future nuclear challenges, to include the extremely difficult circumstances of a North Korean internal collapse.

Notes

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16. This short paper will not seek to address the question of what legal authorities would (or would not) apply to foreign state intervention following the potential collapse of the North Korean government. These questions are important but beyond the scope of this paper. It is likely that interpretations of key aspects of relevant international and treaty law will differ amongst diplomats and international jurists; ultimately national decision-makers (to include in Seoul and Washington) will act based on their best assessments of supreme national interest.
17. Secretary of Defense Austin recently reiterated longstanding U.S. commitments to South Korea’s national defense, and the overall importance of the alliance, during his July 2022 meeting with ROK Minister of Defense Lee Jong-Sup: “[He] reaffirmed the ironclad U.S. commitment to the U.S.–ROK Alliance and the defense of the ROK. ... Secretary Austin emphasized that the United States stands firm, with the full range of U.S. capabilities, in its extended deterrence commitment to the ROK.” In addition, “[b]oth leaders emphasized the importance of close cooperation and maintaining “fight tonight” readiness to reinforce deterrence in the face of the Democratic People’s Republic of Korea’s (DPRK) destabilizing activities.” “Readout of Secretary of Defense Lloyd J. Austin’s Meeting with Republic of Korea Minister of National Defense Lee Jong-Sup,” *Department of Defense Press Release*, July 29, 2022, <https://www.defense.gov/News/Releases/Release/Article/3110721/readout-of-secretary-of-defense-lloyd-j-austin-iiis-meeting-with-republic-of-ko/> (accessed November 1, 2022); Jim Garamone, “Austin, Lee Discuss State of U.S.–South Korea Alliance,” *DoD News*, July 29, 2022, <https://www.defense.gov/News/News-Stories/Article/Article/3110742/austin-lee-discuss-state-of-us-south-korea-alliance/> (accessed November 1, 2022). See also “United States–Republic of Korea Leaders’ Joint Statement,” *White House Press Release*, May 21, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/21/united-states-republic-of-korea-leaders-joint-statement/#:~:text=The%20two%20leaders%20recognize%20the,of%20enhancing%20global%20energy%20security> (accessed November 1, 2022).
18. Here and elsewhere, “safety” refers to the general safety and security of the nuclear complex in terms of being able to maintain day-to-day operations during a civil crisis and conflict and prevent or avoid damage and destruction to facilities and/or theft of nuclear materials or other key components. It is important to note that North Korea’s nuclear complex has operated outside of International Atomic Energy Agency safeguards for several years; the Agency’s inspectors and associated equipment were forced to leave the country in 2009. “Fact Sheet on Nuclear Safeguards,” *International Atomic Energy Agency Fact Sheet*, n.d., <https://www.iaea.org/newscenter/focus/dprk/fact-sheet-on-dprk-nuclear-safeguards> (accessed November 1, 2022). As the IAEA reported in 2021: “The Agency has not had access to the Yongbyon site or to other locations in the DPRK. Without such access, the Agency cannot confirm either the operational status or the configuration/design features of the facilities or locations as described in this section, or the nature and purpose of the activities conducted therein.” IAEA Director General, “Application of Safeguards in the Democratic People’s Republic of Korea,” *Report* (GOV/2021/40-GC(65)/22), August 27, 2021, 4.
19. “Fukushima Daiichi Accident,” *World Nuclear Association*, updated May 2022, <https://world-nuclear.org/information-library/safety-and-security/safety-of-plants/fukushima-daiichi-accident.aspx#:~:text=Following%20a%20major%20earthquake%2C%20a,in%20the%20first%20three%20days> (accessed November 1, 2022).
20. The meeting included remote participation due to the COVID-19 pandemic. “International Conference on a Decade of Progress after Fukushima–Daiichi: Building on Lessons Learned to Further Strengthen Nuclear Safety,” *International Atomic Energy Agency*, n.d., <https://www.iaea.org/events/international-conference-on-a-decade-of-progress-after-fukushima-daiichi-building-on-the-lessons-learned-to-further-strengthen-nuclear-safety-2021> (accessed November

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21. Aaron Mehta, "How the U.S. and China Collaborated to Get Nuclear Material out of Nigeria and away from Terrorist Groups," *Defense News*, January 14, 2019, <https://www.defensenews.com/news/pentagon-congress/2019/01/14/how-the-us-and-china-collaborated-to-get-nuclear-material-out-of-nigeria-and-away-from-terrorist-groups/> (accessed November 1, 2022).
 22. See Jing-dong Yuan, "Sino–Russian Confidence Building Measures: A Preliminary Analysis," *Asian Perspective* 22, no. 1 (1998): 71-108.
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