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The NPT turns 50: Will it get to 60?

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ABSTRACT

In the next decade, it is all too likely that the past success of the Nuclear Non-Proliferation Treaty (NPT) in preventing the further spread of nuclear weapons among the world's nations will be reversed. Three trends make more proliferation likely. First is the decay of nuclear taboos. Second, and arguably worse, is renewed vertical proliferation – the increase in size and sophistication of nuclear arsenals by states that already have them. Third, the technical information to fuel nuclear breakouts and ramp-ups is more available now than in the past. These trends toward increased proliferation are not yet facts. The author describes three steps the international community could take to save the NPT: making further withdrawals from the NPT unattractive; clamping down on the uneconomical stockpiling and civilian use of nuclear weapons materials (plutonium and highly enriched uranium); and giving real meaning to efforts to limit the threats that existing nuclear weapons pose.

KEYWORDS

Non-Proliferation Treaty; NPT; nuclear taboo; vertical proliferation; fissile materials; plutonium; enriched uranium

This year marks the 50th anniversary of the Nuclear Non-Proliferation Treaty (NPT) and the 10th five-year review of its status at the United Nations. With 190 state parties, it is one of the few treaties to enjoy almost universal adherence. Its supporters already are talking about the treaty's next half century.

But will it see out the next decade? There's plenty to argue it won't.

North Korea (no longer a member) has the bomb, and Iran has long been on the verge. But compared to other urgent worries – such as cyber terrorism, global warming, and Islamic extremism – nuclear proliferation is so old and familiar, it hardly seems urgent. If states were going to proliferate massively or use nuclear weapons again, this surely would have happened by now. But it hasn't. The NPT, in part, may be responsible. That said, it can be argued that the treaty has done all the good that it might, and America's declining cache of diplomatic capital would be best spent on more urgent concerns.

Then, there's the complaint that the NPT is no longer the best way to achieve its grandest promise: to get the five recognized nuclear powers – the United States, Russia, France, China, and the United Kingdom – to reduce and eventually eliminate their nuclear arsenals. In fact, instead of pursuing disarmament, China is building up its nuclear arsenal, while the United States and Russia are upgrading theirs. Meanwhile, the number of nuclear-armed states legally outside of the treaty has grown since the mid-1960s from zero to four (Israel, India, Pakistan, and North Korea). About this, the treaty and its supporters have said little. These inconsistencies are significant, and, in recognition of them, a new treaty

on the total prohibition of nuclear weapons was proposed in 2017. It now has 80 state signatories. Might the NPT's best days be behind it?

Perhaps. But the most profound reason to worry about the treaty's future cuts in a very different direction. In the next decade, it is all too likely that the NPT's past success in preventing the further spread of nuclear weapons among the world's nations will be reversed.

Three troubling trends

What makes much more nuclear proliferation more likely? Three trends, all of which have received too little attention.

First is the decay of nuclear taboos. Long relied upon by anti-nuclear weapons groups in states such as Japan as a legal-political barrier to nuclear weapons acquisition, the NPT risks becoming a poster child for such decay. In 2005, the Bush administration announced it would share nuclear technology and uranium fuel with India in violation of the NPT's prohibition on such commerce, and the world mostly went along.

In 2018, Saudi Crown Prince Mohammed bin Salman publicly announced in a *60 Minutes* interview that Saudi Arabia would immediately pursue nuclear weapons if he thought Iran had them. Not long after, South Korean legislators, anxious that the United States might reduce troop levels there, called on their government to develop options to make nuclear weapons. Both countries are members of the NPT.

Iran has also repeatedly threatened to withdraw from the treaty. But if Tehran does, so too would Saudi Arabia.

Turkey, and perhaps Egypt, Algeria, and the United Arab Emirates, might later follow suit. All of these states except the United Arab Emirates insist they have an inalienable right to enrich uranium and to recycle plutonium – activities that can bring states within weeks of acquiring nuclear weapons.

Turkey, too, has lost respect for nuclear taboos. In September 2019, Turkish President Recep Erdogan complained that it was “unacceptable” that Turkey could not have nuclear weapons. Later that month, at the United Nations General Assembly, he went much further, making the case that the NPT regime of five recognized nuclear armed states was illegitimate (Gilinsky and Sokolski 2019). There are more than five important states, he explained, and either no one should have nuclear weapons, or all states should be free to acquire them. His comments at the public assembly were met with a rousing applause.

Second, and arguably worse, is renewed vertical proliferation – the increase in size and sophistication of nuclear arsenals by states that already have them. Combine possible Middle Eastern withdrawals from the NPT with continued Russian, Chinese, and North Korean nuclear weapons force buildups. Add fraying US security ties with its East Asian allies South Korea and Japan and you have the diplomatic and military ingredients for Seoul and Tokyo to bolt from the treaty, likely prompting the NPT’s total collapse. After a possible Japanese withdrawal, an Australian nuclear weapons program would become conceivable, as would programs in Vietnam, Indonesia, and in any number of other states (think Brazil, Argentina, South Africa, and even Germany).

Third, there’s more on tap technically than ever before to fuel these nuclear breakouts and ramp-ups. Detailed nuclear weapons design information was once scarce. But now, after the International Atomic Energy Agency’s (IAEA) publication of Saddam Hussein’s designs, A.Q. Khan’s shopping of the blueprints for China’s implosion device, Iran’s pilfering of US and Russian design information, and the natural leakage of a 75-year old technology, it is relatively plentiful.

Meanwhile, surplus stockpiles of nuclear weapons explosives (separated plutonium and enriched uranium), which were nonexistent a half century ago, are now measured in thousands of bombs’ worth of plutonium and highly enriched uranium in China, France, India, Japan, Russia, the United Kingdom, and the United States. These surpluses took decades to acquire, but converting them into thousands of weapons would take less time than the United States needed to acquire its first nuclear explosive.

Compounding this prospect are states’ increasing capabilities to produce massive amounts of enriched uranium and separated plutonium. Japan plans in 2021 to open

a large reprocessing plant at Rokkasho that could produce over 1,500 bombs’ worth of plutonium per year (that is, roughly as many bombs as the United States has in its entire Nuclear Force) (Royce et al. 2018). Japan is also completing a uranium enrichment plant that could annually produce approximately an additional 500 bombs’ worth of highly enriched uranium.

China is doing even more. It’s planning on adding enough enrichment capacity to its “peaceful” nuclear program to meet all of its domestic civilian reactor requirements and still have enough in surplus to produce more than 1,000 bombs’ worth of highly enriched uranium per year (Zhang 2016). Beijing also is building enough reprocessing capacity to produce 2.5 tons of nuclear explosive plutonium – enough for 500 weapons a year – and finalizing a deal with France to import a plant that would produce over 1,500 additional bombs’ worth of plutonium annually.

India, which is completing a fast reactor that can make scores of bombs’ worth of weapons-grade plutonium, also has a new, large uranium enrichment plant that will significantly increase its ability to make weapons-grade uranium.

Fortifying these nuclear proliferation trends is widespread international enthusiasm for “advanced” reactors, most of which demand the recycling of plutonium and the enrichment of uranium to nearly 20 percent. India, Japan, and South Korea are eager to pursue these “peaceful” activities in collaboration with the United States. China and Russia, meanwhile, are building and operating fast reactors and spent fuel recycling plants and have plans to build more. None of these activities is economical. All are useful for making bombs.

Individually, each of these trends is hardly fatal. Together, however, they portend a nuclearized world without precedent. Instead of it taking years or even decades to ramp up nuclear arsenals by hundreds or thousands of warheads, nuclear weapons states would be able to do so in less than 12 to 36 months. Meanwhile, would-be nuclear states, such as Japan and South Korea, could acquire not one or 10, but score to hundreds within the same time period.

What happens after such large nuclear ramp-ups or breakouts occur is anyone’s guess. History offers no guide for such pronounced proliferation: The last 75 years has only seen nine states acquire nuclear arms, and each took decades to acquire the arsenals they currently hold. All this would change. Such hyperproliferation, in turn, is likely to occasion a significant revamping of nuclear weapons use doctrines. Though China and India profess no first use doctrines, both are

drifting toward policies of early or first use. Russia, NATO, and Pakistan are already there.

Aggravating these temptations to acquire and use nuclear weapons is the centrifugal diplomatic forces that further nuclear proliferation would release. If any of America's close friends or allies went for the bomb, it would stress and loosen existing US alliances. In this context, yet further nuclear proliferation and use would be more likely than at any time since the late 1950s.

Three salutary steps

Are these trends yet facts? Not yet. Can the United States and its allies push them further backstage and save the NPT? Perhaps. Three steps come to mind.

First, make further withdrawals from the NPT unattractive. Second, clamp down on the uneconomical stockpiling and civilian use of nuclear weapons materials (plutonium and highly enriched uranium) and the means to make them. Third, give real meaning to efforts to limit the threats that existing nuclear weapons pose.

Regarding NPT withdrawals, the United States and its allies have only dealt with one case to date – North Korea. What Washington did and failed to do in this case is a model not to follow. In this instance, the United States did little or nothing to deter North Korea from withdrawing even though it had a decade's worth of formal warning. The IAEA first found North Korea to be in noncompliance with its safeguards agreement in 1993 and reported this to the UN Security Council. The United Nations, however, only took hortatory action. When Pyongyang finally followed through early in 2003 on its announced intent to withdraw made a decade before, the Security Council merely decided to "study" the matter.

In this vacuum of inaction, North Korea was able to expel IAEA inspectors from the country. Legally, implementation of Pyongyang's original comprehensive nuclear safeguards agreement with the IAEA was tied to its adherence to the NPT. Once Pyongyang withdrew, it was free from international nuclear inspections. Moreover, it was not until three years later, after Pyongyang exploded its first nuclear weapon in 2006, that the United Nations finally got around to imposing serious sanctions.

If the United States and other like-minded nations want to block states from withdrawing as North Korea did, they must announce now what they will do, before any other state withdraws or acquires a bomb. In this regard, Pierre Goldschmidt, a former deputy director of the IAEA for safeguards, has several useful suggestions (Goldschmidt 2018; Ford 2018). First to deal with future noncompliant states, the UN should agree now to

authorize temporary expanded inspection authority to the IAEA and if needed a subsequent shutdown of enrichment and processing plants. Passing such a country-neutral UN resolution now might alone deter future noncompliance (in the immediate, think Iran and Saudi Arabia).

Second, the IAEA and all nuclear supplier states should insist that non-weapon states that receive nuclear assistance and are inspected place all of their civilian nuclear materials and activities under IAEA inspections in perpetuity. This would assure that if any state decided to withdraw from the NPT, all of their civilian nuclear holdings and plants would remain under IAEA supervision.

Finally, Goldschmidt recommends the UN adopt a country-neutral resolution stating the UN Security Council will consider it to be a "threat to international peace and security" for any state to withdraw from the NPT if it is found to be in noncompliance with its IAEA safeguards agreement. This resolution should further stipulate that the IAEA should seal all nuclear equipment and materials subject to IAEA safeguards in the withdrawing state and remove these materials and plants as soon as is practical.

If the state refuses to comply, the United Nations should ban all military cooperation with that state. In support of this resolution, the permanent members of the UN Security Council should also make a political announcement in advance stating that all of them consider NPT withdrawals to be such a severe threat to international peace and security that none of them would exercise its right to veto a sanctions resolution on the matter if four other Security Council members supported it.

Getting such UN resolutions approved and having US sanctions laws align with them would go a long way toward deterring future NPT withdrawals. To push the threat of NPT withdrawals back further, however, will require limiting "peaceful" stocks of enriched uranium and separated plutonium and the means to make them. Given the negative economics of using plutonium as a civilian fuel, civilian reprocessing of spent fuel should be placed on hold. Germany, the United Kingdom, and the United States no longer reprocess; China, France, India, Japan, and Russia should stop as well. As a first step, China, Japan, South Korea, and the United States should agree to a moratorium on such civilian activities. Each has plans to proceed, and all have military reasons to fear one another. As for uranium enrichment, global capacity currently exceeds civilian demand significantly. It should be frozen until civilian demand approaches supply, as was previously proposed by the IAEA.

More generally, the NPT's pledge of providing civilian nuclear technology as a quid pro quo for nuclear inspections should be reconsidered. This NPT principle is rooted in a mistaken, outdated enthusiasm that nuclear power would "make the deserts bloom" and be "too cheap to meter." That was what engineers and economists thought back in the 1950s and 1960s.

These assumptions, however, have been mugged by reality. Nuclear reactors now are too expensive to compete with alternatives and – as the Indian, Iranian, and North Korean cases so clearly demonstrate – are de facto nuclear bomb starter kits. If the NPT is to have a future, nuclear supplier states should consider offering less dangerous, more economical forms of energy, including advanced natural gas-fired plants, renewables, and electrical storage systems in the place of nuclear power.

Finally, the United States needs to develop a more convincing narrative about how it plans to limit existing nuclear weapons threats. It is difficult to persuade others to forgo their nuclear ambitions if you are unwilling to give up those ambitions yourself. While it is unlikely that the United States, Russia, or China will relinquish their nuclear arsenals anytime soon, they can nevertheless renew their arms control efforts. Unfortunately, the United States currently seems more focused on explaining why it should abandon existing arms control than on proposing or negotiating specific, new agreements that it favors. Russia, meanwhile, is all for extending existing agreements, but is hardly very ambitious beyond this. Finally, China seems to be in denial that it should be involved in any arms control negotiations at all.

The United States, with its allies, can and should change this. This will not be easy. For one thing, America's relative military and diplomatic capital right now is stretched thin. But Washington should make it clear that this will change – in a matter of a few years – and that engaging in fair negotiations on this front now is ultimately in everyone's interest.

To help make this case, the US military modernization efforts should be tailored to this purpose. They should be designed to diminish, rather than enhance, the value of nuclear arms. In particular, the United States should invest in advanced conventional capabilities in which it has a comparative advantage – including space-based systems, advanced precision weaponry, and submersible technologies. Building up these capabilities should encourage China and Russia both to invest in non-nuclear naval, air, and missile systems that are defensive rather than offensive. This, in turn, should make nuclear restraints and other strategic arms limits easier to reach both in East Asia and Europe.

This last point brings up a larger, more general requirement: The United States must update the way it views nuclear proliferation threats. At a minimum, policy makers

need to recognize that US nuclear woes can no longer be resolved if they continue to view them as they did a half century ago during the Cold War. Then, the United States and its allies had a military and diplomatic narrative for reducing nuclear threats. This is what is needed today. However, pushing bipolar nuclear and military balances, bilateral arms control summits, and "peaceful" global nuclear-powered development agendas is no longer a reliable path to a stable, sustainable future.

During the Cold War, the United States could afford to react to strategic developments even after they occurred. Waiting to shape policies until a state's violation of its international obligations was proven made sense when the United States and its allies merely wanted to stay ahead of the Soviet Union in strategic weaponry. Today, this is no longer sufficient. Now, our aim is not just to stay ahead, but to discourage states from acquiring such strategic weaponry at all.

To accomplish this, the US government cannot wait to react to other states' successful tests or deployments. Instead, it needs to identify proliferated futures for specific regions and countries it wishes to avoid, as well as happy endings it wants to secure. It is against these futures that Washington and its allies must plan.

What does this mean operationally? At a minimum, the US Defense Department must offer a clearer description of these futures in its own threat assessments and guidance documents. These narratives, in turn, should drive more of the intelligence community's development of its national intelligence topics and priorities and routine interactions with mid- and senior-level policy makers.

This effort must be normative in character, aimed at the end goal Washington wants to achieve, rather than merely passive analysis. The fruits of and progress in institutionalizing this collaboration (perhaps in the National Counterproliferation Center, a revitalized Strategic Assessment Group, or similar body) should, in turn, be a topic for congressional oversight by the intelligence, foreign affairs, military, and nuclear proliferation-related committees (Sokolski 2019).

All of this will place a particular burden on the intelligence community. As alliances shift, new coalitions form. And as previous allies and long-term rivals seek new or expanded nuclear weapons capabilities, intelligence collection and analysis will need to be broadened. Intelligence will have to be gathered and assessed not just on our adversaries, but on our friends and on emerging trends that could alter current alignments.

For nonproliferation to have any future, the United States, its allies, and its adversaries must all be convinced that living under country-neutral rules serves their interests more than living in a global Wild, Wild West. That, in turn, will require national military and diplomatic efforts

tailored to this purpose – a project that was once familiar but now is all too novel.

Assuming these steps are taken, the NPT could well survive and thrive for another half century. If not, the NPT will simply be pushed to the margins of history, along with the Kellogg-Briand Pact, which famously banned war just a decade before the globe was engulfed in the most destructive war in recorded history.

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