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A Joint Set of Recommendations for **Avoiding Nuclear Danger in Northeast Asia**

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About FAS

The **Federation of American Scientists (FAS)** is an independent, nonpartisan think tank that brings together members of the science and policy communities to collaborate on mitigating global catastrophic threats. Founded in November 1945 as the Federation of Atomic Scientists by scientists who built the first atomic bombs during the Manhattan Project, FAS is devoted to the belief that scientists, engineers, and other technically trained people have the ethical obligation to ensure that the technological fruits of their intellect and labor are applied to the benefit of humankind. In 1946, FAS rebranded as the Federation of American Scientists to broaden its focus to prevent global catastrophes.

Since its founding, FAS has served as an influential source of information and rigorous, evidence-based analysis of issues related to national security. Specifically, FAS works to reduce the spread and number of nuclear weapons, prevent nuclear and radiological terrorism, promote high standards for the safety and security of nuclear energy, illuminate government secrecy practices, and prevent the use of biological and chemical weapons.

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About RECNA

The Research Center for Nuclear Weapons Abolition (RECNA) was established at Nagasaki University in 2012. With deep awareness of the wish of atomic bomb survivors and many Nagasaki citizens to make Nagasaki "the last nuclear-attacked city," RECNA conducts research on pathways to the abolition of nuclear weapons through measures such as reducing the risk of nuclear use, decreasing reliance on nuclear deterrence, and cutting the number of nuclear weapons. It publishes academic papers and policy recommendations based on its findings. RECNA also serves as the editorial office for the *Journal for Peace and Nuclear Disarmament* (J-PAND), a peer-reviewed journal with an impact factor. Articles published in J-PAND are downloaded more than 200,000 times annually.

COVER IMAGE: NORTHEAST ASIA AT NIGHT VIA NASA EARTH OBSERVATORY.

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For the last two years, experts from the Federation of American Scientists and Nagasaki University have engaged with American, Japanese and South Korean experts as well as partners with valuable insights on nuclear policies in China and Russia to assess the risks of nuclear use and escalation in Northeast Asia. The results of this work are sobering, but not surprising. The growing reliance on nuclear weapons and growing geo-political tensions in the region are a recipe for nuclear disaster. Only purposeful and coordinated actions among countries that seek to avoid war and the use of nuclear weapons can reverse these trends and address these dangers. If current trends and dynamics continue, the risk of nuclear use will continue to increase.

Our consultations included commissioned working papers from U.S., Japanese and South Korean authors, as well as experts on China and Russia to assess the role nuclear weapons play in the security policies of those countries, and how each country views the prospect of war and nuclear risk. Two workshops, one in Seoul and one in Tokyo, were convened by our organizations over the last year and a half. These events included discussions both before and after the U.S. election, and before and after the declaration of martial law in South Korea. The papers and discussions led to a recently published special feature on "The Future of Nuclear Stability in East Asia" in the *Journal for Peace and Nuclear Disarmament* (J-PAND).

As the lead researchers for this project, we have developed the following assessments and believe pursuing a set of concrete and deliberate recommendations is essential if Governments seek to reduce the risks of nuclear conflict through accident or miscalculation. The authors do not assume that such steps will change the broader geo-strategic realities in the region. However, these steps, if integrated into government action, offer the prospect of constructive collaboration among states where such efforts are scarce. Furthermore, it remains possible that, once engaged on an issue of mutual self-preservation, the momentum can be created for other cooperative efforts.

Reducing Nuclear Risks and Salience

Unless the policies and activities of all nuclear-armed states and their allies change in Northeast Asia, the probability of a nuclear crisis will continue to grow. This reality should be alarming to all states in the region, as all will suffer should the region (or the world) witness the use of nuclear weapons in combat or even during peacetime as tools for coercion. What is needed is both a recognition of the dynamics driving the potential for crisis by national leaders, coupled with deliberate actions to reduce the risks of accident, escalation, and, where possible, reliance on nuclear weapons for anything other than core nuclear deterrence. Even then, the risks of accidents due to human behavior and complex systems should lead any responsible country to establish in advance a set of mechanisms for communicating to avoid misperception or mistakes when a crisis emerges, which inevitably will.

Of course, not all analysts see these dynamics the same way. The dominant view in the United States is that America's nuclear capabilities are both essential and highly valuable in both deterring and assuring, and the more reliable and credible these capabilities are, the more stable will be U.S. alliances, and the region as a whole. However, if one considers multiple national perspectives as well as the risks of both accident and miscalculation, there are clear consequences for increasing nuclear salience and enhancing reliance on nuclear weapons that should lead to a deeper examination of alternatives and steps to mitigate those risks. At a minimum, recognizing that the risk of nuclear acquisition, signaling, and use in the region are increasing must lead to closer examination of ways to reduce the risks of accidental or unintended conflict, and to find ways to separate broader U.S. reliance on nuclear weapons from the possible decision by more states in the region to acquire nuclear weapons of their own.

Of course, as long as nuclear weapons exist, there will be an inherent risk that they will be used, and indeed multiple nations continue to rely on nuclear deterrence as a basis for their security. However, there should be no tolerance for accepting unnecessary nuclear risks associated with accidents and miscalculation. Moreover, while all states seek to project their ability to use and manage escalation to their own benefit, there needs to be greater work

invested to understanding escalation dynamics among all states in the region and time spent avoiding the risk of uncontrolled or runaway escalation pressures.

In its simplest form, the world and the nations of the region need to recognize that they are part of a multipolar nuclear vortex of potential conflict among four states with nuclear weapons, and two others advanced conventionally-armed states who could trigger (intentionally or otherwise) a conflict with global dimensions. The risks of conflict in the region are as grave as they have ever been, and concerted, reasoned and multi-faceted efforts to manage the nuclear risks inherent in the region are required.

Just as states in the region have different perspectives about what enhances or reduces stability, states also have different interests when it comes to measures perceived to enhance stability and predictability. Eager to maintain the regional security status quo, the United States has sought for many years to promote a set of dialogues and norms to reduce the risks of conflict and accident. However, not content with the status quo, in which the United States maintains broad sway and can project military power in the region, China has resisted crisis management or risk reduction efforts. U.S. officials have proposed repeatedly to establish a set of guard rails on escalation, to which Chinese officials have remarks that such protections may only encourage the U.S. to continue reckless behavior.

Nevertheless, all states regardless of history and intent need to be attentive to the region's growing nuclear dangers. Russia, China, and the United States have adopted a common position that a nuclear war cannot be won and must never be fought. North Korea, which is not recognized formally as a nuclear-weapon state under the NPT, has not issued any similar statements. However, the consequences of any nuclear use in the region would be extreme and must be avoided at all costs.

Steps that could be pursued to that end are discussed below. These include working to reinforce the norm of non-nuclear use, as well as development of tangible mechanisms that can be used in a crisis to communicate and potentially avoid unwanted or accidental escalation.

Political and Diplomatic Steps

1. NUCLEAR LEADERSHIP

Leaders in the participant countries, and mainly in those with nuclear weapons, need to invest the time and effort to better understand the magnitude of the nuclear risks they manifest, and to communicate with each other at the direct, personal level that they understand those realities. In all of the affected countries, the military services and organizations that support nuclear missions tend to take on a momentum of their own in service of providing their leadership with options for military victory and possible nuclear use. That is their job, yet their actions also can place pressures on leaders whose interests are necessarily broader. Demonstrating at a high political level that those authorized to use and provide options for the use of nuclear weapons understand the risks and consequences involved is an essential step in reducing nuclear dangers. The temptation to bluff, project indifference, or adopt "mad man" postures must be conclusively rejected by all states in the region.

2. ALLIED/CONVENTIONAL LEADERSHIP

Japan and South Korea, as the non-nuclear states in the region – as well as Taiwan – should continue to take and expand efforts to encourage constructive engagement and risk reduction measures so that leaders of China, the United States, Russia and North Korea recognize the new nuclear age the world has entered. The lessons that led the leaders of the Soviet Union and United States to end the last global nuclear arms race appear to have been forgotten or lost, a form of collective amnesia about the virtues of cooperative approaches to tempering risks. America's non-nuclear allies can stimulate broader engagement including through academic, Track II, civil society, economic and other forms of indirect, non-governmental engagement. These channels may not produce immediate results, but should be pursued as they are low risk approaches that can be valuable in expanding

consultations, increasing the flow of information, and identifying opportunities for governmental engagement. Through intermediaries, regional groupings, and other bi- and multilateral settings, the non-nuclear weapon states endangered by the nuclear dynamics in Northeast Asia need to increase their efforts to build and support risk reduction dialogues, or avenues for those discussions among the nuclear states.

3. INTRA-ALLIANCE DISCUSSIONS

In today's environment, it is both important and appropriate for U.S. allies to be vocal in encouraging the United States to remain an active security provider and a conduit for constructive dialogues in the region. However, U.S. allies should also speak out and engage their counterparts in Washington when and if they believe it will be harder for them to continue strong security cooperation with the United States if Washington is not actively seeking to reduce the risks of escalation to the nuclear level in a conflict with other regional powers. There is no region where U.S. allies can expect to reap security benefits of a nuclear alliance with Washington without risk. Yet it remains impossible to predict how increased nuclear risks might influence political dynamics in U.S. allies such as South Korea and Japan. This dynamic should be an open part of expanding extended deterrence and security discussions among the U.S. and its security partners.

Within the U.S. extended deterrent relationships with South Korea and Japan, as well as its partnership with Taiwan, there also needs to be a more fulsome and mature discussion about the balance between deterrence and defense, and risks of nuclear escalation. The U.S. relationships with Japan and South Korea especially over the last decades has matured to the point that Tokyo and Seoul take an active role in understanding, assessing, characterizing, and planning detailed responses to specific threat scenarios. This coordination benefits all of the states, but should also include active discussions about conventional-nuclear weapon dynamics, including the risks of accidents and escalation within and beyond the nuclear level, and develop more robust tools for preventing and controlling such escalation, and avoiding miscommunication and accidents. It is unknown, and perhaps unknowable in advance of a conflict, whether the United States will act on its defense commitments. However, with increased doubts about U.S. commitments comes the risk both that U.S. allies will seek to expand their own capabilities, drawing a reaction from China and North Korea (while allies' actions are already reactions to their actions), and furthering the action-reaction cycle that defines arms race instability. Of course, there is also the omnipresent concern that China or North Korea will miscalculate, may assume they can act with impunity, and then find the U.S. ready, willing and able to meet its defense commitments. In short, the region is going to be more unstable and U.S. allies have a direct interest in ensuring not only that they are prepared to face a possible attack, but that they and the United States invest the time and effort now to avoid a conflict should one start by accident or through miscalculation, or escalate beyond the conventional level.

One of the most positive developments for security and deterrence in Northeast Asia over the last few years has been the improved coordination and tempering of political animus between Japan and South Korea, owing in part to the active encouragement of the United States. It is no overstatement that the United States cannot hope to create a stable deterrent relationship with China if it is unable to work with two like-minded partners in Japan and South Korea, not least if those two countries cannot work together toward a common goal of stability and conflict avoidance. To be sure, Seoul and Tokyo have different threat concerns and priorities. But the ability to deter conflict, project strength and coordination, and act quickly and decisively to terminate a conflict and avoid escalation comes through enhanced and durable political and military coordination and collaboration among the United States and its allies in the region. A thickening of U.S.-ROK-Japan as a trilateral security partnership is among the best options those states have to preserve peace and stability in Northeast Asia.

Technical Tools

It remains an open question whether geopolitical tensions lead to arms racing or whether arms racing has led to geopolitical tensions. The growth of conflict and tension in Northeast Asia has a long history and regardless of whether one believes weapons drive conflict or conflict drives weapons, the dynamics in the region are clear for all to see. It is possible that no amount of dialogue, engagement, and risk reduction efforts will disrupt these dynamics. The history of humanity is, in many ways, the history of warfare. However, that history is also loaded with episodes of unwanted and unnecessary conflicts that were detrimental to all involved. As technology improves, countries and other groups will have tools to reduce the risks of accidents and miscommunication, as well as unintended escalation. To be effective, these tools need to be in place before any conflict begins. Examples include:

1. CRISIS COMMUNICATION TOOLS

The public often considers telephone hotlines as the standard tool for communicating with leaders in a crisis. However, it is not widely known that the United States and Soviet Union, and later Russia, put in place a basic but more capable computer-based system that did not rely on voice communications between leaders to pass messages, but established an open computer display in each capital to ensure that no matter the contingency, messages could be sent and read without any action by the receiving side. In fact, the nuclear risk reduction centers remain in place and in use between Washington and Moscow to this day. The ability to send a message without having to wait for the other side to "pick up the phone" has proved to have important political and technical advantages over more simple telecommunications.

No similar system (except for some bilateral mechanisms that require the other side to respond) exists anywhere in Northeast Asia between the United States or any of the countries in the region. The establishment of risk reduction communication centers in all of the capitals, or simply establishing them between bilateral pairs, is one way to create mechanisms before a crisis strikes to help resolve misunderstandings or miscommunications. While it is entirely possible that a message sent will not be reciprocated or well received, there is little to any cost to establishing such a system. Indeed, even the absence of a response can be important information that aids decision making.

The United States and Russia could offer to expand their current system to include other countries, share and demonstrate the technology that they use for consideration by China, South Korea, Japan, and North Korea, or pairs of states could establish similar networks on their own. One way to facilitate this process might also be for a civil society group, such as National Academies of Science or other equivalent academic centers to establish test networks that could be used and demonstrated over a period of months for national military and leaderships in the individual countries to observe the system in use before they commit to them as a political decision.

2. INCIDENT AGREEMENTS

The United States and the Soviet Union worked over the course of the Cold War to establish norms of behavior and then create operational tools for their militaries to communicate at the operational level to manage accidents. These were largely successful both in providing tools to manage crises and signaling that both sides had an interest in avoiding unintended or unwanted conflicts. Despite efforts to create similar systems and tools in Northeast Asia, agreements or tools that have been put in place (such as 1998 U.S.-China Military Maritime Consultative Agreement as well as 2018 Maritime and Aerial Communication Mechanism between the Japan-China Defense Authorities and 2023 Hotline between Japanese and Chinese Defense Authorities) to manage potential incidents among the relevant armed forces (naval and air forces being the main focus with China, and ground forces being a major concern on the Korean Peninsula) are far from enough. States should first make these existing mechanisms

effective and useful and then seek to expand them to establish norms of behavior and create operational communication tools.

Not all states in the region support the establishment of such mechanisms, but they are a potentially useful tool that willing states should look to establish and promote. Demonstrating responsible behavior and signaling a concern about the direction of regional security are both valuable opportunities for leaders, and despite some concerns would have no tangible effect on the ability to both deter and prepare for a potential clash of forces. There have been multiple studies done on best practices for such systems including how to establish pre-existing norms of behavior, conduits for communication, and how states should behave if an accident or unplanned clash among forces takes place. These efforts should continue and be enhanced. Where possible U.S., ROK and Japanese approach for intra-alliance/partner behavior and products should be published and promoted as standards that could form the basis for broadening of such efforts to include China and North Korea, as well as Russia.

3. BUILD AND USE OPEN-SOURCE NETWORKS

The space revolution has provided governments and independent analysts with a stunning set of tools that previously were inaccessible to all but intelligence agencies in a handful of developed countries. Now, the availability of commercial observation satellites and low-cost drones create potential tools for states in the region to monitor each other's military behaviors, anticipate potential moves that undermine the security of another, and have detailed information that can be used as part of risk reduction or crisis management processes. Obviously, not all countries in Northeast Asia are pleased with the newfound transparency that can be imposed from outside of their own borders, but this technology will only continue to expand and provide potential tools for others in the region. This will at once reduce the likelihood of military surprises, yet at the same time, the growth of information manipulation technologies, including artificial intelligence, will mean that not everything a country can see is necessarily the truth. This balance between information and mis- or disinformation is a particular challenge in the 21st-century that should concern all states in the region, even though that might seek to use mis- and disinformation to their own advantage.

One concept that should be further developed and promoted is the creation of open-source information fusion cells, involving relevant experts from all of the countries involved in Northeast Asian security dynamics. Having a single location with participants from the various countries who can assess, analyze, and even discuss data being provided by open-source capabilities could be a powerful tool in developing a common framework for discussing a crisis, should one take place. It is unlikely given the current political dynamics that all of the countries in the region will soon agree to establish such a center, thus an interim step might be to establish a trial open-source operation through academic or non-governmental civil society organization that could be accessed by countries in the region by invitation.

4. BUILD ON WHAT IS WORKING

One of the simplest tools for avoiding miscalculation utilized by the United States and the Soviet Union/Russia has been advance notification of ballistic missile test launches. More recently, the United States and China have engaged in apparently reciprocal advance notifications of recent ICBMs tests. This basic step can avoid the risk that a simple test launch might occur at a time of tension and catch any state off guard. Efforts should be made by the United States and China to encourage other states in the region, including North Korea, to follow this standard model to encourage responsible behavior, if not moderation.

Other Steps by the United States, and Allies and Partners

These above steps, whether used in bilateral or multilateral settings, could improve the ability of states to avoid a crisis or manage one should it take place. However, there are other steps that can be pursued by the United States and its friends and allies in the region that can also improve the outlook for avoiding unwanted or unnecessary nuclear risks.

1. BROADEN ROUTINE DETERRENCE AND ASSURANCE DIALOGUES AMONG THE UNITED STATES AND ITS ALLIES AND PARTNERS IN BOTH BILATERAL AND MULTILATERAL FORMATS.

Existing dialogues and committees have been useful political tools for improving transparency within bilateral alliances, improving trilateral engagement, and finding ways to enhance military reassurance and deterrence. However, these discussions often overlook other important areas of interdependence among the United States, Japan, and South Korea—and how their cooperation in these areas contributes to the security and prosperity of all three countries. In addition to continuing and deepening these discussions, to include regular engagement on what specific threats they seek to deter and how to do so without taking unnecessary nuclear risks, the countries should also look to engage on economic, technical, cultural, and human exchange dynamics to deepen the anchors for these alliances and partnerships that form the basis for their security in the region.

2. EXPAND TRILATERAL COMMUNICATION AND COORDINATION MECHANISMS AMONG THE UNITED STATES, JAPAN AND ROK.

Japanese and ROK officials in particular need to put forward a very clear demand signal to the United States that they value the trilateral process consolidated during the Biden administration and would welcome efforts to expand the scope of their engagement. These dialogues should seek to adopt a heavier emphasis on crisis, coordination and scenario planning, to include both escalation and de-escalation scenarios, as well as to conduct exercises around unexpected or surprise events.

3. CONSIDER TIGHTER REGIONAL MISSILE DEFENSE ARCHITECTURES.

Missile defense is becoming an increasingly important element of deterrence by denial in the region. It is increasingly clear that effective missile defenses can play a significant role in deterring adversaries and reassuring allies. In this regard, developing tighter regional missile defense architectures should be considered. If coordinating and implementing regional missile defense architectures among the United States, South Korea, Japan, and Taiwan proves successful, it could have an important politically stabilizing effect by linking them together and reinforcing their relationships in the face of potential political challenges. However, several important issues must be kept in mind when considering regional cooperation on missile defenses, for example, concerns that such cooperation could further stimulate investment in ballistic missile capabilities by North Korea, China, and Russia (although they are already expanding their capabilities regardless), as well as rising costs of missile defense systems. Advancing cooperation between Japan and South Korea still remains politically fragile, posing a challenge to regional cooperation. Furthermore, if Taiwan is to be included in such a regional architecture, China will certainly react harshly both politically and militarily. While the delicate and complex nature of regional relations must be carefully weighed, developing tighter regional missile defense architectures is worth considering.

4. PROMOTE BROADER DIALOGUE ON THE UTILITY AND RISKS OF RELIANCE ON NUCLEAR DETERRENCE.

Nuclear weapons are clearly an important component of strategic deterrence, but they are not a panacea and because of their immense destructive power they should always and only be an option of last resort. This tone needs to be routinely re-injected into alliance discussion to avoid over-reliance on nuclear options and to ensure that nuclear reliance does not become an adversary to prudent and more stabilizing conventional investments for both deterrence and combat. Additional discussions should be pursued to determine when and how it would be possible to reduce or even eliminate the role for nuclear weapons in some contingencies in favor of conventional options that may increase the efficacy of conventional deterrence and escalation management.

5. ENGAGE ADVERSARIES, IN CLOSE CONSULTATION WITH ALLIES, EVEN IF THE PROSPECTS FOR PROGRESS ARE LIMITED.

The willingness to break with conventional wisdom and engage adversaries is one area where the current American administration may have a distinct advantage over its predecessors. President Trump has demonstrated that he does not feel constrained in talking with U.S. adversaries, and is willing and even eager to engage with the leadership of foreign countries with historically adversarial or difficult relations with the United States. This high-level engagement provides an opportunity to breakthrough bureaucratic hurdles and achieve terrific strides, if effectively planned and managed. President Trump could choose to reengage North Korea, even after launching military strikes against Iran has offered to pursue diplomacy with Tehran, and is reportedly eager to negotiate and engage directly with China's president. If any of these dialogues are pursued, then important crisis management and avoidance tools should be brought into these high-level dialogues by the United States. In particular, as it was pointed out in the article of the J-PAND's special issue on "Nuclear Weapons and China's National Security: Consistency, Evolvement and Risk Management", there may be great value in establishing procedures for risk reduction that focus on the timeliness of the tools as well as standardization and maintenance activities to ensure that these tools are operable when needed. At the same time while more complicated, it may be possible for the leaders of these countries or their designated technical teams to work on identifying potential flashpoints and reach task agreements on how the two sides can identify and possibly avoid what are seen as provocative actions. It remains to be seen whether or not China or North Korea are interested in pursuing such high-level high stakes diplomacy, and if they do whether they will be open to areas that have traditionally been excluded from past dialogues. However, if in this new environment, China and North Korea are able to recognize the risks of nuclear escalation and agree that all states in the region would be better off reducing the risk of accidental or unintended nuclear use, then there are tools that all three countries, in close consultations with Japan and South Korea, could pursue to achieve those ends.

Conclusion

None of the steps including above alone or collectively will eliminate the risks of conflict among the multiple nuclear and nuclear dependent states in Northeast Asia. The economic, political and security stakes and dynamics indicate that the region will remain one influenced by tension and increasing military risk until there are fundamental changes in the region, including the nature of leadership in multiple countries, or until there is a collective understanding about the benefits to be gained through political and security engagement and broader integration. While those changes seem unlikely, history is filled with examples where previously insurmountable changes were achieved through unexpected developments.

That being said Northeast Asia looks to occupy in the 21st century the same space Europe occupied the 20th century as a potential flashpoint for military and political tensions among great powers and their partner states. The fact that multiple countries possess nuclear weapons and are dependent on them ultimately for their security, makes the risks of accident, miscalculation, or escalation much more dangerous than the Cold War period. It will take consistent leadership and action to navigate the complex dangers in the region and to avoid what many analysts considered to be an increasingly possible outcome, a nuclear conflict in Northeast Asia.

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