Preventing Nuclear Terrorism
Next Steps in Building a Better Nuclear Security Regime

By Kenneth C. Brill and John H. Bernhard

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**Prohibit, Do Not Promote, Nuclear Weapons Use**

At an emergency UN Security Council briefing on Sept. 4 following North Korea's sixth and largest nuclear test explosion, Nikki Haley, U.S. ambassador to the United Nations, lectured Pyongyang's leaders that “being a nuclear power is not about using those terrible weapons to threaten others. Nuclear powers understand their responsibilities.”

Days later, in his inaugural address to the UN General Assembly on Sept. 19, U.S. President Donald Trump called North Korea’s leader “rocket man” on “a suicide mission.” Trump warned, “We will have no choice but to totally destroy North Korea” if it threatens U.S. allies in the region. North Korea’s foreign minister replied by saying Trump’s insult makes “our rockets’ visit to the entire U.S. mainland inevitable all the more.”

As two of the world’s most irresponsible nuclear actors traded nuclear threats, the leaders of the world’s non-nuclear-weapons states took an important, responsible step in the opposite direction. On Sept. 20, the new Treaty on the Prohibition of Nuclear Weapons opened for signature, with 50 states signing on the first day.

The treaty, which was negotiated by more than 130 states, is a good faith effort to meet their responsibility as signatories of the nuclear Nonproliferation Treaty (NPT) to pursue effective measures on disarmament and help end the arms race. The prohibition treaty further reinforces the commitments of these states against the use, threat of use, development, production, manufacture, acquisition, possession, stockpiling, transfer, stationing, or installation of nuclear weapons. It reinforces states’ commitments to the NPT and the Comprehensive Test Ban Treaty (CTBT).

Although the prohibition treaty by itself will not eliminate any nuclear weapons, the treaty can help to further delegitimize nuclear weapons and strengthen the legal and political norm against their use. Steps aimed at reducing the risk of catastrophic nuclear weapons use are necessary and should be welcomed, especially as the war of words between Trump and Kim Jong Un escalates.

Unfortunately, the United States and the world’s other major nuclear weapons actors have continued to criticize and belittle the effort as “a distraction” that undermines more effective nuclear disarmament and nonproliferation measures. Instead of further deepening the growing divide between nuclear-armed states and the non-nuclear-weapon-state majority, U.S. officials should consider using more conciliatory language and tactics.

With the prohibition treaty now a reality, its supporters, skeptics, and opponents must put aside their disagreements and find new and creative ways to work together to strengthen the nuclear disarmament and nonproliferation regime.

Just as importantly, the Trump administration must get its own nuclear policy act together. Trading insults with North Korea’s leader and threatening to pull out of the 2015 Iran nuclear deal do not constitute effective disarmament and nonproliferation measures. Team Trump also needs to get behind initiatives that help meet unfulfilled U.S. NPT-related disarmament responsibilities. Failure to do so may not only undermine long-term support and confidence in the U.S. leadership role, but the NPT itself.

To start, President Trump should refrain from making further nuclear threats and reaffirm the 1985 statement by U.S. President Ronald Reagan and Soviet leader Mikhail Gorbachev that “a nuclear war cannot be won and must never be fought.” He should agree to extend the New Strategic Arms Reduction Treaty and its verification provisions by five years, to 2026, which would ease tensions, reduce fears of a new nuclear arms race, and help reduce the skyrocketing cost of nuclear weapons.

The administration should also reject congressional pressure to build new nuclear weapons in response to Russia’s deployment of ground-based cruise missiles prohibited by the 1987 Intermediate-Range Nuclear Forces Treaty. Russia’s missile deployments are a problem but do not significantly alter the military balance, and the treaty’s Special Verification Commission should be reconvened to resolve the dispute.

The Trump administration should also reaffirm the U.S. commitment to the CTBT. For more than two decades, the United States has led global efforts to verifiably halt nuclear testing. The United States and China have signed, but not yet ratified, the treaty, thus blocking its entry into force. U.S. and Chinese leaders, in concert with the heads of other states that have detonated nuclear explosions, should reaffirm support for the CTBT through a joint declaration before the 50th anniversary of the NPT in 2018.

Supporters of the prohibition treaty have a responsibility too. They must push the United States, China, and Russia to agree to adopt concrete disarmament measures. Treaty supporters could also help reduce tensions over North Korea by issuing a joint call for Washington and Pyongyang to cease making nuclear threats and push the UN secretary-general to convene emergency diplomatic talks.

The prohibition treaty is a reality. Responsible international leaders and actors now must put aside their disagreements and find new and creative ways to come together to prevent nuclear catastrophe. **ACT**
Notable Quotable

“Today, global anxieties about nuclear weapons are at the highest level since the end of the Cold War.”

—UN Secretary-General António Guterres, addressing the opening of the 72nd regular session of the UN General Assembly on September 19

BY THE NUMBERS

Explosive Nuclear Testing Timelines

Since the first nuclear test explosion was conducted by the United States on July 16, 1945, at least eight nations have detonated 2,056 explosive nuclear tests. In 1996, negotiations on a global Comprehensive Test Ban Treaty (CTBT) were concluded and the treaty was opened for signature on September 24, 1996.

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of Test Explosions</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNITED STATES</td>
<td>1,030</td>
</tr>
<tr>
<td>USSR/ RUSSIA</td>
<td>715</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>45</td>
</tr>
<tr>
<td>FRANCE</td>
<td>210</td>
</tr>
<tr>
<td>CHINA</td>
<td>45</td>
</tr>
<tr>
<td>INDIA</td>
<td>3</td>
</tr>
<tr>
<td>PAKISTAN</td>
<td>2</td>
</tr>
<tr>
<td>NORTH KOREA</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: In accordance with the definition of a nuclear test contained in the Threshold Test Ban Treaty and to allow accurate comparison with other countries’ figures, India’s three simultaneous nuclear explosions on May 11, 1998 are counted as only one nuclear test, as are the two explosions on May 13, 1998. Likewise, Pakistan’s five simultaneous explosions on May 28, 1998 are counted as a single test.

Source: Arms Control Association, https://www.armscontrol.org/factsheets/nucleartesttally
ON THE CALENDAR

Oct. 1 25th anniversary of the U.S. Senate ratification of the Strategic Arms Reduction Treaty by a 93–6 vote


Nov. 1 65th anniversary of the world’s first hydrogen bomb test by the United States, Elugelab, Marshall Islands

Nov. 13–15 Meeting of the Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization, Vienna


Nov. 20–24 Meeting of the International Atomic Energy Agency Board of Governors, including the Technical Assistance and Cooperation Committee, Vienna

Nov. 20–24 Sixth review conference of the Convention on Certain Conventional Weapons, Geneva

Nov. 21 High-level roundtable on the implementation of UN Security Council Resolution 1540, on the nonproliferation of weapons of mass destruction, Kathmandu, Nepal

Nov. 27–Dec. 1 Conference of states-parties to the Chemical Weapons Convention, The Hague

Dec. 4–8 Meeting of states-parties to the Biological Weapons Convention, Geneva

Dec. 8 13th anniversary of the signing the Intermediate-Range Nuclear Forces Treaty by U.S. President Ronald Reagan and Soviet General Secretary Mikhail Gorbachev

Dec. 18–22 Meeting of states-parties to the Anti-Personnel Landmine Convention, Vienna

Jan. 16 Second anniversary of “implementation day” for the Iran nuclear deal

Jan. 24 72nd anniversary of UN General Assembly resolution calling for the elimination of nuclear weapons

20 Years Ago in ACT

The Future of U.S. Nuclear Weapons Policy

“One of the issues we raised in our study was the fact that we will probably never be able to eliminate nuclear weapons, at least not in a verifiable way. But perhaps nuclear weapons can be prohibited in terms of their use. We haven’t really thought enough about that, and that’s an area that we suggest needs to be explored.”

—William F. Burns, former director of the U.S. Arms Control and Disarmament Agency, referring to the findings of a nuclear weapons policy study by the National Academy of Sciences Committee on International Security and Arms Control, October 1997
Preventing Nuclear Terrorism: Next Steps in Building a Better Nuclear Security Regime

Lack of knowledge is not an impediment to nuclear terrorism. Lack of nuclear material is.

Information on how to manipulate nuclear material to produce an explosive device—an improvised nuclear device, which would produce a nuclear explosion and a mushroom cloud, or a radiation-dispersal device, which would spread dangerous radioactive material over a substantial area—is now available widely enough that the only way to prevent nuclear terrorism is to keep terrorists from acquiring nuclear material or getting access to nuclear facilities.

An effective international convention on nuclear security is needed to address gaps in global nuclear security arrangements and build a credible global nuclear security regime. The 2016 entry into force of the 2005 amendment to the 1979 Convention on the Physical Protection of Nuclear Material fills a gap in the convention, but the amended convention is far from being the nuclear security convention with common binding standards and a strong review mechanism that is needed. Nonetheless, it can be a useful step toward more effective and comprehensive governance in this field, if states-parties and the International Atomic Energy Agency (IAEA) make better use of it than they did the 1979 convention.

The purpose of the original convention was to enhance global nuclear security practices to support the peaceful uses of nuclear energy and prevent illicit acquisition and use of nuclear and other radioactive material, but its principal focus was on the security of nuclear material while being transported internationally, although it also addressed domestic transit and storage. It also established measures related to the prevention, detection, and punishment of offenses relating to nuclear material.

The original convention did not address the security of nuclear facilities. The amended convention rectifies that by making it legally binding for states-parties to protect nuclear facilities and material in peaceful domestic use, storage, and transport. It also provides for expanded cooperation between and among states regarding timely measures to locate and recover stolen or smuggled nuclear material, mitigate any radiological consequences of sabotage, and prevent and combat related offenses.

Global nuclear security arrangements, despite the entry into force of the newly amended convention, remain a patchwork of largely voluntary measures and recommendations that are inadequate given the catastrophic consequences of a successful act of nuclear terrorism. The essential elements of an effective and sustainable global nuclear security regime to prevent nuclear terrorism are still missing. Current international nuclear security arrangements, for example, have no obligatory international process to assess how states are meeting their responsibility to secure these dangerous materials. Perhaps most importantly, there is no mechanism to provide a sustained review and promotion of necessary improvements in the nuclear security regime as a whole. Many assume the IAEA

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performs these functions, but its role is limited by the lack of a legal mandate to offer more than advice.

The amended convention creates an opportunity to develop a sustainable forum for the international community to address some of the existing gaps in global nuclear security arrangements in order to prevent acts of nuclear terrorism. The four nuclear security summits held between 2010 and 2016 provided high-level attention to nuclear security issues that led to a variety of political commitments and voluntary unilateral actions to improve nuclear security practices in states and regions. With this summit process having run its course, however, the time is right for states-parties to the amended convention to develop its heretofore essentially unused review process as a mechanism to regularly and methodically identify, assess, and address gaps in global nuclear security arrangements that could be exploited by terrorist groups and others desiring to use nuclear materials for illicit purposes.

Nuclear terrorism remains a continuing threat to global security, stability and prosperity. Heads of state and government at the nuclear security summits stressed the reality of the threat, and past and present IAEA directors-general and national experts have made the same point at meetings and conferences sponsored by the IAEA. Various terrorist groups have signaled an ambition to create mass casualties and disrupt the global order and economy, and the IAEA has documented some 2,500 cases involving the theft, loss of control, unauthorized possession, or illicit trafficking of nuclear and other radioactive material. For example, al Qaeda, which is rebuilding, has shown such interest and repeatedly demonstrated its ruthlessness in pursuit of its goals. Similarly, attacks in Europe and elsewhere sponsored and inspired by the Islamic State group over the last 18 months demonstrate that organization’s reach, capability, and determination to create as much damage and chaos as possible, even as it loses territory in Syria and Iraq.

Securing Nuclear Material

Even as nuclear terrorism remains a credible and urgent threat, the challenge of securing global supplies of nuclear material and nuclear facilities is growing. This stems from the projected growth globally of nuclear power plants in response to increasing needs for energy and the desire of a number of states to generate that energy without producing the pollution and carbon emissions associated with fossil fuel plants. The growth in nuclear power is expected to be greatest among states that do not have a long or, in some cases, any history of nuclear power or limited or no experience in securing nuclear materials.

Additionally, some nuclear power newcomer states are located in regions with political and security challenges, which will complicate efforts to sustainably secure their nuclear material. The growth of nuclear power and the increased amounts of associated nuclear material are already promoting the development of innovative nuclear technologies and practices that may have an impact on how nuclear material and nuclear facilities that contain it have to be secured and checked. The emerging evolution in nuclear users, technologies, and practices must be factored into the development of a global nuclear
security regime in a timely way, not after delays of years or decades or after the wake-up call of a serious nuclear security incident.

The increasing amounts of nuclear material outside the IAEA safeguards regime is a further source of concern. Some states with such nuclear materials have demonstrated a commitment to good nuclear security practices, but others have not. North Korea, for example, has a track record of irresponsible behavior, including engaging in illicit activities to supplement the regime's financial resources. The behavior of such states puts a premium on the need for all other states to collaborate in sharing information about illicit nuclear activity and preventing the illicit transshipment of nuclear material that could be used by terrorist groups.

**Activating a Dormant Mechanism**

Although states-parties to the original convention may have been committed and active in meeting their national obligations, the treaty’s review mechanism, which was established to allow states-parties to discuss and assess treaty implementation issues, has been essentially dormant. The first and only such meeting to review the treaty was held in 1992. There were subsequent meetings of experts to discuss the need for amending the treaty and then negotiating the amendment that entered into force in 2016, but there have been no other meetings of states-parties to review the treaty’s implementation.

This lack of implementation review stands in sharp contrast to the way other important treaties dealing with threats stemming from complex technical issues, such as nuclear safety, nuclear nonproliferation, and the protection of the ozone layer, have reviewed treaty implementation and the changing treaty environment. The Convention on Nuclear Safety has held seven formal review conferences of contracting parties since the treaty entered into force in 1996. The parties to the nuclear Nonproliferation Treaty (NPT) decided in 1995 to increase the number of meetings devoted to reviewing the treaty’s implementation, so there are now preparatory meetings in the three years leading up to review conferences, which are held every five years. The Montreal Protocol on Substances That Deplete the Ozone Layer has held 22 meetings of states-parties and been updated six times since it entered into force in 1989.

A successful nuclear terrorism attack would have the potential to destabilize not just a city but also a nation and possibly the global economy, with incalculable human and financial costs. As a result, the international community needs to do all it can to prevent such an event because no response could undo the damage done. Existing international anti-terrorism conventions, including on nuclear terrorism, mainly focus on what to do after an attack. Yet, preventing a dynamic threat involving sophisticated technologies and determined terrorist groups requires an equally dynamic process, not a static or reactive approach and certainly not a moribund one. Global nuclear security arrangements, therefore, need to be subject to regular review and improvement to ensure they are attuned to evolving threats, technologies, and industrial practices. IAEA meetings and conferences on nuclear security and nuclear terrorism, as well as the nuclear security summit process, have begun to bring a dynamism that had been lacking in global nuclear security arrangements, but it is imperative that states-parties use the amended convention to sustain and further develop these nascent efforts.

**Energizing the Amended Convention**

Some states expressed concern that the nuclear security summit process would undercut efforts to bring the amended convention into force and that the summits or some outgrowth of them would supplant the IAEA’s role on nuclear security. Neither concern was realized. Instead, the summit process facilitated the amended convention ratification process, which allowed it to enter into force in 2016, and positioned the IAEA to play a stronger role on nuclear security.

Article 16 of the amended convention calls on the IAEA to convene a review conference five years after the entry into force, which will be 2021. The objective is to review the implementation of the convention and its adequacy in the light of the prevailing situation.

The IAEA and states that place a priority on preventing nuclear terrorism need to take steps now to ensure that the review process of the amended convention is more robust and
substantive than the essentially non-existent review process of the original convention.

This could be done in several ways. One approach would be to hold a review conference before 2021. Article 16 obliges the IAEA to convene the first review conference after five years, but it does not prevent it from doing so earlier. If the agency and a majority of the states-parties to the amended convention saw a need for and supported it, there is no decisive legal argument against holding a review conference sooner.

Article 16 obliges the IAEA to convene the first review conference after five years, but it does not prevent it from doing so earlier.

Such an initiative could be started by the IAEA in its capacity as the convention depositary or by a group of states, such as those that signed the Joint Statement for Strengthening Nuclear Security Implementation, adopted at the 2014 Hague nuclear security summit and subsequently converted into IAEA document INFCIRC/869.

IAEA consultations with and among Vienna-based IAEA delegations would be a practical way to facilitate a process of building support for an earlier review conference, which could be held in 2019 or 2020. Undoubtedly, there would be resistance to this idea from at least some states-parties, citing, for example, the need for more time to implement the amended convention and the challenge of finding sufficient resources for it, nationally and in the IAEA. As a result, holding a review conference before 2021 would require active championing by the IAEA and leading states-parties.

Another approach that might draw broader and more immediate support would involve developing a preparatory meetings process, similar to the NPT approach. If the current Article 16 interval remains at least five years, it is vital that states-parties meet regularly between the review conferences to prepare the conferences and, equally importantly, to have opportunities for discussion of current issues affecting the convention and its implementation. More generally, the establishment of a forum that meets regularly and fairly frequently is essential to support momentum in improving nuclear security.

Preparatory meetings will be especially important to lay the groundwork for the first review conference, if it is not held until 2021. There are a variety of questions, procedural and substantive, to be addressed to ensure that the first review conference of the amended convention produces a sustainable process to steadily assess and improve global nuclear security. Ideally, there would be two preparatory meetings, one in 2019 and one late in 2020 or early in 2021.

The convention has no provision on intersessional or preparatory meetings ahead of the review conferences, but this does not preclude such meetings under international law. Yet, care would have to be taken in developing political support to initiate a process of preparatory meetings. The IAEA director-general could ask a representative group of states-parties to consult with him on what preparations would be needed for the first review conference to ensure its success.

This informal consultation process could lead to a more formal set of preparatory meetings leading up to the first review conference. Alternatively, a group of states-parties, for example those that have signed on to IAEA INFCIRC/869, could urge the IAEA director-general to formally convene a meeting or a series of meetings to prepare for the first review conference of the amended convention.

Regardless of how it is done, establishing a preparatory process for review conferences held no more often than every five years will be essential for the review conferences to be effective in strengthening nuclear security and preventing nuclear terrorism.

Getting the Substance Right

Preparatory meetings and review conferences are only as good as their objectives and agendas. Article 16 provides a traditional and minimalistic description of the objective of the review conference, that is, it shall review the implementation of the entirety of the convention and its adequacy in light of the prevailing situation. It provides no guidance on how to fulfill the task, including no reference to the possibility of going beyond an article-by-article implementation review.

An effective feature of review processes in many treaties is the mechanism of reporting on national implementation measures. These reports are normally sent to the relevant organization or depositary, in this case the IAEA, for subsequent distribution to the states-parties. Consistent with this common practice, Article 14 requires states-parties to inform the depositary of how they are implementing their obligations and requires the depositary to communicate such information to all states-parties from time to time. To increase the value of this reporting, the review conferences, as well as the preparatory process leading up to them, should be used as fora for review and discussion of the reports. This would also encourage more states-parties to take an active part in the reporting system. For example, the IAEA reported that 79 of 80 states-parties to the Convention on Nuclear Safety submitted national reports at the convention’s seventh and most recent review meeting.

The reporting system could become even stronger and more useful if it were supplemented by self-assessment and
peer review mechanisms, the results of which would be included in the reports, while respecting the need to protect any sensitive information from disclosure.

Although treaty review conferences generally focus on a review of the implementation matters, some, such as the Montreal Protocol on Substances That Deplete the Ozone Layer, are more dynamic. The protocol review conferences examine and make decisions on the number and duration of preparatory meetings, as well as the question of whether states parties to the original convention are free to shape the agenda according to their wishes and needs in light of prevailing circumstances.

Involving All Relevant Parties
Because the IAEA convenes the review conferences, it is also authorized to make proposals concerning the preparation of a conference, including details about the number and duration of preparatory meetings, as well as the question of who may participate in them (e.g., whether states parties to the original convention and the amended one or only the latter should be allowed to participate). In that connection, it will also have to be considered and decided to what extent and in which capacity civil society and the nuclear industry can participate in the review conferences.

One of the experiences from the nuclear security summit process was that the parallel industry and knowledge (civil society experts) summits offered valuable contributions to the official meetings and the overall goal of improving nuclear security. There were similarly positive experiences with the participation of nongovernmental representatives at the IAEA nuclear security conferences in 2013 and 2016. Industry and civil society have important roles to play in supporting and promoting effective nuclear security practices, so it would be appropriate to adopt rules that facilitate their participation in the convention’s review conferences.

Sustained Attention and Action
The Convention on the Physical Protection of Nuclear Material was negotiated in 1979 and entered into force in 1987. The amendment to the convention was negotiated in 2005 and entered into force in 2016. There have been a variety of developments related to the security of nuclear materials since 1979. Other international agreements related to nuclear security and terrorism, such as the International Convention for the Suppression of Acts of Nuclear Terrorism and UN Security Council Resolutions 1373, 1540, and 1887, have been adopted; and a variety of like-minded state initiatives, such as the Global Initiative to Combat Nuclear Terrorism and the nuclear security summit process, emerged to promote political commitments and voluntary action. Yet from 1987 to the present, there has been only one implementation review conference for the states-parties of the one international agreement related to securing nuclear materials from those who would seek to illicitly acquire, traffic in, or use it.

With the amended convention now in force, it is time for the states-parties and the IAEA to pick up where the nuclear security summit process left off and move the global nuclear security agenda forward. The review mechanism of the treaty provides an opportunity and scope for continuing efforts to do so. Given the disappointing record of the original convention’s review mechanism, states-parties and the IAEA will need to provide strong and coordinated leadership and
pursue an ambitious interpretation of the amended convention’s review process to identify and address gaps in nuclear security arrangements and, in so doing, contribute to preventing a catastrophic act of nuclear terrorism.

ENDNOTES


4. In two statements in June 2017, IAEA Director-General Yukiya Amano noted the rapid growth in the number of new nuclear power plants, with the expansion mostly taking place in Asia but with developing countries, including in Africa, also embarking on nuclear power programs, https://www.iaea.org/newscenter/statements/opening-remarks-at-international-conference-on-topical-issues-in-nuclear-installation-safety-safety-demonstration-of-advanced-water-cooled-nuclear-power-plants.


Since the Cold War, nuclear powers have pledged not to use or threaten to use their nuclear weapons against countries that do not possess such weapons. These so-called negative security assurances (NSAs) were intended as incentives (or rewards) for adherence to the nuclear Nonproliferation Treaty (NPT).

The individual pledges, however, contained caveats and conditions. One was the exclusion of the assurance toward non-nuclear-weapon states taking part in conventional attacks in alliance with a nuclear-weapon state, such as the typical Cold War scenario of a war between NATO and the Warsaw Pact. Another exclusion logically targeted states not complying with NPT commitments, the states that secretly acquired or manufactured nuclear weapons. Further, there was some ambiguity with regard to deterring attacks with other types of weapons of mass destruction (WMD): chemical or biological weapons.

In recent years, the NSA exclusion related to conventional attacks by alliances has been dropped by the Western nuclear powers, given the demise of the Warsaw Pact. Yet, the condition linked to chemical and biological weapons use has re-emerged in a manner that may lead to a weakening of NSAs and result in a worrisome lowering of the threshold for use of nuclear weapons. For this reason, some new thinking on NSAs is needed.

Looking Back
In 1995, in order to facilitate the indefinite extension of the NPT, the UN Security Council passed Resolution 984, which took note of the unilateral declarations made by the five nuclear-weapon states (China, France, Russia, the United Kingdom, and the United States), which happened to be its five permanent members. China has consistently maintained a no-first-use policy regarding nuclear weapons, implying that it would use them only to deter a nuclear attack. For the other nuclear-weapon states, national doctrines have included various conditions similar to each other, albeit differently drafted. Those conditions have even been made legally binding in the protocols to the various nuclear-weapon-free-zone treaties.¹

One of those conditions, which reflected a Cold War strategic context, involved the case of conventional attack by a non-nuclear-weapon state against a nuclear-weapon state in alliance with another nuclear-weapon state. For instance, France reserved its right to use nuclear weapons against East Germany in a scenario of a massive conventional attack by the Warsaw Pact led by the Soviet Union, which enjoyed overwhelming conventional superiority over NATO. In 2010 the United States decided to take into consideration the dramatic changes since 1995, including the disappearance of the Soviet Union.
and the Warsaw Pact and the manifest technological and military superiority of NATO over Russia. Accordingly, it crafted a simpler NSA in the 2010 “Nuclear Posture Review [NPR] Report,” declaring that the United States would “not use or threaten to use nuclear weapons” against non-nuclear-weapon states “that are party to the [NPT] and in compliance with their nuclear nonproliferation obligations.”

In its “National Security Strategy and Strategic Defence and Security Review 2015,” the United Kingdom made a similar declaration, noting that “[t]his assurance does not apply to any state in material breach of those nonproliferation obligations.” On February 19, 2015, French President François Hollande stated that “France will not use nuclear weapons against non-nuclear-weapon states-parties to the [NPT] which comply with their international nonproliferation commitments in terms of weapons of mass destruction.”

Nuclear Weapons Against Conventional Weapons

The three Western nuclear-weapon states thus have renounced the traditional Cold War condition applying to non-nuclear-weapon states taking part in conventional attacks in alliance with a nuclear-weapon state. This is a realistic and welcome development that takes into account the changed strategic environment and contributes to lowering the risk of nuclear war.

Does this mean that the scenario of use of nuclear weapons in response to a conventional attack has completely disappeared? Not really, if one looks at Russia. Its 2010 military doctrine, reaffirmed in 2014, states that the Russian Federation “shall reserve the right to use nuclear weapons in response to the use of nuclear weapons or other types of weapons of mass destruction against it and/or its allies, as well as in the event of aggression against the Russian Federation with the use of conventional weapons when the very existence of the State is in jeopardy.”

As compared with the traditional Cold War alliance-related condition, the exception of conventional attack is much broader, although it could trigger nuclear retaliation only in the extreme case of danger to the “very existence” of the state. Some commentators have dubbed this concept “escalate to de-escalate,” meaning an early use of nuclear weapons in case of conventional attack, although such an analysis does not rely on solid foundations and has been denied by several experts.

In any case, the linkage between nuclear and conventional weapons remains a decisive part of a strong deterrent for Russia. This is not unrelated to its threat perception coming from the United States and NATO, including from anti-ballistic missile systems and long-range, conventional precision-guided weapons.

As a result, the risk of nuclear war may have become higher than during the Cold War, as assessed by former U.S. Secretary of Defense William Perry. The situation would appear even worse when looking at the other conditions introduced by the nuclear-weapon states into their NSAs—those related to chemical and biological weapons use.

Major Setback

In the past, the United States maintained deliberate “strategic ambiguity” on its possible use of nuclear weapons in retaliation for a chemical or a biological attack against its territory or forces. The 2002 NPR Report mentioned five states without nuclear weapons but with suspected biological or chemical programs (Iran, Iraq, Libya, North Korea, and Syria) that would be eligible for nuclear strikes. In National Security Presidential Directive 17 in 2002, President George W. Bush stated that “the United States [would] continue to make clear that it reserves the right to respond with overwhelming force—including potentially nuclear weapons—to the use of [weapons of mass destruction] against the United States, our forces abroad, and friends and allies.”

In a sense, the 2010 NPR Report introduced by President Barack Obama could appear as real progress toward raising the threshold of use of nuclear weapons. Indeed, regarding chemical weapons, the United States considered that “any state eligible for the [negative security] assurance that uses chemical or biological weapons against the United States or its allies and partners would face the prospect of a devastating conventional military response—and that any individuals responsible for the attack, whether national leaders or military commanders, would be held fully accountable.” Hence, the United States renounced any policy of nuclear retaliation against chemical attacks.
which made a lot of sense strategically and militarily. This was consistent with the general premise of the NPR that the United States “would only consider the use of nuclear weapons in extreme circumstances to defend the vital interests of the United States or its allies and partners.”10

This step forward, however, was undermined by two steps backward. First, the 2010 document added to the previous provision an important caveat: no reference to nuclear weapons use but also no hypothesis of an attack against U.S. forces or interests.

Secondly, with regard more specifically to biological weapons, the same document stated that “[g]iven the catastrophic potential of biological weapons and the rapid pace of biotechnology development, the United States reserves the right to make any adjustment in the assurance that may be warranted by the evolution and proliferation of the biological weapons threat and U.S. capacities to counter that threat.”11

This exception only applies in case of unpredicted developments. Even raised as a flag, however, it weakens the progress made in the new formulation. Moreover, it was unnecessary to state this exception explicitly because any nuclear-weapon state has the right to modify unilaterally its assurance, as shown by the changes made by the United States in 2010.

The same analysis can be made regarding the UK and the French revised assurances. The UK stated in its 2015 review that “[w]hile there is currently no direct threat to the UK or its vital interests from states developing weapons of mass destruction, such as chemical and biological capabilities, we reserve the right to review this assurance if the future threat, development or proliferation of these weapons make[s] it necessary.”14 The 2015 French presidential statement excluded from the French NSA the states that do not “comply with their international nonproliferation commitments in terms of weapons of mass destruction.”15 For instance, this means that Syria, having breached the Chemical Weapons Convention (CWC), could become a legitimate target for French nuclear weapons even if France was not attacked. Finally, as stated above, the Russian doctrine still considers that Russia could use nuclear weapons “in response to the use of...other types of weapons of mass destruction against it and/or its allies.”16

Unfortunately and Paradoxical

The linkage between nuclear weapons and biological or chemical weapons is quite unfortunate and paradoxical. It

Not in the most far-fetched scenario could chemical attacks endanger the vital interests of nuclear-weapon states and justify the use of nuclear weapons in retaliation.

“In the case of countries not covered by this assurance—states that possess nuclear weapons and states not in compliance with their nuclear nonproliferation obligations—there remains a narrow range of contingencies in which U.S. nuclear weapons may still play a role in deterring a conventional or [chemical or biological] attack against the United States or its allies and partners. The United States is therefore not prepared at the present time to adopt a universal policy that deterring nuclear attack is the sole purpose of nuclear weapons, but will work to establish conditions under which such a policy could be safely adopted.”11

This statement considerably weakened the step forward made regarding the Cold War alliance-related condition, despite an attempt to be reassuring by stating, “That does not mean that our willingness to use nuclear weapons against countries not covered by the new assurance has in any way increased.”12 Although the United States officially did not exclude the use of nuclear weapons in a scenario involving a chemical attack by Iraq against U.S. forces during the 1991 Persian Gulf War, in the “redlines” mentioned by Obama in 2006 in case Syria used chemical weapons, there was no reference to nuclear weapons use but also no hypothesis of an attack against U.S. forces or interests.

Not in the most far-fetched scenario could chemical attacks endanger the vital interests of nuclear-weapon states and justify the use of nuclear weapons in retaliation. During the Persian Gulf War, France then categorically excluded such a use of nuclear weapons18 while the United States and the UK maintained ambiguity. Since 1995, under Presidents Jacques Chirac and Nicolas Sarkozy, France also has maintained some ambiguity as to possible nuclear retaliation to a chemical or biological attack.19 Now, France explicitly adds noncompliance with the CWC or the BWC, not just chemical or biological attacks, as reasons justifying the use of nuclear weapons.

The case of biological weapons could be argued to be different and susceptible to unpredictable developments.
Therefore, the United States and the UK reserve the right to review their nuclear posture in case such developments occurred that endangered their vital interests. Here again, even the most pessimistic scenarios of massive use of biological agents—by state or nonstate actors—could hardly be deemed as warranting the use of nuclear weapons. No state currently claims to possess biological weapons because they globally appear as “repugnant to the conscience of mankind,” as stated in the BWC. If such biological weapons were developed and used by state or nonstate actors, how conceivable would it be to identify the source and authors of an attack and target them with nuclear weapons and within what time frame, considering the slow spread of some pathogens?

If the nuclear doctrine of nuclear-weapon states understandably includes nonproliferation or even counterproliferation dimensions, establishing linkages between nuclear, conventional, chemical, and biological weapons can lead only to confusion, misunderstandings, or higher risks of nuclear catastrophe. The threshold for use of nuclear weapons is already being lowered by the maintenance of nuclear tactical weapons and the increasing resort to lower-yield warheads or means of delivery, such as cruise missiles, that can be conventional but easily mistaken for nuclear weapons. There is no need for making the situation worse. All nuclear-armed states possess sufficiently powerful conventional military capabilities to handle conventional, chemical, or biological threats against themselves or their allies. Such challenges should be addressed only within existing multilateral frameworks. It is a paradox that the United States included biological threats as a possible reason for reviewing its nuclear posture while remaining, since 2001, opposed to any multilateral verification of the BWC that could help strengthen the international response to the risk of deliberate use of disease as a weapon.

In addition, a major hurdle in the condition regarding noncompliance with any nonproliferation commitment, whether in nuclear, chemical, or biological weapons, would be how and by whom such breaches would be determined. The issue of evidence of WMD programs has been a recurring nightmare in the case of Iraq, Iran, Libya, North Korea, and Syria. Even if a legitimate role can be assumed for the UN Security Council, what would happen if one of the permanent members were an ally of a suspected violator, as is currently the case with Russia and Syria? If determination is left to the individual nuclear-weapon state, is this opening the door to unilateral, uncontrollable actions?
Moreover, what if a state has not made any “international nonproliferation commitments,” such as Israel, which is not a party to the NPT, the CWC, the BWC, or the Comprehensive Test Ban Treaty?

New Thinking Needed

Two major developments require new thinking on the issue of NSAs. One is the new NPR announced by the Trump administration. If the Obama administration took the opportunity of the 2010 NPR to shift the U.S. assurances, the new U.S. leadership would be wise to reconsider the existing doctrine, not in toughening the conditions for nonuse of nuclear weapons but to elevate the threshold for use to a higher level. One could count on the power of example to influence not only the assurances of the Western nuclear powers, as in 2010-2015, but also to encourage Russia to revisit its own assurance in a similar direction and discourage India to move away from its current no-first-use policy, as it seems tempted to do.20

The second major development will be the new five-year review cycle of the NPT, which has opened in May 2017 in Vienna and will culminate with the review conference in New York in 2020. By then, it is likely that the new treaty prohibiting nuclear weapons will have many signatories despite the opposition of the nuclear_weapon states. Some NPT states-parties such as Germany, sharing the goal of a world without nuclear weapons but seeking the participation of the nuclear_weapon states in the negotiation process, can be expected to push for an expansion of existing NSAs as a mediation tool. Few options actually could rally the approval of the nuclear_weapon states and offer sufficient improvements to the non-nuclear_weapon states, at least to make them hesitate before joining the ban treaty, at the same time.

As proposed by Germany and a few other Western states at the 2016 UN open-ended working group on multilateral nuclear disarmament,21 one option could be to negotiate a legally binding instrument, as a protocol to the NPT or a separate treaty, limiting the conditions of NSAs to two: a beneficiary “must not be in material breach of the NPT and not attacking a [nuclear-weapon state] while itself acting in consort with another” nuclear-weapon state.

The other option for nuclear-weapon states would be to radically shift their nuclear doctrine to the “sole purpose” approach, tasking nuclear weapons only to deter nuclear attacks, thereby reinforcing global stability and the security of states that have foregone nuclear weapons. It would exclude any nuclear response to a conventional, chemical, or biological attack (presumably also a cyberattack). The threshold of use of nuclear weapons would be made more consistent with their historical purpose, and the whole world would obviously feel much safer in the interim period prior to the elimination of all nuclear weapons.

ENDNOTES

10. NPR Report, p. 16.
11. Ibid, p. 16.
12. Ibid, p. 16.
13. Ibid, p. 16.
15. French Embassy to the United Kingdom, “France Will Not Lower Its Nuclear Guard, Vows President.”
17. States not party to the Biological Weapons Convention are Central African Republic, Chad, Comoros, Djibouti, Egypt, Eritrea, Haiti, Israel, Kiribati, Micronesia, Namibia, Niue, Somalia, South Sudan, Syria, Tanzania, and Tuvalu. States not party to the Chemical Weapons Convention are Egypt, Israel, North Korea, Palestine, and South Sudan.
19. See President Chirac’s speech Jan. 19, 2006: “[t]he leaders of States who would use terrorist means against us, as well as those who would consider using, in one way or another, weapons of mass destruction, must understand that they would lay themselves open to a firm and adapted response on our part. And this response could be a conventional one. It could also be of a different kind.” See also Oliver Meier, “Chirac Outlines Expanded Nuclear Doctrine,” Arms Control Today, March 2006, https://www.armscontrol.org/act/2006_03/MARCH-Chirac
Tensions between the United States and North Korea moved into dangerous new territory last month, as two inexperienced national leaders engaged in name-calling backed up by threats of nuclear conflict.

It remains unclear whether the tension that has been increasing for months, as North Korean leader Kim Jong Un defied international pressure to halt his nuclear weapons program, will drive a serious effort for negotiations or trigger, intentionally or by accident, military action that could cause tens or hundreds of thousands of deaths on the Korean peninsula and perhaps beyond.

Complicating matters is the fact that the two key decision-makers, Kim and U.S. President Donald Trump, are untested in such diplomatic crisis situations and have shown tendencies to provoke further confrontation.

Addressing the UN General Assembly on Sept. 19, Trump belittled Kim as “rocket man” and used the podium of the world’s pre-eminent peacemaking institution to threaten to “totally destroy” North Korea if the United States “is forced to defend itself or its allies.” In doing so, the Los Angeles Times reported, Trump ignored appeals from his national security team not to make the situation more dangerous and the path to negotiations more daunting by insulting the young dictator.

Kim quickly responded in kind and, for the first time, personally issued a statement directed at a U.S. president, saying that Trump barks like a “frightened dog” and is a “mentally deranged U.S. dotard,” which is a senile or weak-minded individual.

In a sign of further defiance, North Korean Foreign Minister Ri Yong Ho was quoted Sept. 21 as telling journalists in New York, where he was attending the UN session, that Kim is considering whether to test a hydrogen bomb in the Pacific Ocean, which would be the first atmospheric nuclear test explosion since China conducted one on Oct. 16, 1980.

Ri was likely referring to launching an intercontinental ballistic missile paired with a nuclear warhead into the Pacific Ocean to demonstrate North Korea’s capabilities. That would be a profoundly provocative action, with environmental and health implications from the radioactive fallout, and defy the norm against atmospheric nuclear tests established by the 1963 Partial Test Ban Treaty.

Trump fired back at Kim using his favored communications weapon, Twitter, writing that “Kim Jong Un of North Korea, who
North Korea’s Sixth Test Its Largest Yet

The Sept. 3 nuclear test explosion at North Korea’s underground Punggye-ri test site produced a magnitude 6.1 seismic event, according to specialists at the Comprehensive Test Ban Treaty Organization (CTBTO) International Data Centre (IDC) in Vienna.

The analysis was made on the basis of information from 41 primary and 90 auxiliary seismic stations that are part of the CTBTO International Monitoring System (IMS). Signals from the nuclear test were also detected by two hydroacoustic stations and one infrasound station. The IMS consists of 50 primary and 120 auxiliary seismic stations, of which 42 and 107 stations, respectively, are certified.

The IDC detected a second event that occurred 8.5 minutes after the initial blast, at approximately the same location, but two units of magnitude smaller. That event, along with a magnitude 3.4 seismic event detected on Sept. 23, have been assessed by the CTBTO and national authorities to have been caused by geologic disturbances created by the Sept. 3 nuclear test explosion.

At a magnitude of 6.1, the Sept. 3 nuclear test was by far North Korea’s largest. On Sept. 14, the CTBTO published a chart listing the range of body wave magnitudes and estimates of yield, which ranged from 140 to 450 kilotons TNT equivalent. Such a blast would be roughly 10 to 30 times the strength of the bomb that destroyed Hiroshima, which was about 15 kilotons. The largest previous North Korean nuclear test was in the 20-kiloton range.

Analysts Frank V. Pabian, Joseph S. Bermudez Jr., and Jack Liu estimated the yield of the test was roughly 250 kilotons, according to their analysis published in the blog 38 North.

North Korea claimed the device was a hydrogen bomb designed to be carried by a long-range missile. Whether such a North Korean device could be fitted into a warhead small enough and light enough for such a missile is not clear, according to Siegfried Hecker, a former director of the Los Alamos National Laboratory.

In a Sept. 7 interview in the Bulletin of the Atomic Scientists, Hecker said the explosive power of the Sept. 3 blast “was consistent with a hydrogen bomb—that is, a fusion-based bomb. However, it could also have been a large ‘boosted’ fission bomb, in which the hydrogen isotopes deuterium and tritium were used to enhance the fission yield.” More testing, Hecker said, would make it possible for North Korea to arm a long-range missile with a high-yield warhead. —DARYL G. KIMBALL

Comparison of Seismic Signals From the Six North Korean Nuclear Tests

The Comprehensive Test Ban Treaty Organization’s International Data Centre estimates the seismic wave produced by the Sept. 3 explosive nuclear test was equivalent to a magnitude 6.1 earthquake. The seismic signals (shown to scale) of the six declared North Korean nuclear tests, as observed at the International Monitoring System station AS-59 in Aktyubinsk, Kazakhstan, show the latest explosion produced a much higher yield than the previous five tests.
is obviously a madman who doesn’t mind starving or killing his people, will be tested like never before!” Less provocatively, U.S. Secretary of State Rex Tillerson said on Sept. 22 on ABC’s “Good Morning America” that “we will continue our efforts in the diplomatic arena, but all our military options are on the table.”

Yet, any military option comes with significant risks, particularly with South Korea’s capital, Seoul, within range of North Korea artillery just north of the Demilitarized Zone, which may dismiss it as a viable solution.

Trump’s former chief strategist, Steve Bannon, told The American Prospect in August, “Until somebody solves the part of the equation that shows me that ten million people in Seoul don’t die in the first 30 minutes from conventional weapons, I don’t know what you’re talking about, there’s no military solution here, they got us.” Defense Secretary Jim Mattis subsequently said, without providing any details, that the United States has military options that would not put Seoul at risk.

The Trump administration has paired its threats with additional sanctions targeting North Korea. Trump issued an executive order Sept. 21 that targets banks and companies that continue to do business with North Korea. U.S. Treasury Secretary Steven Mnuchin said that Washington has the tools to “cut off banks from the banking system in the United States.”

“For much too long, North Korea has been allowed to abuse the international financial system to facilitate funding for its nuclear weapons and missile program,” Trump said in announcing the measures.

Significantly, China’s central bank agreed to cooperate and directed financial institutions throughout China to curtail their loans and other business with North Korea and the North Korean government.

In his address to the UN General Assembly on Sept. 23, Ri said it was a “forlorn hope to consider any chance that [North Korea] would be shaken an inch or change its stance due to the harsher sanctions by the hostile forces.” Ri also called out Trump’s “reckless and violent” words and said that, by insulting North Korea, he made the “irreversible mistake of making our rockets’ visit to the entire U.S. mainland inevitable all the more.”

The Trump administration is seeking to use increasing pressure from tightening economic sanctions, influence from China, and the threat of military action to force North Korea to negotiate denuclearization. “It is time for North Korea to realize that the denuclearization is its only acceptable future,” Trump declared in his address to the UN General Assembly.

In recent years, diplomacy has not gained traction. U.S. President Barack Obama tried to use UN Security Council demands and sanctions to increase pressure on North Korea while waiting for Kim Jong Un to take steps toward denuclearization, a policy called “strategic patience.” The Obama administration’s insistence on onerous preconditions and misreading of North Korean signals in favor of talks, however, failed to produce results. (See ACT, March 2015.)

As a result, North Korea’s nuclear program raced ahead to produce additional nuclear material for warheads and increasingly powerful missiles. Now, under the Trump administration, North Korea is able for the first time to reach much of the U.S. mainland with its ballistic missiles, although the accuracy and reliability is questionable.
U.S., South Korea Agree to Lift Missile Limit

The United States agreed to South Korea’s request to remove limits on the weight its ballistic missiles are allowed to carry.

South Korean President Moon Jae-in raised the issue of removing the ballistic missile limits when he met with U.S. President Donald Trump in Washington in June. (See ACT, September 2017.) Previously, South Korea was limited to developing ballistic missiles with a maximum range of 800 kilometers and a payload of 500 kilograms.

U.S. National Security Advisor H.R. McMaster agreed to a proposal from his South Korean counterpart to begin negotiations with Seoul on building up that country’s ballistic missiles, The New York Times reported on July 29. Trump gave his “in-principle approval” to the request during a Sept. 4 phone conversation with Moon as part of an agreement to “maximize pressure on North Korea using all means at their disposal,” according to a White House readout of the call. The phone call followed North Korea’s sixth nuclear test on Sept. 3.

Increasing the payload weight, which has been limited to 500 kilograms since 2001, will allow South Korea to put heavier, more powerful conventional warheads on its missiles. South Korea could also use the additional weight for more advanced guidance systems.

The announcement could lead to a de facto range extension, which was not mentioned in the announcement. A missile’s range is determined in part by the weight of the payload, so if South Korea builds more powerful missiles capable of delivering a 500-kilogram payload over a distance of 800 kilometers but uses a lighter payload, the missiles’ range could be extended.

In practical terms, warhead size, not range, is the bigger factor since virtually all of North Korea is currently within South Korea’s permitted missile range, even from the country’s southern areas. North Korea’s capital, Pyongyang, is about 200 kilometers from Seoul, the South Korean capital, and about 500 kilometers from southern cities such as Busan.

South Korea’s ballistic missiles have been limited under agreements with the United States since 1979, when Seoul agreed to limit its ballistic missile range to 180 kilometers. The limits were intended to head off an arms race in the region.

The missile limits were increased in 2001 to a 300-kilometer range with a 500-kilogram payload when South Korea joined the Missile Technology Control Regime (MTCR), which limits exports of missiles and missile-related components for nuclear-capable missiles. The MTCR defines nuclear-capable ballistic missiles as those carrying a 500-kilogram payload over a distance of 300 kilometers. Members are not required to abide by that restriction, and a number of participating states possess ballistic missiles that exceed the restrictions. Some experts, however, raised concerns when South Korea extended the range of its missiles in the past that such action could contribute to the erosion of the MTCR and the norm on missile limits.

The most recent range extension was granted in October 2012, when the United States and South Korea agreed that Seoul could extend the range of its missiles to 800 kilometers with a 500-kilogram payload. (See ACT, November 2012.) South Korea is currently testing a ballistic missile, the Hyunmoo-2, capable of traveling 800 kilometers. Following a test in June, officials said the missile would need more tests before deployment.

Trump also agreed to strengthen joint military capabilities and provided “conceptual approval for the purchase of many billions of dollars’ worth of military weapons and equipment” from the United States, according to the readout. No details were given on the type of weapons and equipment South Korea is seeking to purchase.—KELSEY DAVENPORT

Since taking office, Trump has redoubled sanctions pressures and demanded China step up and said on Aug. 8 that the North would feel the “fire and fury” of the United States if the regime continued its threats and destabilized the Korean peninsula and East Asia. Kim responded with further missile tests and, on Sept. 3, North Korea claimed a hydrogen bomb test vastly more powerful than previous underground tests.

On the diplomatic front, Trump so far has been dismissive of the freeze-for-freeze proposal favored by China and Russia in which North Korea would suspend nuclear and ballistic missile tests and the United States would suspend more provocative elements of its large-scale joint military exercises with South Korea.

Trump may have narrowed his leverage further with his denunciations of the Iran nuclear deal, indicating that he may walk away from that accord and seek to impose new, tougher restrictions on Iran. That may signal to Kim that any deal, even if it is endorsed by the UN Security Council as the Iran deal is, may not be upheld by the United States, meaning that nuclear weapons are needed for regime security. James Clapper, former U.S. director of national intelligence, has said that he does not foresee a scenario in which North Korea relinquishes its nuclear weapons.

That would mean accepting negotiations focused on achieving some level of nuclear arms control and reduced tensions, coupled with U.S. nuclear deterrence policies. If so, Trump may have a choice between becoming the U.S. president who acquiesced to North Korea as a nuclear weapons power or as the U.S. president who went to war to prevent that outcome. Neither of the two U.S. defense treaty allies with the most at risk, South Korea and Japan, seem politically prepared for a serious military conflict with North Korea. —TERRY ATLAS AND KELSEY DAVENPORT
Iran Nuclear Deal ‘Sunset’ Gets Scrutiny

Europeans leaders are seeking to shore up support for the Iran nuclear deal amid criticism from the United States over the duration of provisions that deny Iran the capability to make nuclear weapons or avoid detection if attempting to do so secretly.

With Iran judged to be in compliance, President Donald Trump and other U.S. officials have focused their criticism of the July 2015 nuclear accord on Iranian activities not barred by it, such as developing missiles and stoking conflicts in the Mideast, and on the deal’s provisions phasing out of some nuclear constraints imposed on Iran. Trump’s hints at abandoning the deal have alarmed key European allies, who have sought to reassure him with the uncertain prospect of addressing issues outside the agreement, while continuing the current deal.

As with most arms control agreements, the nuclear deal negotiated between the P5+1 (China, France, Germany, Russia, the United Kingdom, and the United States) and Iran contains measures that expire over time. Other aspects that create barriers to building nuclear weapons remain in place indefinitely. European and Russian officials have pointed to the permanent provisions, said that the deal is contributing to regional and international security, and urged continued implementation of the agreement.

After a ministerial meeting of the P5+1 and Iran at the United Nations, Federica Mogherini, EU foreign policy chief and chair of the P5+1 group, said on Sept. 20 that all parties agreed there were “no violations” of the accord. Further, Mogherini said that there was no discussion at the meeting of reopening the agreement, signaling the kind of opposition Trump can expect from European allies.

The international community “cannot afford dismantling an agreement that is working,” and “as Europeans, we will make sure that the agreement stays,” she said.

Trump has signaled he will take steps this month that could lead to the unraveling of the nuclear deal. Addressing the UN General Assembly on Sept. 19, Trump denounced the deal as an “embarrassment” and said that Washington cannot abide by an agreement if it “provides cover for the eventual construction of a nuclear program.” Given that the nuclear deal allows Iran to maintain a limited nuclear program for peaceful purposes, it is likely Trump was referring to a nuclear weapons program.

U.S. Secretary of State Rex Tillerson spelled out the concern about expiration dates more clearly in remarks to the press Sept. 20. Tillerson said “the sunset clause” is a “very concerning shortcoming” of the deal. “One can almost set the countdown clock to when Iran can resume its nuclear weapons programs, its nuclear activities,” he said at a press conference, “and that’s something that the president simply finds unacceptable.”

Similarly, Israeli Prime Minister Benjamin Netanyahu also called into question the duration of the nuclear deal in his Sept. 19 speech, saying it is necessary to “fix it or nix it,” adding that fixing the deal included “getting rid of the sunset clause.”

Both Tillerson and Netanyahu were misleading in giving the impression that the deal expires with a single sunset clause, when the duration terms are complex and some provisions are intended to restrict Iranian actions permanently.

Several of the key limitations on uranium-enrichment activities phase out between 10 and 15 years after implementation of the accord, which occurred in January 2016. For instance, starting in January 2026, Iran is free to enrich uranium using advanced centrifuges and install and operate a greater number of first-generation IR-1 centrifuges. Currently, Iran is restricted to using 5,060 IR-1 machines to enrich uranium. In January 2031, the 300-kilogram limit on Iran’s stockpile of enriched uranium will expire, and Iran will be permitted to enrich uranium to levels greater than 3.67 percent uranium-235.

The expiration of these limits will shorten Iran’s potential breakout time, the time it would take to produce enough fissile material for a nuclear weapon, to less than the current 12 months. Yet, additional barriers remain...
The Iran nuclear deal, known formally at the Joint Comprehensive Plan of Action (JCPOA), removes nuclear restrictions on Iran beginning in 2026, 10 years after implementation. Some restrictions stay in place longer, including those intended to last indefinitely.

**JCPOA Post-Implementation Day Requirements and Limitations**

For instance, continuous monitoring of Iran’s centrifuge production manufacturing sites and uranium mines and mills by International Atomic Energy Agency (IAEA) inspectors continue for an additional five and 10 years, respectively, providing intelligence on Iran’s actions. Other restrictions, such as the specific prohibition on “activities which could contribute to the design and development of a nuclear explosive device,” remain in place in perpetuity. This commitment prevents Iran from pursuing activities in the future relevant to building a nuclear weapon but claiming the purpose was for conventional military applications.

Iran also may be permanently subject to the more intrusive monitoring and
verification mechanisms permitted under the additional protocol to Iran’s safeguards agreement. The additional protocol gives the IAEA more information about and access to nuclear-related facilities in Iran. Currently, Iran is implementing its additional protocol on a voluntary basis. Under the nuclear deal, Iran must seek ratification of the additional protocol within eight years of the deal’s adoption, by October 2023. Once ratified, the additional protocol is permanent. At the IAEA annual general conference in Vienna, the European Union said on Sept. 18 that “early ratification by Iran” of the additional protocol is “essential.”

Iran also committed under the nuclear deal to implement the modified Code 3.1 safeguards provisions, which require a state to report on a new nuclear-related facility as soon as the construction decision is made. Implementation of this measure will give the IAEA early notice of construction affecting Iran’s nuclear capabilities. Taken together, these additional restrictions and transparency measures provide the international community with a powerful set of tools to detect and deter an Iranian attempt to pursue nuclear weapons development well beyond the initial 15-year period now at issue. Further, Mogherini noted that the text of the deal “reaffirms that under no circumstances will Iran ever seek, develop, or acquire any nuclear weapons.”

European members of the P5+1 and Iran, while clearly stating that the current nuclear deal must remain in place, have not dismissed future negotiations on Iran’s nuclear programs or other activities in the region. Iran has made clear that any future negotiations would require reciprocal concessions.

French President Emmanuel Macron said he agreed with Trump that the deal is “not sufficient,” but said that stopping the deal would be a bad option. He said the best way to address concerns is to sustain the nuclear deal and work to build on the existing deal.

The deal does not preclude negotiating an extension to the limits or a deal on other measures that would provide disincentives to the pursuit of nuclear weapons by Iran in the future. “Different issues can be discussed in different formats,” said Mogherini.

Iranian Foreign Minister Mohammad Javad Zarif told The New York Times on Sept. 21 that if “you want to have an addendum, there has to be an addendum on everything.”

—KELSEY DAVENPORT

The day after President Donald Trump used his first address to the UN General Assembly to denounce the Iran nuclear deal and to threaten to “totally destroy” North Korea, 50 countries signed a landmark treaty prohibiting nuclear weapons.

The Treaty on the Prohibition of Nuclear Weapons was adopted July 7 at the United Nations in New York, with 122 non-nuclear-weapon states voting in favor, Singapore abstaining, and the Netherlands voting against. The nuclear-armed states did not participate. (See ACT, July/August 2017.) At the ceremony for the opening for signatures on Sept. 20, UN Secretary-General António Guterres heralded the treaty as a “milestone” and “the first multilateral disarmament treaty in two decades.”

Brazil was the first to sign, and Ecuador became the 50th signatory in the evening. By the end of the day, three signatories—Guyana, the Holy See, and Thailand—had also ratified it. The treaty enters into force once 50 states sign and ratify it. Three countries prominent during the treaty negotiations—the Marshall Islands, Sweden, and Switzerland—were among those absent from the list of initial signatories. (See ACT, September 2017.)

“We welcome the treaty as a long-awaited and essential step towards [nuclear weapons] elimination, and we do so foremost with the victims of these weapons in mind—those who died following the Hiroshima and Nagasaki bombings, after later nuclear testing, and those who still suffer today,” International Committee of the Red Cross President Peter Maurer declared at the ceremony. Beatrice Fihn, executive director of the International Campaign to Abolish Nuclear Weapons, emphasized the role of nuclear weapons survivors from Japan in pressing for the treaty.

Nuclear-armed states and NATO members strongly oppose the treaty. French Foreign Minister Jean-Yves Le Drian on Sept. 18 called the treaty “close to irresponsible” and said that it could undermine the nuclear Nonproliferation Treaty. U.S. Defense Secretary Jim Mattis warned Swedish Defense Minister Peter Hultqvist in a letter that signing the treaty

Fifty States Sign Nuclear Weapons Ban
could hurt U.S.-Swedish military cooperation and U.S. military support in the event of war, according to the Swedish newspaper Svenska Dagbladet.

NATO asserted in a Sept. 20 statement that the alliance could not support the treaty and discouraged other countries from doing so. “Seeking to ban nuclear weapons through a treaty that will not engage any state actually possessing nuclear weapons will not be effective, will not reduce nuclear arsenals, and will neither enhance any country’s security, nor international peace and stability,” according to the statement. “Indeed it risks doing the opposite by creating divisions and divergences at a time when a unified approach to proliferation and security threats is required more than ever.”

Still, speakers at the ceremony, including Fihn and Maurer, appealed to nuclear-armed states to join the prohibition treaty. Costa Rican President Luis Guillermo Solis urged them to “join this date with history.”

Calls to sign the treaty stretched beyond the UN complex in New York. On Sept. 20, two activists in Australia scaled the roof of a foreign ministry building in the capital, Canberra, and unfurled a banner urging their government to sign the nuclear ban treaty.

In response to division over the treaty, Guterres advocated “dialogue, bridge-building, and practical steps” to advance nuclear disarmament. Fihn, however, saw the division as a sign of progress, comparing the controversy to civil rights battles over the abolition of slavery and the women’s suffrage movement. “Ground-breaking steps forward do not start with consensus agreements,” she said.—ALICIA SANDERS-ZAKRE

**Trump Administration Silent on CTBT**

At the UN Conference on Facilitating the Entry Into Force of the Comprehensive Test Ban Treaty (CTBT) held Sept. 20, the sole U.S. representative sat silently as senior officials from other nations expressed support for the landmark 1996 accord.

The Trump administration, working without an undersecretary of state for arms control and international security, did not match the high level of representation exhibited by other governments and international organizations. Speakers included foreign ministers and other senior officials, such as EU foreign policy chief Federica Mogherini, UN Secretary-General António Guterres, and Lassina Zerbo, executive secretary of the Comprehensive Test Ban Treaty Organization (CTBTO).

The U.S. silence is particularly notable because the Trump administration is conducting a Nuclear Posture Review, which may include the question of whether the country can adequately maintain its nuclear arsenal without test explosions. The last U.S. nuclear explosive test was Sept. 23, 1992, and many experts have concluded that testing is not necessary to maintain a reliable nuclear stockpile.

The Trump administration has yet to comment publicly about the CTBT, which the United States signed in 1996 but has not ratified. It has commended the CTBTO International Monitoring System and capabilities for detecting nuclear test explosions, notably in the April 7 joint communiqué on nonproliferation and disarmament by Secretary of State Rex Tillerson and other foreign ministers of the Group of Seven.

Although the Trump administration has requested full funding for the CTBTO, in line with previous years, some Republicans in Congress are aiming to “restrict” that funding. (See ACT, March 2017.)

The United States is one of eight countries, known as the “hold-out states,” that must ratify the treaty before it can enter into force. The others are China, Egypt, India, Iran, Israel, North Korea, and Pakistan. Of the eight, India, North
Korea, and Pakistan have not taken the first step of signing the treaty.

Many nations at the session, informally known as the Article XIV conference, after the article in the treaty that advocates its convening, commended last year’s first UN Security Council resolution to specifically support the CTBT. A total of 42 countries, including Israel, co-sponsored Resolution 2310, which came 20 years after the treaty was opened for signature. (See ACT, October 2016.)

Yet, a reference to the resolution was absent in the final declaration of the conference, causing Mogherini to note, “We welcome the positive developments since the 2015 Article XIV conference—the adoption of UN Security Council Resolution 2310, which reaffirms the vital importance and urgency of achieving prompt entry into force of the treaty and its universalization. The European Union would have preferred to see a direct reference to this resolution in the final declaration.”

The Treaty on the Prohibition of Nuclear Weapons opened for signature the same morning as the Article XIV conference (see page 23), where the new accord was frequently mentioned in remarks by officials from countries supporting the new treaty.

Noting concerns among some of the member-states and signatories that the prohibition treaty is in conflict with the CTBT, Alexander Marschik, political director of the Austrian Foreign Ministry, said that the prohibition treaty text “recognizes the vital importance of the CTBT and its verification regime as a core element of the nuclear disarmament and nonproliferation architecture.”

“Its formulations regarding testing were very carefully drafted to ensure they are fully compatible with the CTBT,” he added. “Moreover, there is reason for hope that the success of the new prohibition treaty negotiations will create a positive impulse for our common objective here: the entry into force of the CTBT and the cessation of nuclear testing.”

China and Egypt were the only two “hold-out” states to speak at the conference, and neither offered a clear path on if or when they would ratify the CTBT. China’s statement only alluded to, but did not name, North Korea, the only country now conducting nuclear explosive testing.

Russia also took the opportunity to call out only the United States among the eight “hold-out” states, saying the “U.S. position,” as well as doubtfulness of the Article XIV process, could “undermine the hope” that the CTBT would eventually enter into force.

“We have the impression that some states are satisfied with the current circumstances.”

The Article XIV conference was led by newly elected co-presidents Belgium and Iraq, which took over from Kazakhstan and Japan. Belgium and Iraq will continue in that role for two years until the next Article XIV conference, unless the treaty comes into force thereby eliminating the need for the conference.—SHERVIN TAHERAN

Air Force Nuclear Programs Advance

The U.S. Air Force in August awarded roughly $2.5 billion in contracts to four major defense companies to continue the initial development of new fleets of air-launched cruise missiles (ALCMs) and intercontinental ballistic missiles (ICBMs).

The contracts come as the Trump administration continues to conduct a comprehensive review of U.S. nuclear weapons policy and Defense Secretary Jim Mattis has yet to endorse the new ALCM program, known as the long-range standoff weapon.

The administration’s first budget request released in May proposes to continue the Obama administration’s costly plans to rebuild the U.S. nuclear triad and its supporting infrastructure. (See ACT, July/August 2017.)

A Congressional Budget Office (CBO) report in February estimated that the United States will spend $400 billion on nuclear weapons during fiscal years 2017 to 2026. (See ACT, March 2017.) That is an increase of $52 billion, or 15 percent, from the CBO’s previous 10-year estimate of $348 billion, which was published in January 2015.

The budget office’s latest projection suggests that the cost of nuclear forces could far exceed $1 trillion over the next 30 years.

It remains to be seen whether the administration’s Nuclear Posture Review will make changes to the Obama administration’s nuclear upgrade plans. The review is slated for completion later this year.

Mattis told reporters on Sept. 13 that he is evaluating “each element” of the U.S. nuclear triad “very critically.” He said the administration would not retain weapons “just because we had them 30 years ago.”

The Air Force awarded two $900 million contracts to Lockheed Martin Corp. and Raytheon Co. “to mature design concepts and prove developmental technologies” for the new cruise missile, according to an Aug. 21 service press release. The contracts cover a 54-month period of development after which the Air Force will choose one of the contractors to complete development and begin production.

The Air Force is developing the long-range standoff weapon to replace the existing ALCM. The service says a new ALCM is needed because the existing missiles are becoming increasingly difficult to maintain and losing their ability to penetrate sophisticated air defenses. The new missile will be compatible with the B-2 and B-52H bombers, as well as the planned B-21.

Mattis has not yet expressed a position on the program. He told reporters on Sept. 13 that the contracts “maintain” building the new ALCMs “as an option” but a final decision on whether to proceed “will come out of a Nuclear Posture Review.”

The Air Force selected Boeing Co. and Northrop Grumman Systems Corp. to proceed with development of the Minuteman III replacement, known as the Ground-Based
Legislation that could undermine the 1987 Intermediate-Range Nuclear Forces (INF) Treaty moved closer to becoming law Sept. 18, when the U.S. Senate passed its defense authorization bill for fiscal year 2018. The bill includes a provision that would establish a program to begin development of a missile system that could violate the treaty.

The Senate measure provides $65 million for a nuclear-capable, road-mobile ground-launched cruise missile (GLCM) with a range prohibited by the treaty. The House passed its version of the bill July 14, which authorizes spending $25 million for a non-nuclear intermediate-range GLCM, a system that would also violate the treaty. Further, the House bill would require the president to submit a report on Russian INF Treaty compliance within 15 months of enactment and would prohibit funding for an extension of the 2010 New Strategic Arms Reduction Treaty (New START) if Russia continues to violate the INF Treaty.

The INF Treaty required Russia and the United States to eliminate permanently their nuclear and conventional ground-launched ballistic and cruise missiles with ranges of 500 to 5,500 kilometers. The treaty does not prohibit activities related to research and development of this category of weapons.

Since 2014, Washington has accused Moscow of violating its commitment of Strategic Deterrent (GBSD) system. The contracts are “valued at no more than $359 million each” and cover a period of approximately 36 months, according to an Aug. 21 service press release.

The GBSD missile is slated to replace the Minuteman III missiles and their supporting infrastructure and remain in service through the 2070s. An independent Pentagon cost estimate conducted last summer found that the cost of the new ICBM program could be more than double the Air Force’s initial estimate. (See ACT, March 2017.)

The Air Force argues that a new ICBM is necessary because the Minuteman III, which is slated for retirement beginning in 2030, is becoming too expensive to maintain. But some analysts claim that the life of the Minuteman III can be extended at less cost than buying new missiles.

But some analysts claim that there could be more cost-effective alternatives to buying new missiles.

For example, in a report published on Sept. 21, Todd Harrison, director of defense budget analysis at the Center for Strategic and International Studies, wrote that extending the life of the existing Minuteman III missiles could delay the need for the ground-based strategic deterrent “by more than a decade” and “would likely cost somewhat less than the current program of record.” —KINGSTON REIF
“not to possess, produce, or flight-test” a GLCM having a range prohibited under the INF Treaty. In the past year, the Pentagon has alleged that Russia is fielding a noncompliant system, which Moscow denies.

In an effort to increase pressure on Russia in light of the alleged violation, Sen. Tom Cotton (R-Ark.) and Rep. Mike Rogers (R-Ala.) proposed legislation in February to authorize funds for developing a GLCM system with a prohibited range. These measures provided much of the text for the section in the authorization bills on the treaty.

Many Senate Democrats opposed the INF Treaty provision in the underlying bill, and two Democratic members unsuccessfully sought amendments.

Sen. Ed Markey (D-Mass.) filed an amendment that would authorize funds for R&D, test, and evaluation of military capabilities to counter Russian violations of the treaty but remove the specific reference to a GLCM from the bill’s funding table.

Sen. Elizabeth Warren (D-Mass.) offered two amendments to modify the INF Treaty provision. One would “prohibit the use of funds for actions not permitted” under the treaty, such as developing and testing a new GLCM.

Warren filed a second, bipartisan amendment co-sponsored by Sen. Mike Lee (R-Utah) to require “a report on the military and security ramifications” of the new Russian GLCM. The report also would have mandated an assessment of the willingness of NATO and allies in Europe to “host a ground-launched intermediate-range missile with a range of between 500 and 5,500 kilometers” and “whether such a missile is the preferred military response” to Russian treaty violations before funds could be authorized to develop such a system.

In a press release, Warren said the United States “cannot risk a new round of nuclear escalation without seriously studying the potential impacts of developing these dangerous weapons.” She criticized the Republican initiative in the underlying bill that “would cost American taxpayers millions of dollars, while laying the groundwork for our withdrawal from a vital treaty that has ensured global security for three decades.”

Lee said the proposed amendment would “set the precedent that the U.S. should not immediately react to an adversary’s treaty violation by violating the same treaty ourselves. That’s not how working in good faith in the international community is done.”

The three amendments were among the vast majority of amendments not debated or voted on in the Senate due to a stalemate over four controversial proposals to the authorization bill. The Senate version of the defense bill passed with bipartisan support by a vote of 89–8. It will go to a conference committee to reconcile differences between the House and Senate versions and then to the White House, where President Donald Trump is expected to sign it into law.

Although the Sept. 7 White House Statement of Administration Policy on the Senate bill “objects” to the INF Treaty-related provisions as too prescriptive, it nevertheless states that the Trump administration would support R&D on such prohibited missile systems.

Asked about the ramifications of the Senate vote, Kremlin spokesman Dmitry Peskov said on Sept. 19, “We need to understand what it means and analyze that information. Russia maintains its commitment to all international agreements.”

The INF Treaty marked the first time the United States and the Soviet Union had agreed to reduce their nuclear arsenals, eliminate an entire category of nuclear weapons, and conduct extensive on-site verification inspections. As a result, the two countries destroyed a total of 2,692 short-, medium-, and intermediate-range missiles by the treaty’s implementation deadline of June 1, 1991.

Arms control experts warn that U.S. pursuit of a new GLCM could alienate European allies anxious about a prospective new nuclear arms race affecting their territories. Thomas Graham Jr., who was President Bill Clinton’s special representative for arms control, nonproliferation, and disarmament, warned recently in The National Interest that developing a noncompliant missile system could “release all limits on Moscow’s intermediate-range nuclear forces that have strengthened U.S. and allied security for three decades.”

“Congress risks making matters worse by opening the door to Russian deployment of intermediate-range ballistic missiles in Europe.”—MAGGIE TENNIS

**States Condemn Cluster Munitions Use**

Reacting to the ongoing civilian toll from cluster munitions use in Syria and elsewhere, states-parties to the treaty banning cluster munitions at their annual meeting in Geneva renewed their condemnation of “any use” of such indiscriminate weapons.

Research published by the Landmine and Cluster Munition Monitor before the annual meeting of states-parties to the Convention on Cluster Munitions (CCM) identified use of cluster munitions by Syrian forces in joint operations with Russia that had resulted in at least 837 casualties during attacks in 2016. Syria is not a signatory to the treaty, which prohibits all use, stockpiling, production, and transfer of such weapons.

“This meeting is taking place against the backdrop of alarming reports of the toll on civilians caused by the use of cluster munitions in current armed conflicts,” Izumi Nakamitsu, UN high representative for disarmament affairs, said in prepared remarks, which were presented by a spokesperson, Anja Kaspersen, at the Sept. 4 opening session of the three-day meeting. Although absent from a draft report on the conference, states-parties added language similar to
previous meetings that “condemned any use by any actor” in their final report.

Aside from Syria, at least another 20 casualties were recorded in Yemen in 2016 during Saudi-led coalition attacks. All told, the report identified at least 971 cluster munition casualties in 2016, more than double the 417 recorded in 2015. The count includes casualties in a total of 10 countries due to cluster munition remnants that exploded after their initial combat use, in some cases decades later. This continues to occur in Laos, where the United States dropped hundreds of millions of submunitions in the 1960s and 1970s during the Vietnam War. The report identified 51 casualties there in 2016.

Since the 2016 annual meeting, Benin and Madagascar have ratified the treaty, bringing the accord to 102 states-parties and 17 signatories. On Sept. 5, Jurkuch Barach Jurkuch, head of the South Sudanese delegation, announced that his country had decided to accede to the CCM and the Chemical Weapons Convention, where it would become the 166th state-party.

The United States, which is not party to the cluster munitions convention, did not attend the annual meeting. No cluster munitions appear to be part of any military sales under consideration by the United States, including the notional $110 billion arms deal with Saudi Arabia announced by President Donald Trump in March, and there are no indications of U.S. use of cluster munitions since 2009. In 2016 the last manufacturer of cluster munitions in the United States announced it was ceasing production of the weapons. (See ACT, October 2016.) —JEFF ABRAMSON
**NEWS In Brief**

**U.S., Russian Strategic Stability Talks Begin**

The United States and Russia held a first round of strategic stability talks Sept. 12 in Helsinki, reportedly agreeing to continue implementing the nuclear weapons limits under the 2010 New Strategic Arms Reduction Treaty (New START). The specific agenda was not disclosed. “The discussions provided both sides with an opportunity to raise questions and concerns related to strategic stability and also to clarify their positions on that matter,” U.S. State Department spokeswoman Heather Nauert told reporters in Washington afterward. Neither side provided any information about further talks.

The U.S. delegation was led by Thomas Shannon, undersecretary of state for political affairs, and the Russian delegation was led by Deputy Foreign Minister Sergei Ryabkov. Joining Shannon in the U.S. delegation were representatives from the White House and defense and energy departments. The Russian delegation also included representatives from the across the government.

The talks come amid deep divisions on a host of bilateral issues, including arms control. (See ACT, September 2017.)

A State Department official was quoted by the Russian news agency Tass before the talks as saying that the aim is to exchange views, dispel misinformation and misperceptions, and “work toward creating a more functional relationship.” Ryabkov told reporters afterward that the two sides agreed to continue implementing New START, which sets a limit of 1,550 deployed strategic warheads and 700 deployed delivery systems effective February 2018. —KINGSTON REIF

**Turkey Snubs NATO With Russian Arms Deal**

NATO member Turkey turned to Russia to buy an advanced anti-aircraft missile system, a deal estimated to be worth $2.5 billion that has caused unease among its alliance partners. Turkish newspapers on Sept. 12 quoted President Recep Tayyip Erdogan as saying that Ankara has paid a deposit for the Russian S-400 air defense system. The purchase denies a major deal for Western contractors and will put in place a system that is not compatible with NATO air defenses. Russian media presented the deal, which would also provide Turkey with the technology to produce its own advanced air defenses, as a rebuke to Western governments.

The purchase comes at a time of growing strains between Washington and Ankara as Erdogan cracks down on political opponents and the United States sends arms to Kurdish militias in Syria that Turkey considers terrorists. Complicating matters, the deal may run afoul of U.S. sanctions against Russia. Politico reported on Sept. 14 that Sen. Ben Cardin (D-Md.) wrote to President Donald Trump that the deal would trigger mandatory U.S. sanctions against Turkey under legislation signed into law in August. —TERRY ATLAS

**Nuclear Fuel Bank Established**

The International Atomic Energy Agency (IAEA) on Aug. 29 achieved a long-sought nonproliferation goal of establishing an international storage facility for low-enriched uranium (LEU). (See ACT, October 2015.) The IAEA LEU Bank Storage Facility at the Ulba Metallurgical Plant in Öskemen, Kazakhstan, can store up to 90 metric tons of LEU for nuclear energy generation. The bank was established to acquire nuclear reactor fuel for countries without enrichment infrastructure or an ability to obtain the fuel from the commercial market or other countries. By ensuring reliable supplies, the bank makes it possible for countries to develop civilian nuclear power programs without the need for enrichment capability, a technology that also can be used to produce fuel for nuclear weapons.

Voluntary contributions from IAEA member states totaled $150 million, which will fully fund the effort for 20 years. The donors include the European Union, Kazakhstan, Kuwait, Norway, the United Arab Emirates, the United States, and a
nonprofit organization, the Nuclear Threat Initiative. Payments from recipient countries will be used to replenish the facility’s LEU supply. In order to become a recipient, a country must meet stringent IAEA criteria for ensuring the safety and security of supplies. —SAMANTHA PITZ

Bahrain Arms Sale Undoes U.S. Restraint

The U.S. Defense Security Cooperation Agency notified Congress on Sept. 8 of nearly $4 billion in proposed foreign military sales to Bahrain, including 19 F-16V fighter aircraft and upgrades to 20 other F-16s already in the Bahraini air force. The notification marks the official intention of the Trump administration to proceed with a third major arms sale, each to different countries, that the Obama administration had held up due to human rights concerns. In May, the administration provided notification of a sale of precision-guided missiles to Saudi Arabia and in August proposed selling Super Tucano light aircraft to Nigeria. Once notified, Congress has 30 days to review potential sales before the administration can proceed, but deals are often delayed during a preceding informal stage when leaders of the Senate Foreign Relations Committee and House Foreign Affairs Committee can vet arms deals.

On June 26, Senate Foreign Relations Committee Chairman Bob Corker (R-Tenn.) said the committee would hold up any further arms sales to Gulf Cooperation Council countries until there is “a path to resolve” its internal disputes, notably one with Qatar. Corker indicated during a Sept. 12 nomination hearing that this would apply to future sales because the Bahrain deal had been cleared previously during the informal review period. Further, Corker said arms sales to Bahrain and human rights should be delinked, and the nominee to become U.S. ambassador to Bahrain, career diplomat Justin Hicks Siberell, stated that “enhancing our security cooperation with Bahrain does not diminish the enduring emphasis we place on human rights issues.” Siberell added, “We continue to be concerned with government actions against nonviolent political and human rights actors.” —JEFF ABRAMSON

States Avoid Discussing Controversial Arms Trade

At the third annual conference since the Arms Trade Treaty entered into force in 2014, states-parties again generally avoided formal discussion of controversial arms transfers, especially those to Saudi Arabia. As in past years, civil society members encouraged states to specifically discuss and, in many cases, halt arms transfers into conflict zones, including transfers to the Saudi-led coalition active in the Yemen war. The treaty requires the establishment of national export control systems, as well as assessments of whether exported arms could facilitate serious violations of international humanitarian or human rights law.

Speaking on behalf of the Control Arms coalition on Sept. 11, Yemen-based Radhya al-Mutawakel of the Mwatana Organization for Human Rights said that 19 states-parties and three signatories had agreed to sell or deliver weapons to Saudi Arabia since the outbreak of the Yemen war. In calling for all arms transfers affecting that conflict to stop, she added “Sadly, many ordinary Yemenis have come to know some of your countries through the weapons that have destroyed their homes and killed their families.”

In analyzing all statements, the nongovernmental group Reaching Critical Will identified just one country, Costa Rica, that specifically mentioned Yemen. A total of 106 countries attended the five-day meeting in Geneva, including 79 of 92 states-parties and 23 of 41 signatories. Discussion primarily centered on treaty working groups, funding, and other administrative matters, as well as linkages between the treaty and sustainable development goals. States-parties provisionally agreed to meet next year in Japan during Aug. 20–24.

Separately, the European Parliament on Sept. 13 again adopted a nonbinding resolution for an arms embargo on Saudi Arabia, reiterating a decision made in February 2016 and stating that such transfers are “non-compliant” with the EU’s Common Position on Arms Export Controls. Many of the countries identified as providing arms are EU members. (See ACT, October 2016.) —JEFF ABRAMSON
**REPORTS OF NOTE**

**Nuclear Dynamics in a Multipolar Strategic Ballistic Missile Defense World**

By Charles D. Ferguson and Bruce W. MacDonald, Federation of American Scientists, July 2017

As the United States, Russia, China, and India decide to develop and invest in strategic ballistic missile defense, Charles D. Ferguson and Bruce W. MacDonald examine the motivations, dynamics, and implications for these nuclear-weapon states. The four countries have committed to the development of missile defense systems in order to ensure limited protection and to enhance their nuclear deterrents. The pursuit of strategic ballistic missile defense systems shifts the dynamics among the nuclear states as each country calculates the viability and usefulness of the systems. The authors find that the complex technology fosters uncertainties over effectiveness, which could prove to stabilize tensions under specific circumstances and dissuade the first use of nuclear weapons. They assert the need for concessions from China, Russia, and the United States to resolve perceived threats and suggest the boost-phase intercept systems could mitigate Chinese and Russian fears of U.S. technology while combating the North Korean nuclear threat. The researchers emphasize that “the stakes involved are simply too high not to have continuing dialogues” and a multilateral diplomatic approach.—SAMANTHA PITZ

**Between the Shield and the Sword: NATO’s Overlooked Missile Defense Dilemma**

By Tytti Erästö, Ploughshares Fund, June 2017

Tytti Erästö presents a case for holding off expansion of the U.S. anti-missile system in Europe, known as the European Phased Adaptive Approach (EPAA). In practical terms, that would mean suspending the construction of the Aegis Ashore site in Poland and refraining from the deployment of Block IIA interceptors elsewhere in Europe. The report published by the Ploughshares Fund, an Arms Control Association funder, says that action would help avert the worrisome tit-for-tat escalation between NATO and Russia fueled, in part, by Russian concerns about expanding missile defenses in Europe. The author says that curtailing EPAA could help resolve disputes with Russia over issues such as its Iskander missiles in Kaliningrad and alleged violations of the Intermediate-Range Nuclear Forces Treaty, as well as avert whatever Russia may otherwise do in response to continued implementation of the missile defense system. She writes that the ostensible focus of EPAA, that is, the Iranian nuclear and missile threat, has been “dialed back” and so the “scale and reach of the U.S. missile defense plans in Europe can and should be adjusted as well.”—TERRY ATLAS

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**Man Who ‘Saved the World’ Dies at 77**

Stanislav Petrov, a little-known Russian whose decision averted a potential nuclear war, died in May at 77, a family friend disclosed in mid-September.

As a lieutenant colonel in the Soviet Air Defense Forces, Petrov was on duty Sept. 26, 1983, when the early-warning satellite system he was monitoring detected what appeared to be five approaching U.S. nuclear-armed intercontinental ballistic missiles. Petrov was faced with a critical choice that had to be made immediately: treat the warning as a false alarm or alert his superiors, who likely would launch a counterattack. Petrov went with false alarm, later explaining he reasoned that if the United States really were to start a nuclear war, it would do so with more than five missiles. He was correct. The satellites had mistaken the reflection of sun off clouds for attacking missiles.

Petrov’s decision was all the more remarkable because it occurred during a particularly tense period, shortly after the Soviet Union had shot down a civilian Korean jetliner that had passed over its territory, killing all 269 passengers and crew. Rather than being praised, Petrov was reprimanded for allegedly faulty documentation during the key moments. Soviet officials treated the incident as a secret, which it remained until well after the collapse of the Soviet Union. In recent years, Petrov received international praise, earning the 2013 Dresden Peace Prize and a 2006 award from the Association of World Citizens. A 2014 documentary, “The Man Who Saved the World,” told his story.

In response to news of Petrov’s death, Rep. Adam Schiff (D-Calif.) tweeted, “Times of nuclear tension call for careful restraint. You may not know Stanislav Petrov, but at height of the Cold War, he saved the world.”—ALICIA SANDERS-ZAKRE
Lawrence Weiler: Looking Back at the Nuclear Nonproliferation Treaty

Lawrence Weiler was special assistant to the director of the U.S. Arms Control and Disarmament Agency (ACDA) and a U.S. negotiator on the nuclear Nonproliferation Treaty (NPT) and other arms control measures during his government service under six U.S. presidents. As that landmark accord approaches its 50th anniversary next year, Weiler, now 96, recalled its creation and assessed its impact in a June interview with Arms Control Association Executive Director Daryl Kimball and ACT Editor Terry Atlas.

The NPT established the rules for safeguarded development of civilian nuclear technology and became the bedrock for the intricate structures of nuclear arms control that made it possible for the United States and Russia to sharply reduce their nuclear arsenals. Still, there is debate about whether the NPT has lived up to its promise, particularly in terms of the nuclear-weapon states fulfilling their Article VI commitment to “pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”

Many non-nuclear-weapons countries, which pledged under the NPT to forgo nuclear weapons, claim the Article VI obligation has not been met by the nuclear powers, one of the factors that fueled their push for the newly completed treaty prohibiting nuclear weapons.

“Most can agree that progress [under the NPT] has been slower than we had hoped and that nuclear weapons still threaten our civilization,” said Weiler. “Progress has been made, though the goal is still in front of us. Keep your fingers crossed and never give up.”

This transcript has been edited for length and clarity.

ACT: Looking back over the past 50 years, has the NPT accomplished what you, as one of the negotiators, envisioned at the time? At the most basic level, what did you hope it might achieve?

Weiler: Well, it’s not just what the treaty accomplished, it’s what the people who signed the treaty and those who followed have accomplished. In my judgment, the treaty is a product of three things:

First, the obvious one was a desire to keep the spread of nuclear weapons from happening, which people worried about. Related to that but somewhat separate for the arms controllers was the concern about keeping the number of people that you had to get together to agree on anything from increasing. In other words, to prevent the whole business of arms control from becoming too complicated because there were too many people involved with nuclear capabilities. That’s sort of the architects looking at the building. Those first two they’re related, but they’re separate.

The third one was the awareness of the fact that if you were ever going to get the Russians to talk about controlling strategic weapons, you had to get the Russians to not worry about the future of Germany. Even before, the German issue was central to the Russians. In other words, they weren’t about to talk about [limiting] strategic systems with the United States until the nuclear future of Germany was settled. It was not a coincidence that the date that the NPT was signed was the date that the United States announced that we and the Soviet Union had agreed to discuss strategic weapons. That was the same day. It was not a coincidence.

The third issue you’re talking about is the possibility of a multilateral nuclear force in Europe and whether Germany was going to possess or be allowed to possess such weapons.

Yes, the multilateral nuclear force (MLNF) discussion, which was a kooky idea and was so regarded by many in the government. But the government was pursuing it because of the desire of European allies to be somehow part of the nuclear equation. It was clear that the Russians had some hesitations about
talking about strategic defensive systems. They were coming around, and [U.S. Secretary of Defense] Robert McNamara had tried to talk with them earlier and didn’t succeed. One critical decision was President Lyndon Johnson’s decision that he was going to kill the MLNF.2

How do you feel the NPT has performed, that is, has it delivered on the promise that you envisioned?

Basically yes, but not completely because we didn’t get every country signed up. I think we knew by the time the negotiations were over that we weren’t going to get India. At least that was my judgment. We didn’t and didn’t get the others that you know about. But you can’t get everything in life, and it seems to me that’s a philosophy that negotiators, that deciders ought to keep in mind. You mustn’t always be satisfied only if you get the perfect outcome. We should be happy that we don’t have 25 or so countries with nuclear weapons, as President John Kennedy talked about. And we began then with Russia the first successful negotiations on strategic arms, the so-called killer weapons.

Right.

That has gone slowly with some mishaps. We didn’t get [multiple independently targetable re-entry vehicles] in the first strategic arms limitation agreement, and the Anti-Ballistic Missile (ABM) treaty part has been nullified. The U.S. decision in the George W. Bush administration to withdraw from the ABM Treaty has had a very serious effect on U.S.-Russian relations. The Obama administration placed a limited interpretation on our ABM-related policy, and what the Trump administration will do remains to be seen.

Can I just add one other thing? The NPT was a great training exercise. It was really the first time that you got a large number of nations involved in actually negotiating a document. That was important because it was an educational thing for a lot of people, including the Americans and the Russians. Oh, one of the things to add to what’s happened since the NPT is that you have the precedent of nuclear-free zones. That’s one consequence of the NPT that should be noted.

Looking back, what, as a negotiator, do you see as some of the shortcomings?

Were there things that the treaty could have done differently? Nothing comes readily to mind. It was an outline of goals, as well as arrangements. I wish we could have done something more on positive and negative assurances, and we tried very hard. There were some informal discussions that came up later in the Strategic Arms Limitation Treaty negotiations, but they were mostly at the lower level. That’s one thing that, perhaps, I wish could have been developed more.

This interview is also being published in Russian by the Moscow-based Center for Energy and Security Studies (CENESS) in its journal Nuclear Club (Yaderny Klub). As part of a cooperative arrangement, the September issue of Arms Control Today features an interview with Ambassador Roland Timerbaev conducted by CENESS Director Anton Khlopkov. Timerbaev was a key figure in the Soviet delegation to the Nonproliferation Treaty negotiations and subsequently played a part in six NPT review conferences.
Why do you think those were not developed more?

Well, the tensions were still high. Neither government was ready then to move on formulations of what they would or would not do and negative and positive assurances. This proposed assurance would adversely affect the Russians, and that proposed alternative would adversely affect the Americans, as it was conceived of at that time. I don’t think that was a major issue particularly. It took some time, but it wasn’t a major issue.

How would you describe the geopolitical situation at the time, and how did that affect the relationships among the negotiators?

Well, it was a time when we were sort of optimistic. The ACDA was created. It was a substantial organization. In my judgment, the NPT would not have been negotiated successfully, at least not at that time, if you hadn’t had the ACDA established. The European section of the Department of State at that time—and this was reflected in other parts of the executive branch—was really opposed to taking on the problem and antagonizing our European allies. They knew it would run into the business of the MLNF, and it did antagonize our allies. There was no question about it. It antagonized the Germans. The Germans wanted to use it to bargain in German reunification negotiations. They also thought it was a threat to NATO.

The ACDA staffed the negotiations, backstopped the negotiations, fought internal battles, and so it was a terrible thing for arms control when they reintegrated the ACDA back into the State Department during the Clinton administration. I wish some form of it were re-established again. That would make prospects for the future much brighter.

How about the relationship with the negotiators when working on the NPT? You had Western countries, the United States, the Soviet Union, Soviet bloc, and representatives of other parts of the world. What were the relationships among negotiators?

It got difficult with some of them. The Indians weren’t particularly happy. The Germans really weren’t happy, and we had extensive negotiations with the Germans in Washington, as well as in Geneva. There was a general concern among the Japanese about whether the inspection arrangements would interfere with their nuclear power development. We were sent on a mission, about six of us, to talk to the Japanese about how any inspection that came out of the treaty would not interfere with their anticipated use of nuclear energy for peaceful purposes.

The Russians and the Americans had a problem, and they worked on it. I would say that the Russians and the American delegates got closer together in a personal sense. In one case, an American and a Russian on a Sunday fixed up a box of edibles and some drinks and took a sailboat out on Lake Geneva. They stopped on the shore and had a picnic, the two of them, and worked out one of the problems. Each one of them sent the outcome to his government as the other guy’s proposal, and it was approved. Now that’s not necessarily something I advocate, but it developed a much better working relationship by going through that experience. We had a lot of people involved. We had two different delegations. There were no recesses, other than going to the UN General Assembly. One group went, and then they came back, and the other group went.

You’re describing one key turning point that involved U.S.-Soviet negotiators working closely together. What would you say were one or two of the other key turning points during the NPT negotiations?

Well, the first is the question of prohibiting transfer, that was dealing with the Russian concern about our transferring to the Germans or, as the Russians insisted, no transfer to anyone whatsoever. The word “whatsoever” or “howsoever,” which I had never seen in a legal document before. That related to the MLNF type of thing, and related to that was also the Russian concern about our forward base systems. I know that Butch Fisher [of ACDA] and I took a trip around parts of Europe to look at our installations to see that the treaty that resulted didn’t interfere with them and that we still retained control.

I’m not sure of this, but I think the Russians were a bit pleased to learn of the PAL system that McNamara put in—permissive action links so that the deployed American nuclear weapons on allied aircraft could not be armed without a signal from a distant place. That whole business, which is related to the nontransfer, bothered the Russians. I remember arguing privately with them that we’re not going to destroy NATO in order to get this agreement, so let’s don’t argue. Let’s get on with the negotiation.

One of the key pillars of the treaty is the peaceful uses provision, Article IV, which was not part of the initial U.S. and Soviet drafts back in 1965 or so. The draft introduced at the Conference on Disarmament, or the ENDC [Eighteen-Nation Committee on Disarmament] as it was called in 1967, included an article on peaceful uses of nuclear energy, which was based on proposals from non-nuclear states. How did that factor into the negotiation?

Well, we didn’t have it in the first draft. I’m not absolutely sure why it wasn’t there, except that you don’t like to do things that complicate a negotiation and the negotiation was aimed at preventing the spread of nuclear capability. It became very clear that you had to deal with the consequences of preventing that spread and, that is, you had to deal with the restrictions, if any, on the nonnuclear parties. We were fortunate to have the International Atomic Energy Agency already in existence. As a negotiator, sometimes you get lucky. Certainly, it was clear to me and it was clear to most of us when we got started that you’re going to have to deal with that issue. It turned out to be a very difficult provision because the Europeans wanted to have the Euratom inspection arrangement take care of it. They felt that Euratom was the first step on the way toward reunification of Europe and this would interfere. We didn’t anticipate that when we hit that argument.
We knew there were going to be problems, and there were problems. In the final draft, that was one left to be worked out later, which they did, subsequently. That turned out to be the longest one, I think, in many ways to be settled but was essential for the treaty. It became very clear that without settling that, you wouldn’t have a treaty. There was a feeling that was palpable in the room in Geneva. The countries that did not have nuclear weapons did not want this negotiation to be a negotiation deciding who are the haves and the have-not nations. This was bigger than nuclear weapons. They didn’t want this to be some arbitrary fundamental decision separating the different parties of the world—part psychological, part economic. I don’t think you would have ever had the treaty without it.

Tell me about one of those have/have-not issues, which is addressed by Article VI. That provision calls on the nuclear-weapon states to pursue negotiations in good faith on effective measures relating to ending the arms race, to nuclear disarmament, and to general complete disarmament. How did the negotiation of that provision factor into the dynamics that you’re describing?

Everyone had thought that, at some point, there would be a treaty setting the goals, and [Soviet leader Nikita] Khrushchev had made popular the “general disarmament” phrasing. When Khrushchev came in [during 1953], Soviet policy changed. The May 10, 1955, Soviet proposal was the first serious Soviet arms control proposal, and it was looked upon at the time as something like the sunrise coming up. I remember the time when he came out for “general and complete disarmament,” the phrase we’re talking about. He was talking about the dangers of the arms race.

Do you think at the time that this language was significant and a commitment? Was it so vague, with no deadline, as to be essentially meaningless or at least not a real obligation?

No, I thought about it. That was the easiest way to express a future goal. I always have reservations about the general disarmament in defense including general conventional disarmament, but it was accepted. It’s not a simple statement. There are aspects to that phrase, and that phrase was carefully constructed.

“To pursue negotiations in good faith on effective measures relating to…”—that’s a little squidgy room there, you see? In other words, as negotiated it said, “You’re going to work towards that.” Now, that’s because there were some general reservations about how committed you should be at this stage. It’s got not just the nuclear bit, but it’s also got this general disarmament in it. There were various factors that worked into that. I hate to say we gave ourselves some squidgy room there, but it was more complicated than a blanket statement that “we will get general and complete disarmament.” My own view at the time was that you shouldn’t worry too much about the ultimate end. It’s not going to happen tomorrow. By the way, for
Britain’s Foreign Secretary Michael Stewart signs the treaty on the Non-Proliferation of Nuclear Weapons at Lancaster House, London, on July 1, 1968, watched by the Soviet Ambassador (left) and the US Ambassador (right).

those seeking the end of the road in negotiations, have they ever heard of the “Gromyko proposal”?

The U.S. negotiating team and the U.S. government at the time, what were you all thinking were the steps that would lead in that direction? I mean, what did you all have in mind about what would fulfill that obligation?

Well, we had in mind the next big step. It was to discuss the killer weapons with the Russians. You must remember, we’d been at this for a long, long time, and nothing had ever happened until the Kennedy administration. Then you had three agreements. You had the Hotline Agreement. That was a big thing. It wasn’t an arms control thing, but it was very important, assuring communications, sort of recognition of the sensitivity of the world in terms of nuclear weapons. Then Partial Test Ban Treaty. Also the UN Outer Space resolution.

Fissile material production cutoff.

No, we never did get to the cutoff.

I’m saying at the time was that one of the things that was being discussed.

Oh yes, yes. The next big step would be negotiating with the Russians about missiles and long-range bombers. The possibility was coming up because two things happened. Satellites gave us target data, but they also gave us national technical means of verification, the opportunity to have verification without intrusion in some ways.

Let’s fast forward 25 years from 1968 to the 1995 NPT Review and Extension Conference. You all as negotiators, in your infinite wisdom, determined that the treaty shall last 25 years and that there shall be a review conference concerning a possible extension.

It was not in our infinite wisdom. It was the final concession we made in order to get a treaty.

Okay, looking back on the conference and the decisions that led to the indefinite extension decision, what is your view about whether the commitments that were made then have been faithfully carried out?

That’s a hard question because progress is hard, particularly in this area. You don’t have two people sitting down trying to draft a paper. You have many countries, you have changes in leadership in the countries. You have changes in the structure of the world. Now this can be looked on as excuses, but I wish we had made much more progress. I think most American leaders wish we had made more progress.

Just to follow up, do the non-nuclear-weapon states have reason to be disappointed or disillusioned with the NPT and the deal that they have committed to under the treaty?

Yeah. They have reason to be disappointed in the fact that more progress hasn’t been made, but that’s not a function of any deficiencies in the treaty. It’s not as much progress as the treaty commitment called for, as they see it. The effort has been made and hasn’t been as successful as one would have hoped, as American governments would have hoped. I think that the members of the NPT ought to take into account that while we haven’t done things in the exact order that they might have constructed, it’s constructing a path to nuclear disarmament.

Things are happening and have happened that are progress toward that goal. Number one, we’ve learned how to negotiate. We’ve gone through the
process. We developed a cadre of people who were capable of doing that. The NPT now has a multitude of supporting institutions. Then you’ve got, for all practical purposes, a global nuclear test ban with one exception, and you’ve got a fissile material production cutoff with one or two exceptions. We’ve had a massive reduction in the total number of nuclear weapons on both sides. It’s incredible that we managed to come down to the current levels, which are still high but it’s a little hill compared to a mountain top where we were. If you think about it, we have covered much of what was usually in the first state of old three-stage disarmament plans. In practical terms, U.S.-Russia strategic-weapon treaty levels will hold under New START until 2021. The immediate issue is the conflict with North Korea, that will determine the direction for the future.

What do we need to do over the next many years to make sure that the NPT regime remains viable?
The treaty, in part, is a disarmament measure, a restriction. It’s important that the restriction be maintained. It’s also presumably a definition of the obligations. There, I can’t think of anything that can be done with the treaty. The main concern should not be about the “viability” of the treaty. I think that changes the whole nature of the discussion. It’s how much progress has been made toward a promise that was made—not as much progress as many advocated but probably more progress than some skeptics anticipated. We now really need to look at cyberwarfare.

Why?
Well, the more nuclear weapons you get around, the more options you have for mistakes being made, more options you have for them being stolen. The more weapons, the more accidents will happen. One bit of the great progress that’s been made is that we haven’t had a nuclear war, for God’s sake.

The world is changing. People talk to each other as human beings. At the time of the NPT negotiations, it was an occasion when senior Soviet, American, and Chinese officials got together. Today, they meet all the time. The subject may not be exclusively nuclear weapons, but they’re meeting as human beings. They’re getting to know each other. Remember, one of the objectives of the NPT was to keep things from getting worse and to provide for people to be able to get together. But I’m disappointed that we haven’t done more.
One of the things that’s about to happen is the conclusion of negotiations on a convention to prohibit nuclear weapons. I want to ask for your reflections on the potential impact of that treaty on the broader nuclear nonproliferation risk reduction and disarmament effort.

I’m not sure what consequences it will have. I think it’s going to irritate the leaders of all the nuclear countries. I’m not sure that it might not end up being of benefit, however. I think one of the things that needs to be looked at is the whole issue of nuclear use, that is, the issue of no first use. The idea would be that if you had a worldwide treaty that all the leaders would sign, then anyone who ever ordered the initiation of nuclear weapons use would automatically be considered an international outlaw. Just have it as part of a treaty so this becomes an accepted part of international thinking.

Endnotes
1. The Kennedy administration explored with NATO allies the idea of a multilateral nuclear force, under which U.S. nuclear missiles would be placed on submarines or surface ships manned by NATO crews. The concept was to provide a more credible deterrent against Soviet attack in Europe and, by giving NATO allies some control over nuclear weapons, reduce the likelihood that other countries, particularly West Germany, would seek a nuclear weapons capability of their own. See Steven Pifer et al., “U.S. Nuclear and Extended Deterrence: Considerations and Challenges,” Brookings Arms Control Series, No. 3 (May 2010), https://www.brookings.edu/wp-content/uploads/2016/06/06_nuclear_deterrence.pdf.

2. The multilateral nuclear force died for several reasons, including its inability to add to extended deterrence measures and the threat that it would violate the requirement for a centrally controllable, unified strategic nuclear arsenal. Further, U.S. officials anticipated that the European allies would not support such a plan once they realized the United States would retain its veto over launch and that NATO nations would be expected to share the costs of maintaining the multilateral nuclear force. See David N. Schwartz, NATO’s Nuclear Dilemmas (Washington, DC: Brookings Institution Press, 1983), pp. 94–95.

3. The Arms Control and Disarmament Agency (ACDA) was created in 1961 under President John Kennedy and charged with “formulating, advocating, negotiating, implementing and verifying effective arms control, nonproliferation, and disarmament policies, strategies, and agreements.” In 1999 it was merged into the State Department. For a history of the ACDA, see John Holum, “Looking Back: Arms Control Reorganization, Then and Now,” Arms Control Today, June 2005.

4. In the 1960s, Soviet Foreign Minister Andrei Gromyko proposed a plan under which the United States and Soviet Union would eliminate most nuclear-weapons delivery systems, retaining only a “limited” number to provide a “nuclear umbrella” deterrent until the completion of disarmament. For more, “U.S. Bars Talks on Moscow Plan,” The New York Times, June 17, 1964.
Nonproliferation Experts Reaffirm Support for Iran Nuclear Deal

More than 80 of the world’s leading nuclear nonproliferation specialists issued a joint statement September 13 declaring that the Joint Comprehensive Plan of Action (JCPOA) between six world powers and Iran “has proven to be an effective and verifiable arrangement that is a net plus for international nuclear nonproliferation efforts.”

“We firmly support vigorous efforts to monitor and enforce compliance with the JCPOA,” the experts say, “but we are concerned by statements from the Trump administration that it may be seeking to create a false pretext for accusing Iran of noncooperation or noncompliance with the agreement in order to trigger the reimposition of nuclear-related sanctions against Iran.”

“We urge the Trump administration and the U.S. Congress to continue to fulfill Washington’s commitments under the accord and to refrain from actions that undermine U.S. obligations in the agreement,” the statement concludes.

The statement, organized by the Arms Control Association, is endorsed by former U.S. nuclear negotiators, former senior U.S. nonproliferation and intelligence officials, a former director-general of the International Atomic Energy Agency, a former member of the UN Panel of Experts on Iran, and leading nuclear specialists from the United States and around the globe.

Statement from Nuclear Nonproliferation Specialists on the Iran Nuclear Deal

More than two years after the conclusion of negotiations on the Joint Comprehensive Plan of Action (JCPOA) by the United States, its international negotiating partners (EU, China, France, Germany, Russia, and the United Kingdom), and Iran, the agreement has proven to be an effective and verifiable arrangement that is a net plus for international nuclear nonproliferation efforts.

The JCPOA is also considered an important success of multilateral diplomacy, the full implementation of which is critical to international peace and security.

Since the nuclear deal was implemented in January 2016, the JCPOA has dramatically reduced the risk posed by Iran’s nuclear program and mandated unprecedented monitoring and transparency measures that make it very likely that any possible future effort by Iran to pursue nuclear weapons, even a clandestine program, would be detected promptly. By blocking Iran’s potential pathways to nuclear weapons, the JCPOA has also decreased the likelihood of destabilizing nuclear competition in the region.

To meet its JCPOA obligations, Iran dismantled more than 13,000 centrifuges, placed them in monitored storage, and shipped out more than 11 tons of low-enriched uranium. Since implementation day, Iran has met its commitments to enrich uranium only up to 3.67 percent uranium-235, retain no more than the equivalent of 300 kilograms of uranium enriched to 3.67 percent in its stockpile, and enrich using only 5,060 first generation, IR-1 centrifuges.

Taken together these restrictions ensure that Iran’s capability to produce enough bomb-grade uranium sufficient for one weapon would be approximately 12 months for a decade or more. This conclusion was underscored by Daniel Coats, Donald Trump’s Director of National Intelligence, who stated in the May 2017 Worldwide Threat Assessment, that the JCPOA has “enhanced

The full text and list of signatories is available at https://www.armscontrol.org/pressroom/2017-iran-deal-experts-statement
The OPCW at 20: Adapting the Prohibition Regime to Address Emerging Challenges

This year marks the 20th anniversary of the entry into force of the Chemical Weapons Convention and the founding of the Organisation for the Prohibition of Chemical Weapons (OPCW). Today, the convention remains the foundation of the international community’s commitment to eliminate the scourge of chemical weapons.

Impressive progress has been made in 20 years. More than 95 percent of 72,000 tons of declared chemical warfare agents have been destroyed under the OPCW’s verification. The Russian Federation will complete the destruction of its stockpile before the end of this year and the United States by 2023.

In parallel to our achievements, we have faced formidable challenges. In 2013, the OPCW began an unprecedented mission to remove Syria’s chemical weapons. With the support of the United Nations, the European Union, and more than 30 states-parties, 1,300 metric tons of chemical weapons material were removed from Syria and destroyed. This was an impressive achievement.

Unfortunately, that did not mark the end of our work in Syria. Amid persistent and credible allegations that chlorine was being used as a chemical weapon, I established a fact-finding mission in April 2014 that has examined a significant number of incidents and substantiated several cases of the use of toxic chemicals as weapons, an incident involving sarin, and another involving sulfur mustard. This behavior flies in the face of every civilized norm and is in direct violation of the convention.

Moving forward, our success should not be measured strictly in weapons destroyed but also in weapons prevented from being built.

One thing that is very clear: the challenges of tomorrow will be very different from those of yesterday. The continued use of chemical weapons, the mounting threat of chemical terrorism, and the evolution of science and technology are all shaping our future.

The threat of chemical terrorism is a real concern and one that cannot be easily addressed with current approaches to nonproliferation. Countering this threat will require action on many fronts using all available tools, including multilateral coordination and legislative means.

We take this threat seriously. Our Open-Ended Working Group on Terrorism is tasked with identifying opportunities for enhanced interaction and coordination with relevant international bodies. A sub-working group focuses particular attention on the problem of nonstate actors. We also have an active partnership with the UN Counter-Terrorism Implementation Task Force, which helps us and more than a dozen other international organizations practice and coordinate responses to biological and chemical weapons threats. Together with the International Atomic Energy Agency, the OPCW co-chairs the working group on preventing and responding to weapons of mass destruction terrorist attacks with chemical or biological weapons. On the legal front, ensuring that all our states-parties have effective legal and other regulatory measures in place and supporting internal structures to administer them are critical. These provide the foundation for preventing nonstate actors from gaining access to materials that could aid the development of chemical weapons.

Advances in science and technology will be one of the drivers shaping our future as we all work to ensure that such developments are only for the benefit of humankind. This makes it necessary for us to have the ability to detect new chemicals and establish if they are relevant to the convention. Similarly, we need to acquire a deeper understanding of the growing interaction between chemistry and biology, which also gives rise to the ability to produce potentially dangerous chemicals through new techniques and methods. Advancements in chemistry cannot, of course, be constrained. But it is imperative to monitor them closely to utilize them for improving verification and protection measures.

In a world that sometimes finds it difficult to reach a common ground on crucial issues, the convention and the work of the OPCW demonstrate what can be achieved if we remain steadfast in supporting global norms for the common good.

Ahmet Üzümcü completes his second four-year term as director-general of the Organisation for the Prohibition of Chemical Weapons and steps down in July 2018. This is adapted from his September 4 remarks to the Asser Institute’s Summer Programme on Disarmament and Nonproliferation of Weapons of Mass Destruction in a Changing World.
World Peace Through Law
Replacing War with the Global Rule of Law

James Taylor Ranney, Widener University School of Law, Delaware, USA

This book proposes replacing war with global alternative dispute resolution (ADR) mechanisms, an idea that has been called world peace through law (WPTL). This will entail a vast array of progressive initiatives on many fronts, including abolition of nuclear weapons, with the global rule of law being the capstone.

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Reviews

'It is an invaluable goldmine for all students concerned with current problems of world peace.' -- Benjamin B. Ferencz, Former Nuremberg War Crimes Prosecutor and Peace Advocate


‘Every engaged citizen has an obligation to read this book and ponder its central prescriptions for achieving a peaceful world.’ -- Richard Falk, Professor Emeritus, Princeton University, USA

‘This book is refreshing and a badly needed antidote…’ -- Hans Blix, Third Director-General Emeritus of the International Atomic Energy Agency

‘In this lively, creative challenge to war…Ranney outlines a practical way to move toward a more peaceful world.’ -- Lawrence S. Wittner, author of 'Confronting the Bomb'

‘This new work merging history, political science, and jurisprudence is superbly clear, accessible and cogent not only for scholars and academics, but also for leaders and decision-makers…’ -- Kevin Govern, Center for Ethics and the Rule of Law, USA

‘James Taylor Ranney’s book is an important contribution to raising awareness, deepening understanding, and inspiring a new generation of peace activists to campaign for lawful alternatives to organized armed violence around the globe.’ -- Mary Ellen O’Connell, University of Notre Dame, USA

‘In this stimulating, thought-provoking, thoroughly researched, and historically grounded volume, James Taylor Ranney brings together his reflections on world peace through the rule of law…’ -- Paul Gordon Lauren, University of Montana, USA

‘The world greatly needs Ranney’s mix of idealism and pragmatism concerning how international law can further the essential goals of peace and security.’ -- John E. Noyes, Professor Emeritus, California Western School of Law, USA
Arms Control and Nonproliferation Restraints Are at Risk

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