

# BRIEFER

No. 14 | February 2, 2021

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## The Next Great Idea in Nuclear Arms Control: Putting the “N” Back in INF<sup>1</sup>

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### INTRODUCTION

It is often said that those who do not learn from history are doomed to repeat it. The United States and Russia appear to be heading on a dangerous trajectory in which the countries may rehash a period of tense history given the recent collapse of the 1987 Intermediate-Range Nuclear Forces (INF) Treaty. The INF Treaty served for several decades as an important cornerstone of U.S.-Russia arms control, nuclear deterrence, and global nonproliferation efforts.

A 21st century reboot of the INF Treaty may offer a promising foundation for forthcoming arms control steps between the United States and Russia---and potentially include other nuclear weapons possessors.

This short paper presents one in a series of concepts which, together or separately, can reinvigorate nuclear arms control. The Council on Strategic Risks (CSR) is developing a number of proposals that may meet the mutual security interests of multiple countries, account for the interplay of new technologies, and prioritize measures that could reduce ambiguity and miscalculation risks. The ideas that CSR will explore in this series stem from a strategic framework first proposed by UK Rear Admiral John Gower that prioritizes confidence-building and arms control steps that would make significant progress in reducing the risks of nuclear conflict, whether deliberately or by miscalculation. Just as the original INF Treaty did, such steps focus on removing nuclear weapons from any tactical or operational consideration while maintaining strategic deterrence, and in particular removing nuclear weapons from third-party

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<sup>1</sup> Stanley Fraley, one of the negotiators of the INF Treaty, is credited with coining this phrase.

battlefields (such as Europe and East Asia) where shorter-range missiles and lower-yield options lead inevitably to lower thresholds of use of nuclear weapons by the primary nuclear armed adversaries in these regions.

This briefer discusses a nuclear arms control step that would address the intermediate-range nuclear forces that were once banned and, in a destabilizing trend, may be on the verge of a comeback--to put simply, we propose a tailored, nuclear-only successor to the INF Treaty. Before we propose a pathway for reversing this trend, it is worthwhile reflecting on the context surrounding the negotiation of the INF Treaty, covered in the background section of this paper.

In support of this work, on January 14, 2021, CSR convened a track 1.5 dialogue among experts and officials from across Europe, East Asia, and the United States to discuss the concept. The conversation was shaped around a September 2020 article written by former NATO Deputy Director and U.S. nuclear negotiator Rose Gottemoeller, which is perhaps the most extensive and persuasive exploration of the notion to date.<sup>2</sup> Many of the ideas and questions shared during that discussion are captured in this paper. However, as it was held under the Chatham House Rule, for which no ideas can be attributed to any specific participant, the recommendations presented in this briefer represent solely the views of the authors.

## BACKGROUND

Unlike the close calls during the Cuban Missile Crisis, another significant nuclear war scare from 1983 has all but disappeared from the popular discourse on nuclear threats. It was set into motion by President Ronald Reagan's plan to develop anti-ballistic missile defense systems, the deployment of Pershing II missiles in Europe by the U.S., and a NATO exercise called ABLE ARCHER.

Starting in the 1960s, NATO conducted annual training exercises in Europe called AUTUMN FORGE to test combat readiness with movements of up to 100,000 troops.<sup>3</sup> In 1983, AUTUMN FORGE culminated in a command post exercise called ABLE ARCHER, which was intended to test NATO's response to Soviet use of nuclear weapons, simulating forces on high alert.<sup>4</sup>

Unbeknownst to NATO officials at the time, the KGB had launched a new intelligence program, Operation RYAN, designed to gather thousands of seemingly random pieces of information about subtle changes in U.S. and NATO behavior. The program was supposed to provide the Soviets with advanced warning of a nuclear missile attack from the United States. Soviet officials were paranoid that the United States would launch a nuclear attack disguised as a war game, especially one that took place over a major Soviet holiday as did ABLE ARCHER.<sup>5</sup> With the deployment of Pershing II missiles in Europe, Soviet officials would have less than ten minutes to respond to a surprise nuclear attack, targeting their command and control systems.

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<sup>2</sup> Rose Gottemoeller, "[Rethinking Nuclear Arms Control](#)," *The Washington Quarterly*, 43:3, 139-159, DOI: 10.1080/0163660X.2020.1813382 (September 2020).

<sup>3</sup> Atomic Heritage Foundation, "[Nuclear Close Calls: Able Archer 1983](#)," (June 15, 2018).

<sup>4</sup> NATO, "[Exercise Able Archer 83: Information from SHAPE Historical Files](#)," Unclassified document hosted by the National Security Archives, (March 28, 2013).

<sup>5</sup> Jamie Doward, "[How a Nato war game took the world to brink of nuclear disaster](#)," *The Guardian* (November 2, 2013).

The 1983 ABLE ARCHER exercise played almost perfectly to the paranoia inherent in Operation RYAN. Several days after the start of the exercise on November 2, Soviet intelligence analysts sent an emergency telegram to the KGB that NATO forces had been placed on high alert. Fearing a nuclear attack was imminent, Soviet officials in Moscow prepared for nuclear war, loading planes with bombs in Poland and East Germany, putting nuclear-armed intermediate-range ballistic missiles on high alert, and moving nuclear-armed submarines under the Arctic ice. Soviet nuclear forces only stood down when the exercise came to an end on November 11.

Indeed, even U.S. and NATO officials remained in the dark about just how close the Soviets came to fighting a nuclear war with the United States that year—that is until Oleg Gordievsky, then KGB Bureau Chief in London, defected in 1985.

Whilst these developments came close to provoking an unintentional nuclear war, they also provided the tense backdrop for the negotiation of the historic INF Treaty. In the years that followed, both the United States and the Soviet Union were keen to reduce heightening tensions in Europe and remove a tripwire for unintentional nuclear escalation.

Intermediate-range missiles were considered highly destabilizing, as illustrated in the case of ABLE ARCHER, because they could reach targets within minutes and therefore required both sides to maintain hair trigger postures. Furthermore, since ballistic and cruise missiles could be outfitted with both conventional and nuclear warheads, their conventional use involved a significant risk of miscalculation. If NATO were to launch such missiles against the Soviet Union, Soviet officials would have to assume the worst case scenario—that a nuclear war was already underway—and would be compelled to retaliate accordingly.

The Soviets also targeted European members of NATO with intermediate-range weapons. This introduced different concerns and dynamics from longer-range systems targeting the United States, as many viewed it as increasing the threat of nuclear weapons use on European territory, and increased miscalculation risks due to both the character of how these weapons might be used and the range of decision-makers across NATO nations.

For more than three decades, the INF Treaty eliminated nuclear and conventional ground-launched ballistic and cruise missiles with ranges from 500 to 5,500 kilometers from U.S. and Russian arsenals.<sup>6</sup> When the treaty entered into force in 1988, it made history in several respects. It represented the first time that the Soviet Union and United States had agreed to reduce their nuclear arsenals rather than just impose caps or freezes. It also eliminated an entire class of weapons, leading to the permanent dismantlement and destruction of 2,692 missiles—1,846 by Russia and 846 by the United States.<sup>7</sup> The treaty provided for the comprehensive verification of its provisions through extensive on-site inspections in addition to national technical means. Finally, unlike the subsequent bilateral arms control treaties between Russia and the United States, the INF Treaty was intended to be of unlimited duration.

On August 2, 2019, the U.S. withdrawal from the INF Treaty became official, freeing both Russia and the United States of their obligations. Though U.S. officials have repeatedly accused

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<sup>6</sup> The INF Treaty did not cover sea- or air-launched systems in this range, though later this paper discusses the option of including them together in a future, nuclear-only INF successor agreement.

<sup>7</sup> North Atlantic Treaty Organization, “[NATO and the INF Treaty](#),” website (last updated August 2, 2019).

Russia of violating the treaty with its development of a new conventional intermediate-range ground-launched missile, the fault for the collapse of this historic treaty appears to be complex, including significant pressures from the shift to a multipolar world. Russia has tested and fielded a new ground launched cruise missile (SSC-8/9M729),<sup>8</sup> and the U.S. has tested a new conventional ground-launched ballistic missile.<sup>9</sup> So far it appears both countries are focusing on advancing conventional systems, though they will likely be capable of carrying nuclear warheads too.

If both countries continue to develop dual-capable intermediate range nuclear-armed missiles, Europe will face a new period of heightened nuclear tensions. In addition to reviving this Cold War-era threat, the United States and Russia are considering these conventional but dual-capable systems in the Asia-Pacific. This would greatly expand the geographic threat of these weapons, along with their miscalculation risks.<sup>10</sup>

At the same time, countries such as China have expanded their arsenals of conventional intermediate-range missiles, some of which are considered nuclear-capable. According to RAND's Michael Chase, the People's Liberation Army's "land-based ballistic and cruise missiles serves as the cornerstone of the Chinese military's strategic deterrence and conventional precision strike capabilities."<sup>11</sup> More than 95 percent of these missiles fall within the range proscribed by the INF Treaty,<sup>12</sup> including dual-capable anti-ship ballistic missiles dubbed "carrier killers." China is not likely to give them up in the near term. Though China has not expressed interest in arming such missiles with nuclear warheads, the presence of these conventional offensive capabilities in the region are of concern to many other nations.

In recent years, India and Pakistan have accelerated their testing programs of conventional, but likely also nuclear-capable, intermediate-range ballistic and cruise missiles. Pakistan considers its intermediate-range missile programs an essential component of its nuclear posture against India. Since 2002, Pakistan has conducted an average of five missile tests per year, with a peak of eight tests in 2019. After the first test of its Babur-3 submarine-launched cruise missile in 2017, Pakistan expressed the importance of these nuclear-capable cruise missiles for providing a second strike capability.<sup>13</sup> In its most recent test in February 2020, Pakistan tested a new air-launched cruise missile.<sup>14</sup> India views its intermediate-range ballistic missile programs as a cornerstone of its nuclear deterrence posture with both Pakistan and China. Meanwhile, its

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<sup>8</sup> Office of the Director of National Intelligence, "[Director of National Intelligence Daniel Coats on Russia's Intermediate-Range Nuclear Forces \(INF\) Treaty Violation](#)," (November 30, 2018); Pavel Podvig, "[Is it too late to have an informed discussion about the INF treaty?](#)" *Russian Strategic Forces* (blog) (December 2, 2015).

<sup>9</sup> Idrees Ali, "[U.S. tests ground-launched ballistic missile after INF treaty exit](#)," *Reuters* (December 12, 2019).

<sup>10</sup> Andy Weber And Christine Parthemore, "[The Future Of Arms Control Is Global: Reconsidering Nuclear Issues In The Indo-Pacific](#)," *War on the Rocks* (February 8, 2019).

<sup>11</sup> Michael S. Chase, "[PLA Rocket Force Modernization and China's Military Reforms](#)," Testimony presented before the U.S.-China Economic and Security Review Commission (February 15, 2018); Jeff Becker, "[When It Comes To Missiles, Don't Copy Russia And China — Leapfrog Them](#)," *War on the Rocks* (June 30, 2020).

<sup>12</sup> Admiral Harry B. Harris, "Statement Before the Senate Armed Services Committee on U.S. Pacific Command Posture," April 27, 2017, [https://www.armed-services.senate.gov/imo/media/doc/Harris\\_04-27-17.pdf](https://www.armed-services.senate.gov/imo/media/doc/Harris_04-27-17.pdf)

<sup>13</sup> "[Press Release from the Inter Service Government Relations of Pakistan](#)," January 9, 2017,

<sup>14</sup> Usman Ansari, "[Pakistan tests a new cruise missile. Can it hit inside India?](#)" *Defense News* (February 18, 2020).

interest in cruise missiles appear to be driven at least in part by a desire for capabilities less vulnerable to China's ballistic missile defense capabilities.<sup>15</sup>

Several other countries including France, Iran, and North Korea have fielded or are developing intermediate-range missiles that may be nuclear-capable (in Iran's case, this only applies should it develop nuclear weapons). Additionally, the spread of missile defenses, drones, and other capabilities is bringing further complexities to the global security environment---and to discourse on next steps in arms control.

Rather than return to the substance of the INF Treaty as it was originally negotiated, we propose replacing it with an agreement that bans all nuclear-armed, intermediate-range, ground-launched cruise missiles. This should start with bilateral arrangements between the United States and Russia, designed to be expanded upon later to bring in other countries and nuclear armed, intermediate-range ballistic missiles, and be later built upon with measures to extend to other types of systems. Depending on political conditions at the time this is pursued, officials may consider expanding it to include sea- and/or air-launched nuclear cruise missiles as well, as we discuss below.

Like the original INF Treaty, such measures would reduce the risk of miscalculation that results from these dual-use capabilities and the potential for unintentional escalation. This concept would also serve as a major step toward reimagining the arms control agenda and strengthening the NPT.

## THE CONCEPT

We propose that the United States immediately pursue an agreement with Russia on a nuclear-only successor to the INF Treaty, beginning with a ban on nuclear intermediate-range (500 to 5,500 km) cruise missiles. This first step would open the door to later incorporating other nations and nuclear-armed ballistic missiles of the same range.

Our concept is designed to address some of the INF Treaty's key challenges—e.g., its bilateral limitations, its application to both conventional and nuclear-armed missiles, and its complicated relationship with anti-missile defenses and drones—whilst retaining its core strengths—e.g., reducing a class of destabilizing nuclear-capable missiles and setting the stage for comprehensive on-site verification. While such an agreement could take many forms, the following section includes our recommendations on scope, participants, and sequencing.

### *What to Include:*

As summarized above, a near-term future INF agreement should focus solely on *nuclear weapons* and seek to ban these weapons outright rather than allow for a limited number of them. Differentiating between nuclear and conventional systems to verify such an agreement is relatively straightforward, while verifying that only certain numbers of weapons are nuclear-armed is much more complex. Negotiating a limit on numbers would require intrusive types of verification measures that many countries may not be comfortable with. A full ban rather than a limit would help avoid these challenges.

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<sup>15</sup> Andy Weber and Christine Parthemore, "[Cruise Control: The Logical Next Step in Nuclear Arms Control?](#)" *Journal for Peace and Nuclear Disarmament* 2:2, DOI: 10.1080/25751654.2019.1681886 (2019), p 460.

Similarly, omitting the notion of banning conventional intermediate-range systems for now would simplify the path toward agreement--and is far more likely to be attractive to China and other countries. However, as we suggest below, moratoriums on *deploying* conventional intermediate-range systems should be pursued.

Second, such an agreement is best focused in the near term on nuclear-armed *cruise missiles* rather than both cruise and ballistic missiles. Cruise missiles introduce risks for miscalculation and surprise even beyond those of ballistic missiles. This more tailored approach would likely be more attractive to additional countries in the future. This agreement should, however, be seen as an initial step toward future limits or bans on comparable ballistic missiles as well.

Another key scoping element is whether to focus solely on *ground-launched systems*, as the original INF Treaty did, or to include sea- or air-launched cruise missiles (SLCMs and ALCMs, respectively).

Many experts, including those that took part in CSR's early 2021 discussion, consider it worth exploring an agreement that would include ground- and sea-launched nuclear cruise missiles--or potentially all nuclear-armed cruise missiles. Currently, concerns are rising regarding U.S. and Russian nuclear modernization plans regarding these weapons. Russia is exploring a sea-launched, nuclear-powered, nuclear-armed torpedo that some are concerned may indicate a revival of plans for new SLCMs. The United States currently plans to bring back nuclear SLCMs in response to various Russian threats. It is also developing a more-advanced nuclear air-launched cruise missile (the long-range standoff cruise missile, or LRSO). Plans by both countries reintroduce some worrisome dynamics in both Europe and the Asia-Pacific. These tensions make the idea of including nuclear SLCMs and/or nuclear ALCMs attractive.

However, focusing in the immediate term on ground-launched INF systems likely offers a more feasible path--and one that can pave the way toward addressing these other nuclear cruise missile systems (and eventually ballistic missiles, missile defenses, drones, and other relevant capabilities). For now, we recommend prioritizing a nuclear-only INF agreement focused on ground-based cruise missiles rather than entangling its pursuit with other steps. This simple approach would be a good fit to the complexities of the current security environment. It would help rebuild trust among relevant nations. Equally important, it could open the door to multilateral participation in the near term than agreements that cover a broader range of nuclear capabilities.

Yet while a nuclear INF agreement limited to nuclear-armed ground-launched cruise missiles should be an immediate priority, the United States should seriously consider a parallel, unilateral act that would show other nations its renewed commitment to reducing the risks of nuclear weapons and to pivot away from expanding new nuclear capabilities. Pausing or fully halting current plans to bring back its previously-retired nuclear SLCMs would offer an important signal to other countries. It would help meet growing pressure from Congress and civil society to downsize U.S. nuclear weapons plans and pursue defense spending oriented more toward 21st century threats. This move would produce no loss to U.S. security interests whilst showcasing a return of U.S. leadership in arms control.

### *Who to Involve:*

The process should start bilaterally between the United States and Russia, at least as the primary actors. Yet it is clear from recent history that any agreement needs to include provisions that allow other countries to join later--and any work should be framed as moving toward the goal of negotiating multilateral agreements. The aim of this starting point should be for bilateral progress to later embed in a “bilateral-plus” framework with other parties as soon as it is practicable. Indeed, this is similar to the U.S.-USSR bilateral origin of the INF Treaty, which later brought in Belarus, Kazakhstan, and Ukraine after their independence, given that former Soviet facilities in their territories were inspectable under the treaty.

Yet the mostly-bilateral nature of the INF Treaty hindered its lasting relevance. Whilst Russia and the United States were constrained from developing and testing intermediate-range ballistic and cruise missiles, China and other countries faced no such restraints on their missile postures. Although the Chinese would have opposed joining the old INF Treaty, given that its ban extended to both conventional and nuclear-armed missiles, they may be open to a nuclear-only INF that focuses on cruise missiles at first. In such a treaty China would not have to give up any of its current nuclear arsenal, and it would offer mutual security benefits to participating countries simply by pledging not to develop the banned class of nuclear weapons.

Even in the early stages of this process, the United States and Russia should consider inviting Chinese officials to observe some elements of discussions (though likely not the initial negotiations) in order to learn more about the dynamics of arms control agreements. Separate but parallel discussions may also be a useful format for further exploring China’s potential future participation.

In the future, if conditions make it beneficial, this agreement could expand in various ways beyond just including China. Other NATO countries may join up at some stage; this approach may appeal to many nations if an agreement enshrines a moratorium on deploying conventional intermediate-range missile systems to Europe. It may also include non-nuclear nations like Kazakhstan that play an important role in reducing nuclear threats and participated in inspections under the original INF Treaty.

### *Potential Next Steps:*

It is important to get started on this concept or other arms control work as soon as possible. Although there are significant strains between the United States and Russia (and with other countries such as China), the work of reducing nuclear weapons risks has grown more urgent in recent years. In the following, we discuss potential next steps.

#### Pursue the Moratorium

First, the United States and Russia should revisit a moratorium on deployment of conventional ground-launched intermediate-range missiles in Europe. When Russia originally proposed such a moratorium as the original INF Treaty was coming to an end, it was seen in the United States as a propaganda ploy. Particularly, the proposed moratorium involved geographic limitations and would not include the 9M729 system that the U.S. believes violated the INF Treaty in the first place.

Later, in the fall of 2020, Russia put forward a more expansive moratorium concept that would include a mutual verification and monitoring regime and cover the 9M729 system. The United States should work with Russia to finalize a moratorium along these lines, putting aside for the sake of progress the fact that Russia still does not admit that the 9M729 violated the INF Treaty. To be sure, this is only a first step, but it should not be discarded. This Europe-focused moratorium could pave the way for an Asia-centric extension later.<sup>16</sup>

### Pursue Treaty Discussions, With Backup Plans

This, along with what appears to be a pending agreement to extend the New START Treaty (at the time of this writing), will set the stage for a nuclear-only successor to the INF Treaty as described above. The ultimate goal should be to negotiate the agreement as a legally-binding treaty.

If a formal treaty does not seem politically feasible, the United States and Russia could consider parallel, unilateral political declarations of intent to refrain from pursuing nuclear-capable, ground-launched intermediate-range cruise missiles and express their desire to negotiate a legally-binding agreement enshrining the declarations at a later date. Such unilateral declarations could still include a commitment to verification, whether through a third-party organization or mutual on-site inspections. Such declarations would follow the important precedent set by the Presidential Nuclear Initiatives of 1991 and have the benefit that they can be made quickly through presidential decisions.

Once these statements are released, the United States and Russia could encourage other nations such as the United Kingdom, France, China, India, and Pakistan to make similar unilateral statements. This could create momentum and drive a sense of mutual risk reduction regarding some of the most destabilizing types of nuclear weapons. Of course, it would be important in this case to continue pursuing formal, legally-binding agreements.

Ideally, this work should proceed in the early months of 2021 in order to minimize momentum slowing from the bilateral arms control discussions held in 2020. This timing would build on relevant dialogues that have advanced for several years in Track 1.5 settings among U.S., Russian, European, and Asian experts and officials.<sup>17</sup> In the near-term, additional Track 1.5 fora should be convened in support of official discussions.

### Conduct Parallel Engagements

For the United States, it will be critical to conduct significant, parallel engagement with its allies and key partner nations. Accounting for political and security dynamics of concern to NATO and Asia-Pacific allies is paramount. U.S. officials can benefit from the advice of allied and partner nations and proactive cooperative planning to create momentum and support for such agreements. Consulting with ASEAN nations will be important as well, as they have relevant

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<sup>16</sup> Kingston Reif and Shannon BugoS, [Russia Expands Proposal for Moratorium on INF-Range Missiles](#), *Arms Control Today* (November 2020); and Luke Griffith, [The US Should Accept Russia's Proposed Moratorium on Post-INF Missiles](#), *Defense One*, (February 13, 2020).

<sup>17</sup> CSR has collaborated with multiple other organizations in these efforts, including private meetings and discussions captured in public summaries. For example, see Hugh Miall, [Exploring New Approaches to Arms Control in the 21st Century: Building Lessons from the Intermediate-Range Nuclear Forces \(INF\) Treaty and Presidential Nuclear Initiatives](#), *Today Peace Institute* (October 15, 2018).

risk reduction measures in place that could help. Their quiet support will also be important for future engagement with China.

Some dynamics pertaining to incentives for Russia and the United States--as well as China, NATO nations, and U.S. allies in Asia--remain unclear. Some stakeholders worry that lack of interest among U.S. allies for hosting conventionally-armed intermediate-range missiles in Europe and Asia may mean that China feels less pressured to join a nuclear-only INF agreement in the future. Others believe China has significant incentives to keep nuclear-armed cruise missiles out of its region regardless of conventional deployments. Regarding China, it will be important to avoid moves that could incentivize them to race for parity with U.S. or Russian capabilities.

Nuclear strategic stability talks that include countries like China may help in navigating this problem and other challenges. This work can certainly be conducted in parallel to work toward the agreement outlined above. Indeed, both tracks are necessary components of a comprehensive, longer-term work plan toward reducing the risks of nuclear weapons while accounting for increased technological entanglement and pervasive lack of trust among nuclear-armed nations.<sup>18</sup>

## TRUST AND VERIFICATION

The INF Treaty represented the first arms control agreement to include verification measures beyond national technical means. The U.S. and the Soviet Union adopted a comprehensive system of on-site inspections at operating bases and support facilities. Like the arms control agreements that came after it, such inspections focused only on verifying the elimination of delivery vehicles rather than the nuclear warheads themselves. This was due to heightened sensitivities about weapon design and isotopic profiles. Since both ballistic and cruise missiles can carry conventional and nuclear warheads, eliminating an entire class of nuclear weapons by the range of their delivery systems offered a simple way to navigate such issues.

An important, additional lesson from the original INF Treaty is that a comprehensive verification component was developed in advance of the treaty.

The commitment to verification under the INF Treaty should be replicated immediately. The political steps recommended above should be accompanied by a technical analogue to the INF Treaty's spirit: initial exchanges between U.S. and Russian scientists and technical experts to envision in detail how to verify a nuclear-only INF agreement. Ideally this could be an exchange between national laboratory experts in each country. Though if that proved too difficult, some mix of non-governmental, government, and former government technical experts would still offer an important line of communication--even if such work is initially conducted via an international or fully nongovernmental organization due to political constraints.

The experts and officials consulted by CSR broadly agreed that verification is eminently feasible for a nuclear-only INF agreement. The tools and methods for verification used in the past would benefit from what one discussion participant called institutional "muscle memory." The

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<sup>18</sup> See Rear Admiral John Gower, CB OBE, "[Improving Nuclear Strategic Stability Through a Responsibility-Based Approach: A Platform for 21st Century Arms Control](https://councilonstrategicrisks.org/programs/csw/)," Council on Strategic Risks (January 7, 2019), and other work setting out the strategic framework in which this concept embeds at: <https://councilonstrategicrisks.org/programs/csw/>

verification processes of the INF Treaty would still be familiar to some U.S. and Russian experts and institutions.

Moreover, the field is even better-primed today to devise effective verification regimes than in the 1980s. As Rose Gottemoeller described extensively in presenting the nuclear-only INF agreement concept in *The Washington Quarterly* in late 2020, recent advancements in verification technologies and methods in recent years should make it even easier than in the past. Today, it is possible to confirm relevant missiles are not carrying nuclear warheads, and/or were modified to no longer be nuclear-capable, and that they remained in that state.<sup>19</sup> Additionally, work by the United Nations Institute for Disarmament Research shows the promise of regimes for verifying the absence of nuclear warheads at specific locations, which could be well suited for the above-recommended agreement that includes nuclear but not conventional forces.<sup>20</sup>

Efforts to foster learning about nuclear arms control verification should be a component of the pursuit of this or other arrangements. Joint verification experiments, like ones conducted between Russia and the United States in the past, and expert exchanges could be extremely useful in raising the comfort level of countries such as China.<sup>21</sup> This would build well on the longer history of nuclear arms control, as well as more recent efforts to open up verification to include countries that may not possess nuclear weapons themselves, as the UK-Norway Initiative did.<sup>22</sup>

While verification is not a major challenge to future arms control steps like a nuclear INF agreement, trust-building will require enduring work. The dual-use potential of many delivery systems will continue to cause distrust in which countries believe that others will simply convert back conventional systems to carry nuclear warheads. Because avoiding this technical reality is challenging, general trust-building will be a perennial requirement.

## CONCLUSION

No matter what course this proposal or others take, stakeholders must also proactively address disinformation and myths that will likely arise if discussions toward a nuclear-only successor to the INF Treaty proceeds. Two pervasive narratives have been spread in recent years. One claims that arms control agreements are too difficult to verify. The second is that U.S. allies will view such agreements negatively. For any agreement to succeed, both narratives must be actively dispelled.

The mutual security benefits of a ban on nuclear intermediate-range, ground-launched cruise missiles are clear for many countries, including both Russia and the United States. Furthermore, verification regimes similar to what this agreement would require were successfully implemented for decades--even prior to technological improvements that could be used for this type of agreement.

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<sup>19</sup> Rose Gottemoeller, "Rethinking Nuclear Arms Control," *The Washington Quarterly*, 43:3, 139-159, DOI: 10.1080/0163660X.2020.1813382 (September 2020), pp. 151-155.

<sup>20</sup> Pavel Podvig, Ryan Snyder and Wilfred Wan, "[Evidence of absence: Verifying the Removal of Nuclear Weapons](#)," United Nations Institute for Disarmament Research (October 10, 2018).

<sup>21</sup> Siegfried S. Hecker, ed., *Doomed to Cooperate: How American and Russian Scientists Joined Forces to Avert Some of the Greatest Post-Cold War Nuclear Dangers* (Bathtub Row Press, June 29, 2016).

<sup>22</sup> See the United Kingdom-Norway Initiative website at <https://ukni.info/>.

Amidst a raging pandemic, economic and climate crises, and more, there may also be those who simply state that progress in nuclear arms control should wait until a different time. Yet the concept presented in this paper is a feasible step in the near-term, and one that would bring significant benefits toward stability and trust-building--and which could also have benefits for international cooperation on other key security issues. It should be pursued as a top nuclear arms control priority of the Biden administration in the United States and other stakeholders around the world.

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*This publication was made possible by a grant from Carnegie Corporation of New York. The statements made and views expressed are solely the responsibility of the authors.*

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