



ANALYSIS

DEAD MAN WALKING

TIME TO PUT THE INF TREATY TO REST?

| IAN ANTHONY |

NOVEMBER 2018

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INTERNATIONAL CENTRE FOR DEFENCE AND SECURITY
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Title: Dead Man Walking: Time to Put the INF Treaty to Rest?
Author(s): Anthony, Ian
Publication date: November 2018
Category: Analysis

Keywords: Arms control, disarmament, deterrence, nuclear policy, NATO, United States of America, Russia

Cover page photo: U.S. President Ronald Reagan and Soviet President Mikhail Gorbachev sign the Intermediate-Range Nuclear Forces (INF) treaty at the White House, Washington, on December 8 1987. REUTERS/Stringer

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ISSN 2228-2076

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INTRODUCTION

There is a high probability that the Treaty between the United States of America and the Union of Soviet Socialist Republics on the Elimination of their Intermediate-Range and Shorter-Range Missiles (INF Treaty) will be terminated within the next 12 months. European countries need to assess the consequences for their national and regional security as well as the impact on wider international security.

The INF Treaty was rightly considered a milestone in arms control because it delivered military and political benefits and because it represented a major advance in arms control verification. However, these benefits are not being delivered today. Russia has maintained for many years that the INF Treaty has outlived its usefulness, but also signalled that it would be open to discuss an alternative framework more in keeping with current realities. In the current political conditions an alternative framework to the INF Treaty might be impossible, but it would be worth exploring whether a new agreement could be reached.

1. THE PATHWAY TO TERMINATION OF THE INF TREATY

Article XV of the INF Treaty allows for withdrawal if a party decides that 'extraordinary events related to the subject matter of this Treaty have jeopardised its supreme interests'. There is a six-month notice period prior to withdrawal. On 20 October 2018 President Donald Trump made his intention to trigger withdrawal from the Treaty public. Following that announcement, the Assistant to the President for National Security Affairs, John

Bolton, used the opportunity of a scheduled meeting with his counterpart in Moscow, Nikolai Patrushev, to explain the U.S. position and the reasons for it.¹

The United States has not transmitted a formal notice on withdrawal to Russia, and when to do that is a decision that will be made by President Trump. The purpose of the visit to Moscow by Mr Bolton was to help prepare for possible future meetings between President Trump and President Putin, when arms control would be one issue for discussion.

A former U.S. senior official has pointed out that Russia is not concerned about the loss of the INF Treaty, and 'during the George W. Bush administration, then-Russian Defence Minister Sergey Ivanov repeatedly raised with then-

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Secretary of Defense Donald Rumsfeld the idea that both the U.S. and Russia jointly renounce the treaty.² It must be considered very doubtful whether President Putin would take steps to preserve the Treaty.

The U.S. announcements in October 2018 should not have been a surprise. When Secretary of Defense James Mattis briefed his NATO counterparts at the meeting of Defence Ministers on 3 October he made it clear that 'Russia must return to compliance with the INF Treaty or the U.S. will need to respond to its cavalier disregard for the treaty's specific limits. The current situation with Russia in blatant violation of this treaty is untenable.'³

As David Trachtenberg has pointed out, the assessment by the Trump Administration 'is no different than the one first announced in July

¹ "APNSA John Bolton Interview with Elena Chernenko" (Unofficial transcript), *Kommersant*, 22 October 2018.

² Franklin Miller, "INF Treaty: The problem with the arms control community", *Defense News*, 24 October 2018.

³ "Bolton pushes Trump administration to withdraw from landmark arms treaty", *Washington Post*, 19 October 2018.

2014. We reviewed the intelligence and came to the same conclusion as our predecessors. The evidence is conclusive. Russia possesses a missile system, the SSC-8, in direct violation of the INF Treaty. Russia has tested this ground-based system well into the ranges covered by the INF Treaty, produced it, and fielded it. The violation is real, and it goes against the core purpose and restrictions of the INF Treaty.⁴

Significant domestic opposition to the withdrawal from the INF Treaty in the United States seems unlikely given that Congress has been pushing the executive to take firmer action.⁵ On the other hand, senior administration figures have tried to design strategies to preserve the Treaty.

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In testimony to the U.S. Congress, Secretary Mattis linked the development of a new nuclear-armed sea-launched cruise missile (SLCM) directly to the INF Treaty, saying: ‘I want to make certain that our negotiators have something to negotiate with, that we want Russia back into compliance. We do not want to forgo the INF, but at the same time we have options if Russia continues to go down this path. So the idea is, once again, to keep our negotiators negotiating from a position of strength.’⁶

⁴ Senate Foreign Relations Committee, “[The State of Arms Control With Russia](#)”, Statement of David J. Trachtenberg, Deputy Under Secretary of Defense for Policy, 18 September 2018.

⁵ The *Intermediate-Range Nuclear Forces (INF) Treaty Preservation Act of 2017* signed into law in December 2017 put pressure on President Trump to enact sanctions to induce Russian compliance and, should that approach fail, leave the Treaty. *Public Law 115-91*, 12 December 2017. The Department of Commerce decided in December 2017 that all items subject to the Export Administration Regulations destined for two Russian entities considered central to the Russian ground-launched cruise missile programme of concern should be reviewed on a case-by-case basis, with a presumption of denial—making it very unlikely that any application would be approved. *Federal Register*, Volume 82, No. 243, 20 December 2017, p. 60304.

⁶ The House Armed Services Committee, “[The National Defense Strategy and the Nuclear Posture Review](#)”, Testimony by James N.

Secretary Mattis was referencing the decision, announced in the *Nuclear Posture Review*, ‘to pursue a modern nuclear-armed sea-launched cruise missile (SLCM)’.⁷ The rationale for the development of a new SLCM was threefold: to provide an arms control compliant response to Russia’s non-compliance with the INF Treaty; to address the imbalance in the size of the non-strategic nuclear arsenals of Russia and the United States, and to strengthen assurance to US allies in light of Russian ‘destabilising behaviour’.

In 2014 the Department of Defense assessed ‘the threat posed by Russia if it were to deploy an INF Treaty-prohibited ground-launched cruise missile in Europe or the Asia-Pacific region’.⁸ Building on that assessment, a range

of potential responses to the deployment of Russian INF are under consideration, and in the most recent *Nuclear Posture Review* the United States informed that it has commenced ‘INF Treaty-compliant research and

development by reviewing military concepts and options for conventional, ground-launched, intermediate-range missile systems.’⁹

As noted above, the United States has started consultations with Allies in Europe and in Asia, and National Security Adviser Bolton has indicated that the consultation process will continue. Although upcoming meetings between President Trump and President Putin will discuss the issue, public information suggests that the most likely outcome is the termination of the INF Treaty by the end of 2019.

Mattis, Secretary of Defense, and Gen. Paul J. Selva, Vice Chairman of the Joint Chiefs of Staff, 6 February 2018.

⁷ Office of the Secretary of Defense, [Nuclear Posture Review](#), February 2018.

⁸ Brian P. McKeon, “[Testimony before the House Committee on Armed Services Subcommittee on Strategic Forces and Committee on Foreign Affairs Subcommittee on Terrorism, Non-Proliferation and Trade](#)”, 1 December 2015.

⁹ Office of the Secretary of Defense, *Nuclear Posture Review*, February 2018, p. 10.

2. COULD THE BENEFITS OF THE INF TREATY BE RESTORED?

The INF Treaty was rightly considered a milestone in arms control. It delivered three very important benefits. First, the Treaty was militarily significant because the weapons that were eliminated released many targets across Eurasia from a danger against which there was no credible defence. Second, the Treaty was politically important because the way it was negotiated and agreed provided evidence of a new quality in relations between the United States and (at that time) the Soviet Union. Third, the verification regime that the Treaty created was unprecedented. The innovative procedures and new institutions created to verify the INF Treaty not only signalled the intention of building a new strategic relationship, they were also important to the development of verification methods later used in other treaties and agreements.

It is not clear that the Treaty is delivering any of the key benefits identified above today. The military significance of the treaty has been reduced by new weapon systems. Far from uniting parties, the political discussion around the treaty has become increasingly toxic in both Moscow and Washington. What remains of the verification system demonstrably failed to resolve compliance issues.

A more relevant framework might include the following four steps:

- First, remove legal barriers to the acquisition of conventional missiles with intermediate range. Although it is generally considered an element of nuclear arms control, as the proper name of the Treaty above indicates, the ban covers classes of missiles regardless of the warhead they carry. This would help to build modern conventional systems considered necessary for defence and deterrence in a more transparent manner.

- Second, extend the ban on nuclear-armed intermediate-range missiles to cover sea-launched cruise missiles. This would help restore some of the military significance of the INF Treaty to Europe.
- Third, open a discussion of nuclear-armed ground- and sea-launched ballistic and cruise missiles with the existing INF Treaty range parameters of 500–5,500 kilometres among the permanent members of the United Nations Security Council. A dialogue on whether there is a feasible plan to develop an agreement to replace the INF Treaty should include China, France and the United Kingdom.
- Fourth, begin a wider consultation involving countries in Europe and East Asia to create a clearer understanding of the implications for regional and international security of terminating the INF Treaty.

A modification to legalise possession of all conventionally armed, ground-launched cruise missiles but ban all nuclear-armed SLCMs could help recapture the military significance of the original INF Treaty

2.1 THE DECLINING MILITARY SIGNIFICANCE OF THE INF TREATY

A modification to legalise possession of all conventionally armed, ground-launched cruise missiles but ban all nuclear-armed SLCMs could help recapture the military significance of the original INF Treaty.

When the INF Treaty was being negotiated and signed cruise missiles were closely identified with the delivery of nuclear weapons. The relative inaccuracy of cruise missiles reduced their effectiveness either for land-attack or anti-ship operations when conventionally armed.¹⁰

¹⁰ For example, in 1986 the United States used manned F-111 and A-6 aircraft in bombing raids against Libya to achieve the required level of precision. One F-111 was shot down and both crew members were killed, and the fact that unmanned cruise missiles could not be trusted to complete the mission is said to have accelerated the development of new guidance systems.

However, in the period after the treaty was signed there were important innovations in key technologies.

While the Global Positioning System (GPS) was developed in the 1970s, it was only in its very early phase of deployment at the time the INF Treaty was negotiated. Cruise missile guidance mainly depended on terrain contour matching technology that was more cumbersome, less reliable and less accurate than GPS guidance. Four years after the INF Treaty was signed the 1991 Gulf War demonstrated the impact of accurate land-attack weapons, effects later magnified by advances in digital communications, computing and information technology.

At the time the Treaty was negotiated the United States had a significant lead in cruise missile technology and expected the missiles to play a prominent role in attacking targets on

Ships in protected bastions in the Barents Sea, White Sea, Black Sea and Caspian Sea armed with intermediate-range missiles would leave Spain and Portugal as the only places where reinforcements could enter NATO beyond the range of Russian sea-launched cruise missiles

land. In keeping with the prevailing strategy of follow-on force attack, long-range cruise missiles could attack critical targets such as airfields, rail hubs and bridges with a high probability of success, preventing the forward movement of a second echelon of Soviet forces. The Soviet Union had a different perspective, seeing cruise missiles mainly as anti-ship weapons that would play an important role in negating a United States maritime strategy based on forward operations close to Soviet shores. The U.S. Navy had effective defences against conventional weapons, but with nuclear-armed cruise missiles the Soviet Union could challenge carrier battle groups that might otherwise operate with relative impunity.

The United States and Russia both expanded the research, development and production of land-attack cruise missiles in the 1990s. Conventionally-armed land-attack cruise

missiles play an important role in U.S. military operations, and these weapons have become progressively more important to Russia, which has begun to reference the importance of “reconnaissance strike systems” for use in “reconnaissance strike operations”.¹¹

Prior to the signing of the INF Treaty, the Soviet Union mainly allocated land attack tasks to a road mobile ballistic missile with the NATO identifier SS-20. However, once these missiles were eliminated in line with the provisions of the INF Treaty, Russia expanded the role of air- and sea-launched cruise missiles in land-attack. As noted in one recent report, a ship ‘equipped with a land attack cruise missile with a range of 1500 miles could sit in the southern White Sea, wholly inside Russian territory and strike targets as far away as Belgium.’¹²

Long-range conventionally armed cruise missiles could attack ports and airports, rail hubs, radars and communications facilities or power plants, all of which would hinder operations and the arrival of reinforcements. According to the U.S. Office of Naval Intelligence, ships in protected bastions in the Barents Sea, White Sea, Black Sea and Caspian Sea armed with intermediate-range missiles would leave Spain and Portugal as the only places where reinforcements could enter NATO beyond the range of Russian sea-launched cruise missiles.¹³

The number of such attacks that could be launched from the maritime domain is open to question, and one assessment has gone as far as saying ‘Russia has no viable path to attaining a large sea-based cruise missile arsenal’.¹⁴

¹¹ Roger N. McDermott and Tor Bukkvoll, “Tools of Future Wars: Russia is Entering the Precision-Strike Regime”, *The Journal of Slavic Military Studies*, Volume 31, No. 2, 2018.

¹² Andrew Metrick and Kathleen H. Hicks, *Contested Seas: Maritime Domain Awareness in Northern Europe* (Washington DC: Center for Strategic and International Studies, 2018), p. 11.

¹³ Office of Naval Intelligence, *The Russian Navy: A Historic Transition*, December 2015.

¹⁴ Michael Kofman, “Under the Missile’s Shadow: What Does the Passing of the INF Treaty Mean?”, *War on the Rocks*, 26 October 2018.

The Navy has benefited from Russia’s military modernisation programme, but to a lesser extent than other services. As a result, surface ships and submarines that can carry land attack cruise missiles have entered service at a measured pace. The magazine capacity of ships is limited, and space would be allocated to both offensive and defensive weapons. In a conflict between sophisticated adversaries in Europe the “life expectancy” of surface ships might be short. Submarines could survive longer as viable cruise missile launch platforms, but their magazine capacity is limited. While disruptive, Russia may not have enough modern, survivable launch platforms for sea-launched conventionally armed land-attack cruise missiles to block NATO reinforcements.

statements to the Organisation for Security and Cooperation in Europe (OSCE), and recent analyses have pointed out that the Russian naval modernisation in the Black Sea has included several surface ships and submarines armed with land attack cruise missiles.¹⁶ If Ukrainian statements are correct, it seems reasonable to assume that at least some missiles stored in Crimea will be nuclear-armed.

Armed with nuclear warheads, long-range sea-launched land attack cruise missiles negate many of the military benefits that the INF Treaty delivered for European states

Armed with nuclear warheads, on the other hand, long-range sea-launched land attack cruise missiles negate many of the military benefits that the INF Treaty delivered for European states. According to one interpretation, Russia probably removed such missiles from ships in the 1990s in line with voluntary unilateral commitments given by President Yeltsin. However, the so-called Presidential Nuclear Initiatives did not require the destruction of weapons removed from the field, and it may be the case that Russian attack submarines subsequently began to carry nuclear-armed cruise missiles again.¹⁵

Ukraine has pointed to ‘Russian actions to prepare Crimean military infrastructure for deployment of nuclear weapons, including refurbishing of the infrastructure of the Soviet-era nuclear warheads storage facilities’ in its

2. 1.1 EUROPEAN AIR POWER AND THE INF TREATY

The ban on ground-launched cruise missiles with ranges between 500–5,500 kilometres not only limits the flexibility of their use by the parties to the INF Treaty, it also imposes indirect restraint on other countries. There is no legal barrier to the development of ground-launched cruise missiles by European allies of the United States, but if such weapons proliferate in Europe it would be impossible to insist on Russian restraint. However, conventionally armed ground-launched cruise missiles might be useful to European members of NATO as elements of future air power.

The loss of military assets in combat is anticipated, and to adapt and recover from

Conventionally armed ground-launched cruise missiles might be useful to European members of NATO as elements of future air power

operational setbacks future forces will need to include ‘a balanced capability mix composed of manned, remotely operated, semiautonomous, and autonomous air, space, and cyberspace assets’ connected to a more advanced network of sensors and linked with a dynamic command and control system that can distribute or reallocate tasks to different weapons in real

¹⁵ Igor Sutyagin, [Atomic Accounting: A New Estimate of Russia’s Non-Strategic Nuclear Forces](#) (London: Royal United Services Institute, 2012), p. 39.

¹⁶ Organisation for Security and Cooperation in Europe (OSCE), [Statement by the Delegation of Ukraine at the Forum for Security Cooperation](#), OSCE document FSC.DEL/57/17, 16 March 2017; Dmitry Gorenburg, [“Is a New Russian Black Sea Fleet Coming? Or Is It Here?”](#), *War on the Rocks*, 31 July 2018.

time.¹⁷ As key European states plan their future air power it seems clear that a mix of manned and unmanned aircraft, probably including a long-range cruise missile, is likely to be one part of the future force structure.¹⁸

In 2017 France and the UK launched a bilateral *One Complex Weapons* initiative to develop next generation cruise missiles to be fielded by 2030.¹⁹ The availability would coincide with the retirement of the current generation of manned fighter aircraft in European inventories: Typhoon, Rafale, F-16, F-18 and Gripen.

To match resources and capabilities it would be logical for a joint assessment of future air power requirements to consider all options.²⁰ That approach would be consistent with the concept of agility and resilience that are important elements underpinning the future forces that NATO considers necessary to conduct its operations.²¹

Conventional cruise missiles have already played a role in regional conflicts and counterinsurgency operations where European forces were largely unchallenged. However, against a more sophisticated adversary a launch platform such as a submarine will be vulnerable to detection on launching its missiles, and an extremely expensive asset might be sacrificed to launch a small number of conventional missiles. A European programme to develop a long-range conventionally armed cruise missile that can be launched from ground, sea or air might have military utility.

Mobile ground-launchers for long-range conventional cruise missiles could offer European armed forces a capability that would be affordable, therefore available in larger numbers

Mobile ground-launchers for long-range conventional cruise missiles could offer European armed forces a capability that would be affordable, therefore available in larger numbers, stored in hardened bunkers, possible to conceal and useful in certain scenarios. If plans to increase the mobility of European armed forces by facilitating cross-border rail and road transport are implemented their utility might further increase.

While conventional cruise missiles may become increasingly important, the military case for nuclear-armed sea-launched cruise missiles in Europe does not seem as strong.

The United Kingdom made a comprehensive assessment of the development of nuclear-armed cruise missiles in 2013 as part of the process of deciding on the successor to the Trident submarine-launched ballistic missile.²² Nuclear-armed cruise missiles could only be a

viable option for deterrence if there was high confidence that missiles would reach designated targets protected by advanced air defences. According to the UK assessment, the costs of developing all the elements needed to produce a viable nuclear deterrence option based on cruise missiles were prohibitive.

Nuclear-armed cruise missiles are more likely to be air-launched. The French Air Force is currently equipped with a nuclear-armed air-launched cruise missile, the *air-sol moyenne portée-améliorée* (ASMP-A), and is reported to have begun the programme to develop a successor called ASN4G that would be available from roughly 2035.²³ The United States has also mainly focused on air-launched cruise missiles

¹⁷ US Air Force, [Air Force Operating Concept: A View of the Air Force in 2035](#) (Washington DC: US Air Force, September 2015). <https://www.af.mil/Portals/77/documents/AFD-151207-019.pdf>

¹⁸ In the *Future Combat Air Systems* initiative announced in April 2018, Airbus and Dassault Aviation underlined that the objective was to develop a “system of systems” integrating manned and unmanned aircraft in a network. Dassault Aviation, [“Dassault Aviation and Airbus join forces on Future Combat Air System”](#), 25 April 2018.

¹⁹ MBDA Missile Systems, [“France and the UK launch next-generation strike missile project with MBDA”](#), 28 March 2017.

²⁰ Cruise missiles could lend themselves to the “portfolio approach” being explored by France and the UK by which the acquisition of inter-related weapons is managed within a single, integrated set of long-term agreements with industry.

²¹ Allied Command Transformation, [Framework for Future Alliance Operations](#) (Norfolk VA: Allied Command Transformation, 2018).

²² UK Cabinet Office, [Trident Alternatives Review](#) (London: UK Cabinet Office, 2013).

²³ [“France Studies Nuclear Missile Replacement”](#), *Defense News*, 29 November 2014. The French Navy is now being equipped with a long-range cruise missile with a range said to be ‘at least 1000 kilometres’, but as far as is known it is armed with a conventional warhead.

for nuclear missions. The Nuclear Posture Review states that ‘a Long-Range Stand-Off (LRSO) cruise missile replacement program will maintain into the future the bomber force capability to deliver stand-off weapons that can penetrate and survive advanced integrated air defense systems’.²⁴ The NPR dovetails with the U.S. Air Force assessment that ‘air-delivered nuclear weapons and their delivery platforms remain well-suited for the complex, dynamic political/military environment of 2035.’²⁵

The bilateral discussions between officials have not produced any progress on resolving issues of INF Treaty compliance. On the contrary, they have reinforced the view that compliance is no longer taken seriously

The U.S. Navy was never fully convinced that the value of tactical nuclear weapons outweighed the disadvantages of deploying them on ships. A single nuclear weapon could destroy or (even if it missed its aim point) massively degrade the capability of an aircraft carrier battle group, and fighting a nuclear war at sea would negate many of the advantages that the U.S. Navy has enjoyed. The need to integrate SLCMs into an overall nuclear war plan could limit one highly valued characteristic of naval forces—the ability to move freely around the globe. Nuclear SLCMs occupy limited magazine capacity at the expense of conventional weapons, and require special routines and dedicated equipment for secure storage and safe handling. The United States decided to retire all nuclear SLCMs in 2009, a process that was completed between 2011 and 2013.²⁶

²⁴ Office of the Secretary of Defense, *Nuclear Posture Review*, p. X.

²⁵ US Air Force, *Air Force Operating Concept: A View of the Air Force in 2035*, p. 33.

²⁶ Hans M. Kristensen, “[US Navy Instruction Confirms Retirement of Nuclear Tomahawk Cruise Missile](#)”, Federation of American Scientists, 18 March 2013. The decision completed the elimination of all non-strategic nuclear weapons from the US Navy arsenal.

2.2 THE ERODING POLITICAL VALUE OF THE INF TREATY

The successful negotiation of the INF Treaty was very significant politically. Immediately before Mikhail Gorbachev arrived as Soviet leader in 1985 there was an impasse in negotiations. Konstanin Chernenko, Gorbachev’s predecessor, refused even to meet with an envoy bringing a personal message from President Ronald Reagan proposing a back channel that could help overcome obstacles in formal INF negotiations.²⁷ Unlocking the political dimension of the negotiations was a breakthrough in U.S.–Soviet relations.

The contrast to the handling of the concerns over treaty compliance in 2018 is stark.

The bilateral discussions between officials have not produced any progress on resolving issues of INF Treaty compliance. On the contrary, they have reinforced the view that compliance is no longer taken seriously.

The most senior political leaders have not engaged one another in a sustained way. Following the meeting in Helsinki, which did not produce any agreed statement or communique, President Vladimir Putin made a general reference to the need ‘to work together further to interact on the disarmament agenda’ while President Donald Trump only mentioned nuclear issues in relation to concerns about Iran and North Korea.²⁸

Political support for the INF Treaty has progressively decayed. Sergei Ivanov, at the time the Chief of Staff of President Putin, said on Russian television in 2013: ‘why is it that everyone and anyone can have this class of weapons and we and the United States cannot? On the one hand, we signed the Soviet-

²⁷ Strobe Talbott, *Deadly Gambits* (London: Pan Books, 1984), p. 351.

²⁸ The White House, “[Remarks by President Trump and President Putin of the Russian Federation in Joint Press Conference](#)”, 16 July 2018.

American agreement. We perform, but it cannot go on for infinity.’²⁹

There is a broad agreement across the political spectrum in Congress that Russia is violating the INF Treaty, and Secretary of State John Kerry was heavily criticised in the United States for not raising the issue of INF Treaty compliance more forcefully with Russia at a senior political level.³⁰ U.S. concerns about compliance are dismissed in Moscow as part of a broader anti-Russian agenda. Leonid Slutsky, the Chairman of the Russian State Duma Foreign Affairs Committee, summarised the perspective that allegations were ‘groundless accusations aimed at justifying its own course for building up military potential’ as part of an effort to military supremacy.³¹

The deployment of nuclear-armed ground-launched cruise missiles in Europe has been pointed to as a potentially divisive issue for the public and, by extension, for governments. The deployment of conventional systems by European governments under national ownership and control would probably not be discussed in the same way. However, the political impact of future deployments is essentially unknown since analysis or discussion of the issues surrounding the collapse of the INF Treaty has remained largely superficial, with most efforts devoted to the question of how the treaty might be “saved”.

In summary, in contrast to the positive political momentum generated when it was negotiated and signed, recent political assessments of the INF Treaty have spiralled downwards into mutual recriminations, and the Treaty is now a subject for discord in bilateral U.S.–Russian relations.

²⁹ “[Договор по РСМД не может действовать бесконечно, заявил Иванов](#)” [The INF Treaty cannot remain in force indefinitely, stated Ivanov], *RIA Novosti*, 21 June 2013.

³⁰ For example, Senator James Risch stated in 2014 that ‘it is senseless that it took so long for us to not only call these Russian actions a violation, but also that it took so long for us to brief our NATO allies, and confront the Russians in the first place. Saving INF just hasn’t been a priority for President Obama, Secretary Clinton, and Secretary Kerry.’ James E. Risch, “[Risch on Obama Administration Losing INF Treaty](#)”, Press Release, 30 July 2014.

³¹ “[US claims against Russia may be guise for Washington’s likely pullout from INF Treaty — MP](#)”, TASS, 2 March 2018.

2.3 THE INF TREATY VERIFICATION FAILURE

The INF Treaty was recognised as an important breakthrough in arms control verification. To help assess compliance with the Treaty a new approach was needed to verify the accuracy of declarations, the destruction of existing prohibited items and the cessation of new production. Important innovations were incorporated into the verification regime.

In contrast to the positive political momentum generated when it was negotiated and signed, recent political assessments of the INF Treaty have spiralled downwards into mutual recriminations, and the Treaty is now a subject for discord

After decades of measures to conceal weapons the INF Treaty was based on an understanding that the parties would not only accept, but actively facilitate the use of national technical means to support verification. The introduction of on-site inspections led to the development of routines for inspectors to follow and the creation of new institutions, including the On-Site Inspection Agency in the United States, that went on to play an important role in not only INF Treaty verification, but also facilitated agreement on other treaties and agreements. The arrangements for continuous portal monitoring of production facilities led to reciprocal stationing of U.S. and Russian personnel at factories whose existence was denied only a few years previously.³² In addition, the treaty was an early opportunity to make use of and consolidate the Nuclear Risk Reduction Centers created in Washington and Moscow at the same time the INF Treaty was signed to facilitate rapid, secure exchange of arms control-related information. The intrusive verification procedures were phased out 13 years after the Treaty entered into force, and what remained was a Special Verification Commission (SVC) to act as a forum for discussing and resolving INF Treaty implementation and compliance issues.

³² Joseph P. Harahan, *On-site Inspections under the INF Treaty* (Washington DC: Defense Threat Reduction Agency, 1993).

The breakthroughs in verification sketched above contrast with the so far fruitless discussions in the SVC. SVC meetings were convened in late 2016 and late 2017, but they are reported to have done nothing more than provide an opportunity for Russia and the United States to make formal statements on compliance concerns that were then dismissed as groundless by the other party.³³

3. ARMS CONTROL OPTIONS

Against the background of existing political and military realities, what arms control possibilities might there currently be?

A total ban on long-range cruise missiles was discussed when such systems were at a relatively early phase of their deployment, as well as an agreement that all long-range cruise missiles would be regarded as nuclear—

Long-range conventionally armed cruise missiles allow Russia and United States to expose one another to a degree of jeopardy without resorting to nuclear weapons, and so can be said to strengthen deterrence without undermining strategic stability. However, any positive effects are reduced when missile programmes are clandestine and illegal

regardless of payload—to avoid any risk of unintended escalation should a conventional missile be mistaken for a nuclear weapon.³⁴

Conventionally-armed cruise missiles are now so deeply embedded in the military plans of major powers that it is almost inconceivable that they would be given up. A total ban might not be desirable because long-range conventionally armed cruise missiles allow Russia and United States to expose one another to a degree of jeopardy without resorting to nuclear weapons, and so can be said to

strengthen deterrence without undermining strategic stability. However, any positive effects are reduced when missile programmes are clandestine and illegal. Deterrence and stability are better served when missile programmes are transparent and following a predictable development pathway.

Partly to address the problem of ambiguity should one nuclear-armed state launch a cruise missile towards another nuclear-armed state, at least one U.S. expert has supported a proposal made to NATO by Norway, advocating a total ban on nuclear-armed cruise missiles.³⁵ With such a ban in place, a state that detects an incoming cruise missile attack would not be led into a nuclear response through miscalculation. The dedicated website *Nuclear Cruise Control* has been created as a focal point for ‘governments and non-governmental and international organisations to make the case for and gather momentum toward a global removal of nuclear-armed cruise missiles’.³⁶

The proposal to ban all nuclear-armed cruise missiles seems unlikely to gain traction because France, the United States and Russia see a need for air-launched missiles to offset the risk posed to manned bombers by advanced air defences.

The Soviet Union proposed limits on nuclear-armed SLCMs when negotiating the START treaty.³⁷ However, negotiators were not able to solve the problem of limiting nuclear SLCMs without constraining the deployment of conventionally armed cruise missiles. Not only ships, but also the increasing use of dual-capable modular launchers introduced ‘classic challenges associated with

³³ Amy Woolf, [Russian Compliance with the Intermediate Range Nuclear Forces \(INF\) Treaty: Background and Issues for Congress](#) (Washington DC: Congressional Research Service, 25 April 2018).

³⁴ Dorinda Dallmeyer and Kosta Tsipis, “The Control of Cruise Missiles”, Program in Science and Technology for International Security Policy Paper no. 20, Massachusetts Institute of Technology, November 1988.

³⁵ Andrew Weber, [“Nuclear-Armed Cruise Missiles Should be Banned”](#), APLN/Toda Institute, Policy Brief no. 12, May 2018. Weber was an Assistant Secretary for Defense in the Obama Administration.

³⁶ The website can be found at: <https://nuclearcruisecontrol.com/>.

³⁷ Valerie Thomas, “Verification of Limits on Long-range Nuclear SLCMs”, *Science & Global Security*, vol. 1, 1989.

verifying limits on non-strategic nuclear forces available for use by general-purpose forces.³⁸

The START Treaty included a politically binding declaration that parties would not deploy more than 880 nuclear SLCMs with a range over 600 kilometres on ships; would not produce or deploy multiple warhead nuclear SLCMs; and would declare the projected numbers of SLCMs to be deployed in each of the following five years.³⁹ As part of the data exchange the parties listed the types of surface ships and submarines capable of carrying deployed nuclear sea-launched cruise missiles.⁴⁰ When the START Treaty expired, its successor “New START” made no reference to SLCMs, apparently because the Obama Administration anticipated continuity in nuclear arms control and expected a follow-on to New START to address both non-deployed and non-strategic nuclear weapons.⁴¹ Therefore, nuclear SLCMs are currently entirely outside the framework of nuclear arms control.

Other countries retain an interest in nuclear SLCMs, but programmes to develop and produce them appear to be at a relatively early stage in most cases. There is considerable ambiguity in public information pertaining to Chinese nuclear weapons. While some reports suggest China may have fielded nuclear-capable cruise missiles, it appears that the U.S. defence intelligence community now only attributes nuclear capability to Chinese ballistic missiles.⁴² Recent assessments find that China ‘continues to have the most active and diverse ballistic

missile development program in the world.’⁴³ Many of the Chinese missiles either in service or in development are nuclear-armed and of intermediate-range as defined in the INF Treaty. However, the U.S. government assessment also points out that an important priority for China in its long-term, comprehensive military modernisation is ‘improving the capability of its conventionally-armed ballistic missile force to conduct high-intensity, regional military operations, including anti-access and area denial (A2/AD) operations’ and has fielded conventionally-armed intermediate-range ballistic missiles to ‘hold at-risk or strike logistics and communication nodes, regional military bases including airfields and ports’ and for anti-ship missions.⁴⁴

If China sees accurate conventionally-armed ballistic missiles as the most important military capability for regional contingencies while retaining long-range missiles for nuclear deterrence, and assuming China does not currently have a nuclear SLCM, it might be possible to discuss banning nuclear-armed ground- and sea-launched intermediate-range missiles

If China sees accurate conventionally-armed ballistic missiles as the most important military capability for regional contingencies while retaining long-range missiles for nuclear deterrence, and assuming China does not currently have a nuclear SLCM, it might be possible to discuss banning nuclear-armed ground- and sea-launched intermediate-range missiles. France and the United Kingdom have decided that they have no requirement for either nuclear SLCMs or ground-launched nuclear-armed intermediate-range missiles.

President Vladimir Putin proposed talks among the five permanent members of the United Nations Security Council (P5) as early as 2001. Based on a British proposal, the P5 began meeting regularly after 2009 to discuss Confidence Building Measures that could promote nuclear disarmament. In subsequent

³⁸ Jeffrey Lewis, “[Resuming SLCM Data Exchanges](#)”, *Arms Control Wonk*, 10 July 2012.

³⁹ In line with the commitment in the Presidential Nuclear Initiatives, the declared number for deployed weapons for each side was expected to be zero.

⁴⁰ *Declarations of the United States of America and the Union of Soviet Socialist Republics regarding policies concerning nuclear sea-launched cruise missiles*, 31 July 1991.

⁴¹ Carnegie Endowment for International Peace, “[Keynote: Thomas Donilon](#)”, Carnegie International Nuclear Policy Conference, Washington DC, 29 March 2011.

⁴² National Air and Space and Intelligence Center, “[Ballistic and Cruise Missile Threat](#)”, June 2017; Hans M. Kristensen and Robert Norris, “[Chinese Nuclear Forces](#)”, *Bulletin of the Atomic Scientists*, vol. 74 Issue 4, 25 June 2018.

⁴³ National Air and Space and Intelligence Center, “[Ballistic and Cruise Missile Threat](#)”, p. 3.

⁴⁴ National Air and Space and Intelligence Center, “[Ballistic and Cruise Missile Threat](#)”, pp. 22-23.

conferences the P5 initiative has evolved into a discussion of how to live up to the disarmament obligation contained in Article 6 of the Nuclear Non-proliferation Treaty (NPT). Initiating a P5 dialogue on expanding the prohibition on ground-launched intermediate-range nuclear missiles and banning all nuclear SLCMs could inject some valuable momentum into the 2020 NPT Review Conference.

Among nuclear-armed states that are not parties to the NPT, India conducted the first successful test of a nuclear-capable cruise missile in 2017, and the missile is said to be scheduled for development in air-, ground- and sea-launched versions.⁴⁵ Pakistan has produced a ground-launched nuclear-capable cruise missile said to be the basis for a future sea-launched variant.⁴⁶ It is periodically reported that Israel has developed a nuclear SLCM, something that Israel has consistently denied.⁴⁷ It seems unlikely that these countries would be interested to join a discussion on banning nuclear SLCMs now, though association with a process at some later date could not be excluded.

There would appear to be significant benefits to European countries because the ban on nuclear-armed SLCMs would help to restore some of the military benefits that the INF Treaty originally provided

Russia is an exception among P5 states in that an advanced nuclear SLCM programme is already fully established, and Nikolai Sokov has noted that ‘the Russian Navy has always stubbornly insisted that it needs nuclear anti-ship missiles to balance the overwhelming power of U.S. Navy and there is no reason to believe it will completely abandon nuclear capability’.⁴⁸ However, the development of conventional cruise missiles that are more

⁴⁵ Rajat Pandit, “[India successfully tests its first nuclear capable cruise missile](#)”, *Times of India*, 8 November 2017.

⁴⁶ Ankit Panda, “[Pakistan Tests Enhanced-Range Variant of Babur Nuclear-Capable Land-Attack Cruise Missile](#)”, *The Diplomat*, 16 April 2018.

⁴⁷ Kyle Mizokami, “[Israel Has a Submarine That Could Destroy Entire Nations \(Armed with Nuclear Weapons\)](#)”, *The National Interest*, 6 December 2017.

⁴⁸ Nikolai Sokov, “[Bill Gertz, New Russian SLCM, and the True Nature of Challenge to US and NATO](#)”, *Arms Control Wonk*, 25 August 2015.

accurate and fly faster, as well as improvements in the quality of its submarine fleet, might allow Russia to put US naval vessels at risk without necessarily needing to use nuclear weapons.⁴⁹

The principal benefit to Russia of a ban on nuclear-armed SLCMs would be to prevent other countries, particularly the United States, from continuing down the path to development and production. A secondary benefit would be to advance the long-standing goal of extending arms control to the maritime arena, something that the U.S. Navy has resisted in the past. Combining a ban on nuclear SLCMs with removing legal obstacles to ground-launched conventionally-armed cruise missiles would allow Russia to bring any existing INF Treaty non-compliant missiles “into the open”. Whether these incentives would be sufficient to induce Russia to engage in a discussion today is not known.

There would appear to be significant benefits to European countries because the ban on nuclear-armed SLCMs would help to restore some of the military benefits that the INF Treaty originally provided. East Asia is the other region where the INF Treaty delivered significant military benefits, and the views of China, Japan and South Korea would be a significant factor in determining the feasibility

of any modification to the existing treaty-based control regime.

A mixed reaction to the development of a new U.S. nuclear-armed SLCM could be expected in Japan and South Korea. Allies of the United States might see the new missile as a useful element of extended deterrence. On the other hand, concerns would arise about the potential for increased tension in relations with China and Russia, as well as uncertainty about any potential response from those countries.

Recent articles have also pointed to the investment Japan is making in strengthening the defences of offshore islands with air defences and anti-ship missiles. Japan has been

⁴⁹ Carl Forsling, “[Here’s Why Aircraft Carriers Are Ready to Go the Way of the Battleship](#)”, *Task & Purpose*, 9 February 2017.

debating for some time about the need to acquire an ‘enemy base strike capability that will allow Japan to better defend itself in a conflict—or deter an adversary from starting one.’⁵⁰ Articles speculate on the impact of Japan deploying conventional ground-launched cruise missiles in the same way that China has incorporated the conventionally-armed CJ-10 cruise missile into its land-based missile forces.⁵¹

Japan and the North Atlantic Treaty Organisation (NATO) have seen each other as partners for many years. Japan has liaison officers at the Supreme Headquarters Allied Powers Europe in Belgium, and Maritime Command in the United Kingdom and, since May 2018, Japan has maintained a permanent mission at NATO. During a visit to Japan in October 2017 NATO Secretary General Jens Stoltenberg agreed on a programme to deepen cooperation, and it could be logical to use this framework for a joint assessment of the impact of terminating the INF Treaty.

4. MEETING THE VERIFICATION CHALLENGE

One obvious challenge during any effort to negotiate a new regime to regulate intermediate-range missiles and ban nuclear SLCMs is how to verify any agreement that could be reached. A verification system based only on inspections might generate confidence about a specific location at a given time, but could not provide broader reassurance—one reason why Russian offers to permit U.S. inspectors to visit a missile test site have not helped to resolve current compliance concerns.

⁵⁰ Brad Glosserman and Akira Igata, “[Japan’s Search for Plan C](#)”, Center for Strategic and International Studies, 22 October 2018.

⁵¹ Tim Kelly, Nobuhiro Kubo, “[Exclusive: Japan’s far-flung island defense plan seeks to turn tables on China](#)”, *Reuters*, 18 December 2015; Eric Sayers, “[The Intermediate Range Nuclear Forces Treaty and the Future of the Indo-Pacific Military Balance](#)”, *War on the Rocks*, 13 February 2018. China’s land-attack cruise missile force is summarised in Office of the Secretary of Defense, [Military and Security Developments Involving the People’s Republic of China 2017](#), (Washington DC: Office of the Secretary of Defense, 15 May 2017), p. 57.

Verifying controls on SLCMs was examined extensively in the past, and the failure to agree on effective measures partly explains why the Soviet Union and the United States focused on politically binding statements, rather than legal agreements.⁵² A ban on nuclear SLCMs would simplify one aspect of verification. Rather than counting deployed missiles, the verification system would be tailored to identifying the absence of nuclear missiles on ships.

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and far-reaching in its scope. While it could not be applied without modification, some of the features of the original INF Treaty verification system might be adapted.

The continuous monitoring of production facilities was a feature of the original INF Treaty verification system. Since nuclear-armed cruise missiles would still exist legally as air-launched variants, whether a verification system would need to take account of production facilities or on-shore stockpiles needs further consideration. However, continuous on-site monitoring could be applied at facilities with specialised loading and handling facilities for naval weapons and to ships themselves prior to departure from port.

Continuous monitoring by inspectors with agreed access rights and certified equipment stationed at the (relatively small) number of bases equipped to handle major naval weapon systems could provide reassurance that non-compliant missiles are not loaded onto ships. If ships do not have specialised equipment for safe handling of nuclear weapons it is unlikely that conventionally-armed missiles would be replaced with nuclear variants at sea. If ships do not carry any other nuclear munitions, technical instruments could be the basis for detecting any nuclear material on a vessel. However, equipment would have to differentiate nuclear

⁵² Valerie Thomas, “Verification of Limits”.

weapons-related material from reactor fuel in certain vessels, while the presence of e.g. nuclear-armed torpedoes on a ship would also introduce complexities.

While verification would undoubtedly be a complicated process, past negotiations on long-range nuclear SLCMs provides a large body of information about inspection routines, passive and active methods for warhead detection, procedures for the permanent on-site presence of monitors, and missile “tags” and seals to help with identification. Developments in, e.g. nuclear safeguards technology as well as the availability of modern sensors and surveillance equipment could also play a valuable role in designing a verification system that parties to any future agreement would feel able to trust.

CONCLUSIONS

The statement by German Foreign Minister Heiko Maas that the INF Treaty was an important pillar of the European security architecture for 30 years is certainly true, as is his observation that terminating the Treaty poses difficult questions for Germany and for Europe. However, his assertion that the withdrawal announcement by the United States is ‘regrettable’ is questionable given that the Treaty no longer delivers its original benefits.⁵³ Estonia could play a valuable role as a focal point for organising a more comprehensive analysis of the impact of terminating the Treaty.

This paper has argued that an alternative regulatory framework should be explored based on four elements:

- Removing legal barriers to acquisition of conventionally armed missiles with intermediate range.
- Extending the ban on nuclear-armed missiles to include sea-launched cruise missiles.
- Opening a discussion of nuclear-armed ground- and sea-launched missiles with intermediate range among the permanent members of the United Nations Security Council.

- Opening a wider dialogue with countries in Europe and Asia about the implications for their security of modifying the regulatory framework for missiles with intermediate range.

The impact on the balance between offence and defence of removing legal barriers to the deployment of conventionally-armed ground-launched intermediate-range missiles, as well as implications for deterrence and crisis stability should be one main element of such an analysis.

The development of non-compliant missiles means that the current status quo cannot be maintained within the current INF Treaty framework. Would legalising non-compliant missiles while at the same time making development programmes more transparent and better understood contribute to stability?

By facilitating an expansion in the number of conventionally-armed ground-launched missiles a new arrangement could give Russia instruments to complicate (but probably not defeat) a NATO strategy based on the reinforcement of “tripwire” forces. However, it could also be a step to reducing the greater danger posed by the early use of nuclear weapons. Would that be a beneficial trade-off from a European perspective?

European countries need to pay much more serious attention to managing exposure to conventional weapons of ever greater reach. If the United States is expected to bring reinforcements to Europe in a crisis, it is incumbent on European states to demonstrate that they are taking responsibility for providing U.S. forces with protection on arrival, including against missile attacks.

A second main element should be the feasibility of reinforcing the prohibition on nuclear-armed intermediate-range missiles by extending the ban to sea-launched cruise missiles. Treaty-based controls on missiles have not gained traction outside the U.S.–Russian framework. The challenge of agreeing on a control system is formidable, and expectations should be realistic, but a wider discussion might help restore the relevance of the INF Treaty or provide a more coherent context for its demise.

⁵³ Federal Foreign Office, [“Foreign Minister Maas on the US announcement that it is withdrawing from the INF Treaty”](#), Berlin, 21 October 2018.

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