

A Marie Kondo Moment for MTCR

Tidying Up the U.S. Approach to Missile Proliferation

By Tom Karako

SEPTEMBER 2025

THE ISSUE

- The Trump administration recently announced a revision to the United States' interpretation of the Missile Technology Control Regime (MTCR). While a welcome development, the changes are insufficient to adapt the regime to the contemporary realities of renewed strategic competition.
- Many of the geopolitical, commercial, and technological conditions under which MTCR was created in 1987 no longer exist.
- Missiles and drones have gone from being weapons of ill repute to widely available weapons of choice. The legacy Cold War presumption against missile proliferation now requires a fundamental reassessment.
- In today's strategic environment, the targeted proliferation of more capable, faster-moving, and more lethal U.S.-origin missiles, drones, and their technologies should be viewed as part of the solution, not as the problem.
- MTCR requires more radical reform to overcome its guidance about a strong presumption of denial.

On September 15, 2025, the State Department announced modified guidance for implementing the Missile Technology Control Regime (MTCR), the latest in a series of modest efforts to adapt the United States' export control regime to contemporary realities.¹ Under the new interpretation, export requests for certain unmanned aerial systems (UASs) will be reviewed as analogous to fighter aircraft, rather than missiles, and thus no longer subject to MTCR's strong presumption of denial. This change is

The latest MTCR update is welcome, overdue, and wholly insufficient.

intended to make it easier to transfer some UASs to allies and partners and build much needed capacity.

The latest MTCR update is welcome, overdue, and wholly insufficient. The geopolitical, commercial, and strategic conditions under which MTCR began in 1987 are long gone. MTCR was birthed to help stem the proliferation of Scud-type missiles to Soviet client states. Today, rogue states are supplying large quantities of drones and missiles to Russia.

Much more radical reform is needed, and the legacy Cold War presumption against missile proliferation now requires a fundamental reassessment. Instead of continuing to categorize drones and missiles as disreputable objects deserving nonproliferation controls, their targeted proliferation should become a policy objective.

If the enduring character of human nature shapes international relations, so does the tendency to keep things beyond their time. Everyone has a junk drawer or knows a hoarder. Sentimentality, tradition, and caution may prevent us from throwing things away. The reluctance to part with old things applies to the decades-long accumulation of treaties, arrangements, and norms related to arms control.

Enter Marie Kondo, the Japanese philosopher of tidying up one's home. Her coffee table books and television shows contain advice for sorting clutter. One should gather possessions into a pile, she counsels, and then examine each one. "Keep only those things that speak to the heart, and discard items that no longer spark joy," she says. "Thank them for their service—then let them go."²

The United States and its allies stand in need of a Marie Kondo moment for sorting through the clutter of arms control and export control regimes accumulated over the years. Nowhere is the need for pruning more urgent than with nonproliferation and export control arrangements related to long-range drone and missile technology. Many assumptions that informed the creation of these arrangements have changed as dramatically as the strategic environment. On today's battlefield, drones and missiles have become weapons of choice.³

Some nonproliferation and export control instruments still serve important functions. Others, to put it mildly, no longer spark joy. It is time to tidy up.

WEAPONS OF ILL REPUTE

During the early days of the Cold War, both Western countries and the Soviet bloc shared ballistic missiles and related technology among themselves on an ad hoc basis, mostly short-range systems. In the 1950s and 1960s, the United States assisted developing space and sounding rocket programs around the world, including in India, Brazil, and Pakistan. Henry Kissinger expressed willingness to give Israel intermediate-range Pershings in exchange for signing a peace agreement with Egypt after the 1973 Middle East war, for instance, although the United States ended up supplying less capable Lance missiles instead.

Missiles came to be treated differently under the Gerald Ford administration, when the Arms Control and Disarmament Agency (ACDA) began to consider whether surface-to-surface missiles ought to be distinguished from other conventional arms and foreign military aid.⁴ An ACDA study of dual-use items outlined two alternate paths:

one to assist only nations that agreed to limit their rocket programs to peaceful purposes, and another to create a regime for export controls on missile technology.⁵ During the 1978-79 Conventional Arms Transfer (CAT) talks with the Soviet Union, ACDA floated an idea to put ballistic missiles atop a list of "weapons of ill repute" meriting global restrictions, but no agreement materialized.⁶

Other events contributed to the sense that ballistic and cruise missiles might warrant being set apart from other conventional arms. Between 1978 and 1980, South Korea, Taiwan, and Libya conducted high-profile missile tests. A 1979 Iraqi attempt to acquire rocket stages from Italy and India's successful 1980 launch of a space launch vehicle (SLV) further heightened attention. The coincidence of ballistic missile development with nuclear programs in Brazil, South Africa, and Iraq, and India's nuclear test in 1974, suggested further caution. Soviet sales of Scuds throughout the Middle East were of particular concern, as were those left behind in Afghanistan. Egypt and Syria used ballistic missiles against Israel during the 1973 war, and Libya fired them at a U.S. Coast Guard station in 1986. Taiwan, too, tested a Ching Feng ballistic missile in 1978. Allegedly derived from American Lance technology and designs given to the island nation by Israel, the Ching Feng was an early indication that missile proliferation to allies could be difficult to contain.

Given these events and the unwillingness or inability of aspiring spacefaring nations to separate space launch from missilery, Washington returned to the alternative of export controls. With the November 30, 1982, executive order entitled "Nuclear Capable Missile Technology Transfer Policy" (NSDD-70), the Reagan administration made it U.S. policy to "hinder the proliferation of foreign military missile systems capable of delivering nuclear weapons."⁷ Case-by-case exemptions were technically still permitted for friends and allies, but such transfers would require non-transfer assurances and special approval from the president.

Thus missile proliferation came to be viewed more like the spread of the nuclear weapons they might carry than the spread of other conventional arms and delivery systems, like fighter aircraft. This choice between analogies, present before the creation of MTCR, is critical to both understanding recent reforms and ascertaining whether the regime can survive.

THE MTCR REGIME

On the basis of NSDD-70, the United States in 1982 initiated talks among the members of the G7 group of industrialized nations. By 1985, the seven aerospace-supplying countries had reached a consensus on the parameters of a budding missile control regime. Its creation was announced on April 16, 1987, to little fanfare. Rather than aspiring to a high profile and universal recognition like the Nuclear Nonproliferation Treaty (NPT), MTCR's operation was intended to be one of gentle diplomacy within a small cartel of like-minded nations. MTCR is an arrangement, not a treaty; it is not a binding international agreement. Its purpose was to coordinate the respective laws and policies of like-minded governments to hinder particular missile programs, not create new international law or institutions. The quiet announcement also reflected the yet-tepid commitments among some of the members, who may be tempted commercially to make more, rather than fewer, sales.

Consistent with its strategic purpose and Cold War context, MTCR's guidelines were not absolute for its members. It allowed for the continuation of preexisting treaty-based missile and space cooperation among its members, such as American transfer of Polaris and Trident missiles to the United Kingdom or technical cooperation between members of the European Space Agency and NATO.

The "T" in MTCR was critical to its rigor, since effective nonproliferation requires restricting not just complete missiles but their constituent technologies and means of production. MTCR's workings are largely technical: identifying the sensitive nuts and bolts that could contribute to a cruise or ballistic missile program and regulating their export accordingly.

Drawing a line between good rockets and bad requires a consideration of actors and intentions, rather than physics. MTCR took a hard line on dual-use items. What mattered most was not whether something was clearly intended for a military system openly identified as a missile program, but whether it could be used for one. Foreign powers with missile ambitions were quite capable of disguising such plans under any number of civilian uses, from farm implements to medical prosthetics. MTCR prohibited the sale of not only cruise and ballistic missiles, but also sounding rockets and SLVs. In time, it came to cover a wide number of UASs which can, in principle, deliver WMDs.⁸

THE GENESIS OF MTCR CRITERIA

The meeting [of a DoD working group on June 3, 1983] tentatively defined "nuclear-capable missiles" in terms of payload, range, and accuracy. The working group agreed that it would be desirable to control missiles with a minimum capability of a payload of 500 kilograms, a range of 300 kilometers, and a CEP [circular error probable] of 10 kilometers at full range.

The 500 kilogram payload figure was derived from information supplied by a staffer of the "Z Division" of Lawrence Livermore Laboratory, a nuclear nonproliferation group within a nuclear weapons organization. The staffer estimated that the lightest nuclear payload likely to be developed by proliferators of concern in the medium-term future would weigh 450-1000 kilograms.

The 300 kilometer range figure was derived by inspection of the Korean theater, the most compact theater to which "nuclear capable missiles" might be expected to proliferate. The "minimum range likely to be interesting to local strategic planners" in that theater -- taking account of the desire to site missiles well back from the DMZ and to be able to strike targets well beyond the DMZ -- appeared to be about 300 kilometers.

The 10 kilometer CEP figure was approximately the minimum CEP that would significantly reduce the damage from a nominal-yield (20 kiloton) nuclear weapon targeted against a dispersed urban area.

These were the parameters of the missiles that the working group thought desirable to control. In order to make it difficult to acquire such missiles, the group suggested prohibiting the export of complete missile systems, complete plants for their manufacture, and possibly major subsystems. This would force a proliferator to assemble missiles out of smaller bits and pieces--a difficult undertaking for the proliferator.

- Richard Speier, *The Missile Technology Control Regime: Case Study of a Multilateral Negotiation*⁹

Not every rocket-propelled device needed to be prohibited, only those above a certain threshold. For the transfer of complete missiles and missile subsystems, the technical guidelines prohibit the transfer of any missile system inherently capable of delivering a 500 kg payload to a distance of 300 km or more. The weight of 500 kg was keyed to a conservative estimate of a primitive nuclear weapon, and the distance of 300 km was the minimum distance for likely theaters.

These and other terms are embodied in MTCR's two-part constitution of sorts, consisting of brief Guidelines outlining principles of action and a longer technical Annex. Together, the Guidelines and Annex categorize exports that respectively merit absolute and conditional prohibitions. Category I consists of complete rocket systems such as ballistic missiles, SLVs, sounding rockets, cruise missiles, target drones, and reconnaissance drones—provided they could deliver 500 kg some 300 km. Category I prohibitions include the transfer of complete subsystems, such as individual rocket stages, reentry vehicles, heat shields, guidance sets, and the software and technical equipment related to the same.

All members pledge to abide the “strong presumption to deny” transfers of Category I items, regardless of their purpose.

Notably, all members pledge to abide the “strong presumption to deny” transfers of Category I items, regardless of their purpose, via their domestic export controls. In principle, Category I transfers can be permitted in rare cases but only under tight safeguards. Responsibility for verifying the end use of such transfers falls upon the transferring government rather than the recipient. The Guidelines take an even harder line on the transfer of missile production facilities, since such transfers contribute to the creation of new suppliers.

Whereas Category I items are presumptively forbidden, a longer list of Category II items includes sensitive items which are useful to developing missile programs, but which legitimately serve other dual purposes. These may include various missile engines, staging mechanisms, nozzles, rocket propellant and propellant tanks, test and production equipment, heat insulation, guidance and navigation systems,

launch support, and other related software, materials, and technology. Governments agree only to consult and review Category II items on a case-by-case basis and judge whether they are likely to contribute to a missile or rocket program.¹⁰ Again, as MTCR is a voluntary regime, it does not have an enforcement mechanism other than the respective laws of its member nations. The control of Category II items therefore depends in large part on the good faith and cooperation of like-minded members. Diplomatic prodding by one's fellow members helps ensure faithful implementation. Member countries meet regularly to share information about foreign missile programs, review controls, and discuss revisions to the Annex to keep up with technical advances.

Another feature added to the operation of MTCR was a “no undercut” policy. Since the regime has no transnational enforcement mechanism, its effectiveness depends upon the good-faith efforts of its members, especially for the case-by-case determinations of dual-use Category II items. If all the other members restricted a particular product, there could be temptations for one remaining member to independently deem that it was not a problem and allow the transfer. Such commercial competition is removed by the “no undercut” policy, under which all partners agree to deny the export of a particular item if any other partner denies it.¹¹ While the potential still exists for mischief, such a policy was a prudent mechanism to head off a source of perennial commercial temptation.

THE BED IS MADE DIFFERENTLY NOW

The criteria of MTCR were built to address specific strategic problems of the Cold War, especially to stem the transfer of missiles and missile technology to client states of the Soviet Union.¹² For many years, the existence of a ballistic missile development program was the single best indicator of a state's intent to acquire nuclear capability, inasmuch a large weapon was required to compensate for a lack of reliable precision guidance.¹³ While there were costs to denying such capability to allies, it was largely outweighed by the benefit from denying it to potential adversaries. MTCR was tailored to the strategic needs of the strategic competition. In 1987, the Scud was the only widely proliferated complete ballistic missile which exceeded the MTCR's threshold.¹⁴ The 500 kg/300 km threshold would soon become a sort of “international norm,” vaguely acknowledged by proliferators even in the breach.¹⁵

In 1987, the Scud was the only widely proliferated complete ballistic missile which exceeded the MTCR's threshold.

For many years, MTCR performed valuable service in that cause. The strong presumption of denial did tremendous good, and Scud-like missile programs were stemmed or rolled back around the world—from Iraq to South Africa to Brazil. MTCR's controls raised the cost, slowed progress, and in a few cases helped roll back nascent missile development programs—as well as provide norms and policies to help shame or deter would-be proliferators.

The efficacy of export controls is not automatic. The outsized significance of Western technological development made it plausible for MTCR to meaningfully impact missile proliferation. MTCR worked and benefited U.S. security interests first because of global market polarization. The United States and its allies had technological and commercial superiority, and as a result, they could meaningfully stem missile proliferation through export controls and arguably help enhance their respective economies and defense industries at the expense of the Eastern bloc. A second factor was focus, whereby a cartel of suppliers could concentrate attention on specific problems, like Scud proliferation to Soviet client states. A third consideration was the nature of the threat, and the urgency to contain delivery systems directly linked to nuclear weapon proliferation.

Today's strategic and commercial environment is dramatically different. The new missile age is marked by enormous supply and demand for this spectrum of delivery systems and the missile defenses to contend with them—far beyond what anyone in 1987 might have imagined. The growth and diffusion of precision guidance have made the specter of non-nuclear strategic attack a central feature of concern.

This increased supply and demand for missilery today makes it virtually impossible for export control regimes to have the same effect as they did in days gone by. Former Soviet clients like Iran and North Korea, today's rogue regimes, have acquired or indigenously developed sufficient know-how to become suppliers of missile capabilities to Russia.¹⁶ When past targets of nonproliferation themselves become proliferators, the game may be up.

Missiles are no longer uncommon or special, nor are they especially reliable indicators of nuclear ambitions. Drone and missile delivery systems have now become weapons of choice. The global demand signal for these reliable, precision-guided standoff munitions is massive. Long-range precision fires have become one of the top modernization priorities for numerous militaries worldwide. It is by no means a capability to be regarded with “ill repute.”

Missiles are no longer uncommon or special, nor are they especially reliable indicators of nuclear ambitions.

SELF-DEFEATING HUBRIS

If hoarding is a natural human tendency, another is hubris. It is nice to imagine export controls as a technological drawbridge that can be pulled up ever higher to preclude bad actors from acquiring missiles of their own, but it is just that—imagination. The reality is that that ship has sailed. It is perhaps a distinct Western vanity, habituated through the unipolar moment following the Cold War, to suppose that if the United States and its friends do not sell UASs or missiles to other third parties, the demand signal for them will go away.

Headlines chastise the failure of export controls when Western-made chips or components show up in Russian drones in Ukraine, but they may not adequately consider the national security costs of slowing that trade. It was Turkish Bayraktar UASs, not American ones, that Ukraine operated in February 2022, due to MTCR restrictions on U.S.-origin systems. The idea was that supply-side export controls would stem proliferation, but that policy has arguably been largely self-defeating on both nonproliferation and commercial grounds.

Instead of stemming missile or UAS proliferation, this policy has spurred the UAS and missile industries in a number of allied and partner nations, such as in Turkey, South Korea, and Israel, as well as opened the market to new competitors like China. It is here that MTCR implementation becomes especially self-defeating for the goals of nonproliferation, for when China and others sell UASs on the international arms market, they do not come with the sort of end-user restrictions that the United States attaches.

This combination of effects can render MTCR not merely irrelevant but counterproductive, drawing partners into China's orbit and boosting UAS and missile production adverse to U.S. national security.

The global market for these delivery systems has changed dramatically. Instead of protecting domestic industry in missile or UAS categories, export controls have arguably contributed to its erosion by preventing the sale of these technologies to allies and partners, and by encouraging the creation of alternative missile and UAS suppliers. Foreign military sales could provide an increased and steady demand signal for industry, encouraging investments in supply chains, research and development, economies of scale, and surge capacity.¹⁷ In this context, the export control regimes not tailored to contemporary requirements can become self-defeating, to both nonproliferation and broader national security objectives.

Another counterintuitive effect is how missile defenses have become ensnared by well-intentioned but categorical controls on missile technology systems. Over the years, MTCR's inherent range and payload limitations previously complicated the sale of both strike and air and missile defenses, on the peculiar principle that its booster could be turned into an offensive missile capable of delivering a certain sized payload to a certain range. Nevermind that defensive missiles are considerably more expensive and offensive fires of such range are readily available. In the past, a restrictive interpretation of MTCR precluded foreign sales of Israel's Arrow 3 ballistic missile defense system. Those limitations have only recently begun to loosen. After years of opposition from the U.S. State Department, Germany is now buying it.

REFORM EFFORTS

Several presidential administrations have taken a run at reforming MTCR export controls. The degree of change, however, has been minimal.

During the first Trump administration, the State Department loosened MTCR restrictions on slower moving UASs. The change recategorized UASs that travel at speeds under 800 km per hour from Category I to Category II, but kept them under MTCR. It did not affect faster-traveling UASs.¹⁸ In doing so, it alleviated the overly strict constraints on things like blimps, high-altitude balloons, and rotary-wing UASs. The intent was good, but the administration left it up to the State Department's nonproliferation offices to define

the implementation guidance. The new process injected delay and conditionality to transfer requests.

In January 2025, the Biden administration took another approach, delegating increased discretion to approve transfers of Category I systems to certain partners on a case-by-case basis.¹⁹ In principle, this organizational or bureaucratic approach could facilitate considerably more transfers, but it nevertheless retained the strong presumption of denial.²⁰ The Biden administration's provisions arguably go further than either Trump administration change, inasmuch as they apply to all Category I systems, not just UASs. It remains unclear whether those changes from January 2025 have, indeed, been implemented in a meaningful way.

Unfortunately, the Biden criteria continued to exclude assistance with the creation or transfer of production facilities. The proliferation of conventional deterrent capabilities will require not just foreign military sales, but accelerated growth in the production of missile systems and subsystems by U.S. allies and partners. Assisting Japan and Australia with producing Tomahawk or hypersonic strike facilities, for instance, would be of mutual strategic interest and expedite acquisition timelines. Both Trump administrations have repeatedly asked allies to do more in their own defense. By lowering the barriers to missile-related sales, transfers, and indeed the transfer or assistance with production facilities, the United States could better help such allies help themselves.

The second Trump administration is further relaxing the U.S. interpretation of MTCR, but only with UASs, rather than on the basis of the recipient, the larger geopolitical context, or strategic objectives. The announcement begins by noting that "export controls on missile technology must keep pace with the speed and scope of technological developments, especially as the use of unmanned systems on the battlefield has become increasingly common for allies and adversaries alike." The U.S. government will no longer consider transfers of UASs under MTCR, instead governing their export by the same rules as manned aircraft. Despite its explicit rationale that "export controls on missile technology" must adapt to changing times, the new policy does not apparently extend to missiles, but only UASs.²¹

It is possible that the Biden administration's reforms could be applied to facilitate at least some missile transfers to allies and partners. As with previous attempts at reform, the implementation guidance will be critical. At minimum,

the administration ought to now prescribe implementation guidance to the State Department to protect the political intent of removing certain UASs from MTCR.

These efforts have collectively been too little, too late. They have not enabled the transfer or even overcome the presumption of denial relative to allies and partners who need them most, their implementation has been quite slow.

Pillar 2 of the AUKUS agreement might seem to be a model here, as a vision for the United States flexibly and promptly sharing information, technology, subsystems, and even complete missile systems with its closest allies. The agreement's slow implementation, however, also serves as a warning. As former Deputy Secretary of State Kurt Campbell has noted, it has been specifically impeded by the inertia of MTCR restrictions from yesteryear.²²

Legislation is not required for the executive branch to implement bold changes to U.S. missile technology export control processes that support close allies such as NATO and AUKUS members, but legislation could be a necessary and useful means to do so. A bill introduced in Congress would do exactly that, eliminating the presumption of denial for Category I and II transfers under MTCR to NATO allies, major non-NATO allies, and Five Eyes countries.²³

LESSONS FROM THE PAST

Several arms control regimes of the past provide key lessons for how missile nonproliferation might be reconceptualized. The first such case is the Intermediate-Range Nuclear Forces (INF) Treaty, originally ratified in 1987, the same year as MTCR. The INF Treaty restricted ballistic and cruise missiles between 500 km and 5,500 km in range. Unlike many of its arms control treaty brethren, the INF Treaty focused specifically on delivery systems, not warheads, and regulated conventional and nuclear-armed missiles alike.

The lack of intermediate-range conventional strike, a limitation applying only to the treaty signatories, represented a capability gap which eventually needed to be filled. Vladimir Putin gave voice to Russia's demand for long-range fires at the Munich Security Conference in 2007, proposing a mutual termination of the INF Treaty. It seemed like a good idea at the time to decline Putin's offer, given the comparative advantages the treaty had given the United States.

Supply and demand are powerful forces to resist, however, and Russia likely began violating the treaty shortly thereafter. That in turn led to the U.S. denunciation of Russia's material violations in 2014, and eventually the treaty's termination in 2019. Only after its termination did the United States begin efforts to field intermediate-range forces.

Other trends relating to the demand signal for long-range fires are seen in the history of the series of bilateral arrangements between the United States and South Korea restricting the latter's missile range and payload capacity. In 1979, South Korea was limited to a 180 km range and 500 kg payload, which was then loosened to 300 km and 500 kg in 1997, then 800 km and 500 kg in 2012. Range and payload restrictions were finally eliminated altogether in 2021, a reflection of South Korea's de facto capability development.²⁴ Today, South Korea has a robust set of missiles arrayed against its neighbor to the north. The gradual loosening and eventual abolition was a practical necessity to accommodate the tactical demand for that capability.

The George W. Bush administration made two other efforts to formalize norms against missile proliferation. The first, the 2002 Hague Code of Conduct, precluded the proliferation of ballistic missiles that might, in principle, carry weapons of mass destruction (WMDs). While the principle is a good one, virtually every noun in that sentence has become anachronistic. Ballistic missiles are no longer the centerpiece of the missile threat spectrum, and the specter of non-nuclear strategic attack has eclipsed the 1990s-era focus on WMDs. United Nations Security Council Resolution (UNSCR) 1540 likewise precluded the transfer of ballistic missiles to terrorists. Putting aside the impossibility of universal global consensus on identifying exactly which groups are terrorists—something not even NATO allies would agree on—neither the Hague Code nor UNSCR 1540 did much to stem the greatest ballistic missile transfers of the last decade, from Iran to Yemen, or those from North Korea and Iran to Russia.

The United States should declare its intent to withdraw accession to the antiquated balloon treaty of 1907.

Finally, an obscure but nevertheless instructive example is an old agreement which appears to have been kept on the books for historical or sentimental reasons. The Hague Declaration XIV of 1907 prohibits the discharge of projectiles and explosives from balloons.²⁵ It seemed like a good idea at the time to restrict the delivery of bombs from the “emerging technology” of the time. It quickly became obsolete, a vestigial organ of treaty law, with the arrival of airplanes. The United States, the United Kingdom, and a dozen other states remain parties to the treaty. Both Russia and the People’s Republic of China are not.²⁶ While some lawyers dispute whether the convention is still binding, it clearly remains on the State Department’s list of treaties in force. No doubt should be left about the legal ability to operationalize the stratosphere with high-altitude balloons, and it would be beneficial to keep China guessing about whether or not they carry weapons. Indeed, the United States should declare its intent to withdraw accession to the antiquated balloon treaty of 1907.

Collectively, these several cases counsel both expectation control and caution about remaining overly attached to old arms control regimes. In the years before the INF Treaty went away, the natural impulse to hang onto old things made it difficult for some in the policy world to imagine a world without it. A similar lack of understanding applied to the termination of the 1972 Anti-Ballistic Missile (ABM) Treaty. The sky did not fall when either the INF or ABM Treaties were terminated because the strategic and operational context virtually required them to go away. The demand signal for offensive and defensive missiles was simply too great to resist. That underlying reality is why virtually all treaties include a clause permitting termination or withdrawal in cases of supreme national interest.

A CONVENTIONAL ARMS RACE, OR A NUCLEAR ONE

The stakes for missile export control reform are nothing less than the prospect of conventional deterrence. To realize a posture of deterrence by denial rather than the Cold War approach to deterrence by nuclear retaliation, the United States and its allies will require enhanced conventional missile strike capability. The need for munitions capacity has been proven in spades in the Ukraine conflict, Red Sea operations, and the defense of Israel.²⁷

A failure to contribute meaningfully to such capabil-

ity will undermine nuclear nonproliferation. In February 2022, shortly after Russia invaded Ukraine, the late Abe Shinzo mused that Japan may need to consider a cooperative nuclear weapons sharing arrangement with the United States, like that with the United Kingdom. Similar comments were made by the current prime minister, Ishiba Shigeru, in his commentary proposing the creation of a multilateral alliance for Asia mirroring NATO.²⁸ Similar support has been seen in polls in South Korea.

Only a dozen years ago, it was commonplace to hear that nonproliferation was the principal goal of U.S. nuclear policy, but no more. Calls for nuclear disarmament and global zero, so prominent between 2007 and 2014, are virtually muted today. A comparable shift is necessary for non-nuclear proliferation.

If one does not want nuclear proliferation, one had better be serious about conventional missile proliferation to U.S. allies and partners.

TIDYING UP

Missiles and drones have gone from being weapons of ill repute to widely available weapons of choice. As a result, the feasibility and desirability of missile nonproliferation deserves a fundamental reassessment. The central strategic problem of our time is contending with major power competition. To effectively compete, the targeted proliferation of more capable, faster-moving, and more lethal U.S.-origin missiles, UASs, and their technologies should be viewed as part of the solution, not as the problem.

The targeted proliferation of more capable, faster-moving, and more lethal U.S.-origin missiles, UASs, and their technologies should be viewed as part of the solution, not as the problem.

If the spread of the Scud-type missile was the organizing principle for MTCR in the 1980s, the organizing principle for today’s strategic environment should be the spread of vast quantities of long-range fires to those partners and allies who can most meaningfully contribute to deterring Russian and Chinese aggression.

To be sure, the MTCR Annex remains a useful guide to what sort of items ought not to be proliferated to countries of concern. The no undercut policy likewise remains a useful mechanism to ensure unified action. The basic, potentially fatal, problem lies with the categorical presumption of denial in the Guidelines for both UASs and missiles. Converting a strong presumption of denial into a strong presumption for approval to certain close allies and partners to receive and build long-range missilery could be effected either by executive fiat or by legislation. A more agile, less technical, and recipient-centric approach would be a return to pre-MTCR approaches to missile nonproliferation.

The proliferation of U.S. weapons, even to allies and partners, is a serious undertaking. Numerous restrictions exist to impose terms and conditions related to responsible usage, a defined end-use monitoring program, security requirements, and technology safeguards. The heightened restrictions imposed by MTCR, informed by the assumption that UAS and missile delivery systems should be treated more like nuclear weapons than conventional weapons or fighter aircraft, is disproportionate to the reality and nature of contemporary UAS and missile systems.

Nothing should get in the way of the United States equipping its closest allies with long-range strike capabilities—not export controls, agreements, bureaucratic process, intellectual baggage, and certainly not sentimental attachment to old things. The modest reforms to MTCR by the Biden and Trump administrations represent a step in the right direction when a full sprint is required. They are insufficient to spark joy except perhaps in Moscow and Beijing.

The modest reforms to MTCR by the Biden and Trump administrations represent a step in the right direction when a full sprint is required. They are insufficient to spark joy, except perhaps in Moscow and Beijing.

If MTCR is to be salvaged, its reform should begin with overcoming its strong presumption of denial for close U.S. allies and partners, while retaining robust export controls to geopolitical competitors. If those goals cannot be met within MTCR's framework, they will need to be met outside it, thanking MTCR for its service and letting it go. ■

Tom Karako is the director of the Missile Defense Project and a senior fellow with the Defense and Security Department at the Center for Strategic and International Studies (CSIS) in Washington, D.C.

This brief was made possible by general support to CSIS.

CSIS BRIEFS are produced by the Center for Strategic and International Studies (CSIS), a private, tax-exempt institution focusing on international public policy issues. Its research is nonpartisan and nonproprietary. CSIS does not take specific policy positions. Accordingly, all views, positions, and conclusions expressed in this publication should be understood to be solely those of the author(s). © 2025 by the Center for Strategic and International Studies. All rights reserved.

Cover Photo: Commonwealth of Australia

ENDNOTES

- 1 U.S. Department of State “U.S. Policy Update on the Export of Unmanned Aerial Systems,” press release, September 15, 2025, <https://www.state.gov/releases/bureau-of-political-military-affairs/2025/09/u-s-policy-update-on-the-export-of-unmanned-aerial-systems>.
- 2 “About the KonMari Method,” KonMari.com, accessed September 18, 2025, <https://konmari.com/about-the-konmari-method/>.
- 3 John Plumb, *Written Statement of Dr. John Plumb, Assistant Secretary of Defense for Space Policy*, submitted to the U.S. Senate, Committee on Armed Services, Subcommittee on Strategic Forces, hearing on *Missile Defense Strategy, Policies, and Programs*, May 18, 2022, https://www.armed-services.senate.gov/imo/media/doc/ASD%20Plumb%20SASC%20SF%20Missile%20Defense%20Written%20Statement%20-%20May,18%202022_FINAL.pdf.
- 4 Dinshaw Mistry, *Containing Missile Proliferation: Strategic Technology, Security Regimes, and International Cooperation in Arms Control* (Seattle, Washington: University of Washington Press, 2003), 44.
- 5 Henry Sokolski, *Best of Intentions* (Westport, CT: Praeger, 2001), 66.
- 6 Wyn Q. Bowen, *The Politics of Ballistic Missile Nonproliferation* (New York: St. Martin’s Press, 2000), 35, 33.
- 7 “National Security Decision Directive 70, Nuclear Capable Missile Technology Transfer Policy,” The White House, November 30, 1982, <https://www.reaganlibrary.gov/public/archives/reference/scanned-nsdds/nsdd70.pdf>.
- 8 Bureau of Industry and Security, *2009 Report on Foreign Policy-Based Export Controls* (Washington, DC: U.S. Department of Commerce, 2009), 4; “Revisions to the Export Administration Regulations Based on the 2008 Missile Technology Control Regime Plenary Additions,” U.S. Department of Commerce Bureau of Industry and Security, November 9, 2009, <https://www.federalregister.gov/documents/2009/11/09/E9-26961/revisions-to-the-export-administration-regulations-based-on-the-2008-missile-technology-control>.
- 9 Richard Speier, *The Missile Technology Control Regime: Case Study of a Multilateral Negotiation* (Washington, DC: United States Institute of Peace, November 1995), [https://carnegie-production-assets.s3.amazonaws.com/static/files/MTCR%20Negotiating%20History%20-%20Speier%20-%20Nov%201995%20\(1\).PDF](https://carnegie-production-assets.s3.amazonaws.com/static/files/MTCR%20Negotiating%20History%20-%20Speier%20-%20Nov%201995%20(1).PDF).
- 10 “Missile Technology Control Regime Equipment, Software and Technology Annex,” Missile Technology Control Regime, November 10, 2009, <http://www.mtcr.info>.
- 11 Andrew Feickert, *Missile Technology Control Regime (MTCR) and International Code of Conduct Against Ballistic Missile Proliferation (ICOC): Background and Issues for Congress*, CRS Report No. RL31848, (Washington, DC: Congressional Research Service, 2003), 4, <https://www.congress.gov/crs-product/RL31848>.
- 12 Speier, *The Missile Technology Control Regime*.
- 13 David A. Cooper, “Long-Term Prospects for Nuclear Missile Controls,” Nonproliferation Policy Education Center, 2021, https://npolicy.org/wp-content/uploads/2021/06/Nuclear_Missile_Controls_-_David_Cooper.pdf.
- 14 Aaron Karp, *Ballistic Missile Proliferation: The Politics and Technics* (New York: Oxford University Press, 1996), 157.
- 15 Richard Speier, “Can the Missile Technology Control Regime be Repaired?,” in Joseph Cirincione, *Repairing the Regime: Preventing the Spread of Weapons of Mass Destruction* (New York: Routledge, 2000), 206.
- 16 Natasha Bertrand and Kylie Atwood, “Iran transfers ballistic missiles to Russia, sources say,” CNN, September 7, 2024, <https://www.cnn.com/2024/09/06/politics/iran-transfers-ballistic-missiles-russia>; and Jessie Yeung, “14,000 troops, 100 ballistic missiles and millions of munitions: What North Korea has sent to Russia, report finds,” CNN, May 30, 2025, <https://www.cnn.com/2025/05/30/asia/north-korea-russia-ukraine-weapons-report-intl-hnk>.
- 17 Cynthia Cook and Audrey Aldisert, “Overcoming Barriers to Forward Deterrence,” CSIS, *Commentary*, July 1, 2025, <https://www.csis.org/analysis/overcoming-barriers-forward-deterrence>.
- 18 U.S. Department of State, “Trump Administration Approves Updated Unmanned Aerial System (UAS) Export Policy,” press release, July 24, 2020, <https://2017-2021.state.gov/trump-administration-approves-updated-unmanned-aerial-system-uas-export-policy/>; and Christopher Ford, “The New U.S. Policy on UAS Exports Under the MTCR,” Hudson Institute, July 24, 2020, <https://www.hudson.org/events/1846-video-event-assistant-secretary-of-state-christopher-ford-on-u-s-policy-and-the-missile-technology-control-regime72020>.
- 19 The White House, “Fact Sheet: Biden-Harris Administration Introduces New Guidance for Missile Technology Exports to Advance Nonproliferation Goals and Bolster Allied Defense Capabilities,” press release, January 7, 2025, <https://bidenwhitehouse.archives.gov/briefing-room/statements-releases/2025/01/07/fact-sheet-biden-harris-administration-introduces-new-guidance-for-missile-technology-exports-to-advance-nonproliferation-goals-and-bolster-allied-defense-capabilities/>.
- 20 Pranay Vaddi and Ola Craft, “Revising Missile Controls Is Necessary to Help Allies and Prevent New Nuclear States,” CSIS, *Commentary*, May 5, 2025, <https://www.csis.org/analysis/revising-missile-controls-necessary-help-allies-and-prevent-new-nuclear-states>.
- 21 U.S. Department of State, “U.S. Policy Update on the Export of Unmanned Aerial Systems,” press release, September 15, 2025, <https://www.state.gov/releases/bureau-of-political-military-affairs/2025/09/u-s-policy-update-on-the-export-of-unmanned-aerial-systems>.
- 22 William Greenwalt and Tom Corben, “AUKUS enablers? Assessing defence trade control reforms in Australia and the United States,” United States Studies Centre, August 2024, <https://www.ussc.edu.au/aucus-assessing-defence-trade-control-reforms-in-australia>.

- and-the-united-states; and Kurt Campbell, “AUKUS: Securing the Indo-Pacific, A Conversation with Kurt Campbell,” Center for a New American Security, April 3, 2024, <https://www.cnas.org/publications/transcript/aukus-securing-the-indo-pacific-a-conversation-with-kurt-campbell>.
- 23 To amend the Arms Export Control Act to modify certain provisions relating to AUKUS defense trade cooperation, and for other purposes, H.R. 3068, 119th Cong., 2025, <https://www.congress.gov/bill/119th-congress/house-bill/3068/text>.
- 24 Brian Kim, “US lifts missile restrictions on South Korea, ending range and warhead limits,” Defense News, May 25, 2021, <https://www.defensenews.com/global/asia-pacific/2021/05/25/us-lifts-missile-restrictions-on-south-korea-ending-range-and-warhead-limits/>.
- 25 “The Hague Declarations of 1899 (IV, 1) and 1907 (XIV) Prohibiting the Discharge of Projectiles and Explosives from Balloons” in *The Hague Conventions and Declarations of 1899 and 1907*, ed. James Brown Scott, Carnegie Endowment for International Peace (New York: Oxford University Press, 1915), 220-224.
- 26 When the Chinese Communist Party came to power in 1949, leaders of the People’s Republic of China (PRC) “claimed a right to choose which of China’s pre-1949 treaty commitments it would acknowledge as binding upon it.” The PRC did not automatically accept and adhere to treaties signed by the former Republic of China. Jerome Alan Cohen and Hungdah Chiu, *People’s China and International Law, Volume 2: A Documentary Study* (Princeton, NJ: Princeton University Press, 2017), 1111.
- 27 Tom Karako and Hannah Freeman, “The Enduring Role of Fires on the Modern Battlefield,” in *War and the Modern Battlefield: Insights from Ukraine and the Middle East*, eds. Seth G. Jones and Seamus P. Daniels (Washington, DC: CSIS, September 2025), <https://features.csis.org/war-modern-battlefield/>.
- 28 Ishiba Shigeru, “Shigeru Ishiba on Japan’s New Security Era: The Future of Japan’s Foreign Policy,” Hudson Institute, September 25, 2024, <https://www.hudson.org/politics-government/shigeru-ishiba-japans-new-security-era-future-japans-foreign-policy>.