U.S.-Russian Nuclear Security Cooperation: Rebuilding Equality, Mutual Benefit, and Respect

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Nuclear terrorism is a low probability, high consequence event that all countries must guard against, especially those with nuclear-weapons-useable material. The detonation of even a small nuclear weapon in a populated area would have devastating human, economic, and political consequences not just at ground zero, but also around the world. Recent history has demonstrated that well-funded, technically sophisticated terrorist organizations have pursued nuclear weapons. If presented with the opportunity, they are likely to do so again.[1]

Given the significant fiscal and technical requirements associated with producing nuclear material, the easiest way for a terrorist organization to acquire the key ingredients for a nuclear bomb – plutonium and highly enriched uranium (HEU) – is to steal them from a facility where they are being stored. This is why it is essential that countries do everything they can to ensure that facilities with nuclear-weapons-useable materials have effective and sustainable security.

The United States and Russia are the two countries with the vast majority of the world's nuclear weapons and material – enough for tens of thousands of nuclear weapons. In an age of global terrorism, they share both a special responsibility in ensuring that they each employ effective nuclear security systems and an understanding of the unique challenge of securing hundreds of tons of nuclear material.[2] For two decades, the United States and Russia lived up to this responsibility by working together to strengthen nuclear security in Russia and around the globe.

That ended in 2014 when Russia halted the majority of its work on nuclear security with the United States. Although almost all of the major equipment installations planned for the effort have been completed, significant more work is needed. This abrupt suspension of the majority of nuclear security cooperation between the two countries will result in damage to international efforts to secure nuclear material, increasing the risk that nuclear material might fall into the hands of terrorist groups intent on building and using a nuclear weapon.

Nuclear security cooperation is not something countries do as a favor to each other. It is in the interests of all countries to ensure that nuclear material does not end up in the hands of terrorists. Moreover, neither nuclear security, nor international cooperation, can simply be turned on and off like a light switch. Both effective and sustainable nuclear security and international cooperation require continuous attention and improvement.[3]

This Issue Brief will describe how the United States and Russia arrived at this point. It will highlight differences in how the United States and Russia approach nuclear security. It will identify what limited nuclear security related work will likely continue between the two countries in the future. Finally, it will identify potential opportunities for future cooperation related to nuclear security between the United States and Russia.

Achievements of Cooperative Threat Reduction

In the 1990s, the collapse of the Soviet Union resulted in a political and economic crisis throughout the newly formed Russia and other former Soviet states. The impact of the crisis on security within the Russian military and civilian nuclear complex was dramatic. Lack of funding and inadequate management significantly eroded nuclear security, resulting in the theft of nuclear material from Russian facilities.[4]

Recognizing the threat posed by inadequately protected nuclear material, the United States began funding the Nunn-Lugar Cooperation Threat Reduction Program in 1992 (named after U.S Senators Sam Nunn and Richard Lugar). For more than twenty years under the framework of this program, Russia and the United States worked together on a range of nuclear security programs. This included strengthening physical security at Russian nuclear facilities; establishing institutions to train personnel and maintain equipment; reinforcing Russian nuclear safety and security regulations and procedures; training and equipping guard forces; consolidating nuclear material to fewer locations; supporting programs to strengthen security culture; installing nuclear material accounting systems; and exchanging nuclear security best practices.

Arguably the most successful period of nuclear security cooperation between the United States and Russia was during implementation of the "Bratislava Initiative." In 2005, Presidents Vladimir Putin and George W. Bush agreed to a joint plan of action that included strengthening Russian nuclear security and repatriating Russian-origin nuclear material. The agreement was a strong signal to both domestic and international audiences that Russia and the United States were committed to accelerating and expanding cooperation on nuclear security. While the Initiative included an agreement that all nuclear security work would be finished by 2008, Moscow ultimately permitted work to continue past that point.

In addition to the direct effects on improving nuclear security, cooperation between the United States and Russia provided the opportunity for technical experts to exchange ideas and learn from one another, increasing overall trust and understanding between the two countries.[5]

Suspension of U.S.-Russian Nuclear Security Cooperation

Russia's decision to suspend most cooperation with the United States did not happen overnight. It took years for Moscow to get to the point of deciding the status quo was not in its interest, with both countries playing a role.

There have been longstanding concerns about the viability of Cooperative Threat Reduction with Russia because of disagreements between the two countries about how cooperation should be executed.[6] For example, site access was a major area of disagreement. U.S. Department of Energy officials insisted, because of concerns about the misuse of funds and proper installation of equipment, that they be given access to facilities before, during, and after security upgrades. In the early 1990s, Russia opposed giving U.S. experts access to most of its facilities. But, after several years of cooperation, Russia eventually agreed to it.

For a number of years, Russia provided U.S. experts with fairly extensive access, including at nearly all the nuclear weapon permanent storage sites in Russia and the majority of the buildings with weapons-usable nuclear materials in Russia. The Russian Federal Security Service (FSB) – which was concerned about the United States using these visits as opportunities to gather intelligence – did not like the level of access provided to Americans.[7] As Russia became more assertive politically and felt less dependent on U.S. assistance to maintain its nuclear security, U.S. access at Russian nuclear facilities became decreasingly acceptable. Moscow also objected to the "donor-recipient" relationship between the United States and Russia on nuclear security cooperation. Too often Russian officials were not equal partners in the planning process for securing their own facilities. Both countries failed to find a resolution to these disagreements, which made continuing nuclear security cooperation difficult.

An early publicly visible crack in the bilateral nuclear security relationship came in 2010, when Russia – after indicating its interest in withdrawal throughout the early 2000s – finally announced that it would end its participation in the International Science and Technology Center,[8] which was originally created to provide grants for nuclear weapons scientists in former Soviet states to do research on non-military projects.

In 2012, the collapse of the U.S.-Russian relations accelerated when Vladimir Putin returned for a third term as President of Russia. Unlike during his previous term when he agreed to the Bratislava Initiative, President Putin was now convinced that the United States was actively working to undermine him, accusing both then-Secretary of State Hillary Clinton of fomenting Russian protests and U.S. Ambassador to Russia, Michael McFaul, of inciting revolution.[9]

Then, in 2013, when the original Nunn-Lugar agreement expired, Russia refused to renew it – arguing that its language on liability, taxes, and other matters was unequal and unfair – and instead proposed continuing cooperation under a protocol to the more equal Multilateral Nuclear Environmental Program in Russia (MNEPR) agreement. Russia, however, did not include its own Ministry of Defense (MOD) in the new protocol, effectively ending longstanding U.S. work on security for nuclear weapon storage sites, nuclear weapon transports, and other activities with the Russian MOD. The new protocol allowed cooperation at civilian sites and within Russia's nuclear weapons complex to continue, though Russian agencies slow-rolled the transition from one agreement to the other, resulting in many months of delay. Also in 2013, when the United States and Russia reached the end of their agreement for purchasing and downblending[10] of HEU, Russia opted not to continue that arrangement.[11] Although these were signals to some that there was a need to dramatically change the way cooperation worked between the two countries, the U.S. approach remained largely the same.

In 2014, Russia's annexation of Crimea and intervention in Eastern Ukraine drove a further wedge between the two countries. Throughout the year, there was mounting evidence that remaining nuclear security cooperation was in jeopardy. In response to Russia's actions in Ukraine, the U.S government cut off nearly all cooperation with Russia except for work on nuclear security, arms control, and nonproliferation that served U.S. interests. In March, it suspended the high-level bilateral Russian-American Presidential Commission working group on nuclear energy and security, and made clear to Russia that it was suspending nuclear energy cooperation. In May, the U.S. Department of Energy (DOE) sent a letter to Russian scientists informing them that they would be banned from conducting research in its U.S. laboratories and a letter to American scientists informing them that they would be banned from conducting research in Russian facilities.[12] DOE officials were only permitted to travel to Russia to address national security issues like nuclear security. Congressional committees began proposing legislation that would prohibit U.S. support for activities in Russia, including nuclear security.[13]

With the United States cutting off the nuclear cooperation Russia valued, it was perhaps not surprising that Russia cut off most of the cooperation the United States valued, and whose value had been increasingly questioned in Russia. There were signs throughout the year that Russia was going to bring cooperation to an end.[14] In October, the Russian Foreign Ministry informed the United States that it would no longer participate in U.S.-led nuclear security summits.[15] During a December meeting in Moscow, Russian officials informed the United States they would be ending U.S. funded cooperation to upgrade security within its nuclear facilities.[16] At the same time, the U.S. cut funding for nuclear security in Russia (though money left over from previous years would have allowed a substantial level of cooperation to continue had Russia been willing to permit it).

By the end of December 2014 it was official: the United States would no longer work with Russia on enhancing security at facilities that processed nuclear material in bulk and most facilities with large quantities of nuclear material.[17] It would no longer support installation and maintenance of radiation detectors around Russia to catch nuclear smugglers. Essentially, almost all U.S. funded work to upgrade nuclear security at Russian nuclear sites was suspended.

Differences on Security

A long-standing impediment to cooperation has been a fundamental disagreement between the United States and Russia about what constitutes "good enough" security and what is required to achieve it. Russian experts have argued that cooperation is no longer needed because "all the objectives" of bilateral nuclear security cooperation between the United States and Russia have been achieved, "and there is no scope for further cooperation."[18] On the other hand, many in the United States argue that, although the situation has improved significantly since the end of the Cold War, there are still serious weaknesses in Russian nuclear security, and cooperation can help to address these problems.

One of the major sticking points is the issue of insider threats. There are numerous examples around the world where employees with insider knowledge have been able to steal from, sabotage, or assist in attacking facilities.[19] U.S. officials have been particularly concerned about this

threat within Russian nuclear facilities. In 2010, for instance, the commander of a Russian nuclear weapon storage site was relieved of his duties, and one of the reported accusations against him was stealing U.S. funds intended for nuclear security upgrades. In 2012, the director and two of the deputy directors of one of the largest nuclear material producing facilities in Russia was arrested for corruption. In 2014, the United States charged Vadim Mikerin, the head of a subsidiary corporation of the Russian state-run nuclear energy corporation Rosatom, with accepting more than a million dollars in bribes. According to one report, Rosatom has fired 68 executives and 208 mid-level managers due to corruption charges from 2009 to 2012.[20]

While Russia has made some advances protecting against insider threats like installation of portal monitors to detect nuclear material and strengthening of regulations,[21] in the U.S. view, more work is needed.[22] In particular, Russian regulations do not require nuclear facilities to conduct analyses that would detect the theft of small quantities of nuclear material over an extended period of time.[23]

In addition to the issue of insider threats, improvements could also be made in protecting Russian nuclear facilities from external threats. Both Russia and the United States have downsized their nuclear complexes considerably since the end of the Cold War. In Russia, however, nuclear material is still spread across hundreds of buildings at dozens of sites. Securing material in so many locations is both more expensive and difficult than if the material were consolidated to the fewest locations possible.

The need for strengthening nuclear security culture – the norms, practices, and beliefs regarding nuclear security – exists in both the United States and Russia. In both countries, complacency is a problem. For example, in the United States, incidents like the 2012 break-in at the Y-12 nuclear weapons facility demonstrate the dangers of complacency. In Russia, there are still nuclear security experts who are skeptical about the possibility of insider theft, despite evidence to the contrary.[24] Without a strong belief in the threat, it is difficult to justify the need for stronger security and accounting regulations.

Sustainability

Another area of concern for the United States and some in Russia is the possibility that Russian nuclear security will regress, increasing the risk that nuclear material will be stolen from a nuclear facility. As Siegfried Hecker, former Director of Los Alamos National Laboratory, recently stated, "Russia's experts do not want to return to nuclear isolation because they believe it led to the 1986 Chernobyl disaster and to the nuclear security crisis following the breakup of the Soviet Union."[25]

As a result of the acute threat posed by the possibility of stolen Russian nuclear material in the early 1990s, creating programs to ensure that Russia could sustainably take on the responsibility of maintaining its own nuclear security without U.S. support received only modest attention in the early years of cooperation. In the early 2000s, they did eventually establish a program dedicated to making Russian nuclear security upgrades sustainable by focusing on improving infrastructure within Russian organizations; training individuals; developing procedures; maintaining and repairing security equipment; and conducting performance testing of security systems. It is unclear, however, how much progress that program has made in ensuring that regulations will be strictly enforced; that programs will be fully funded; and that a strong nuclear security culture will endure at nuclear facilities.[26]

For example, there have been instances where U.S. installed nuclear security equipment was not maintained, leaving it in disrepair. When speaking to U.S. officials in 2006, representatives from multiple nuclear facilities were concerned that they would not be able to maintain security upgrades at sites without U.S. support.[27] Notably, as the United States has withdrawn funding at certain facilities, the Russian government has not increased its funding. Although there has been progress in addressing these problems, the issue of sustainability was still not fully resolved by the end of 2014.

This is an even greater concern considering Russia's worsening economic condition. Effective and sustainable nuclear security requires political commitment and adequate resources. At the time cooperation was suspended, the United States was allocating approximately $100 million

in its budget to strengthen Russian nuclear security and nonproliferation efforts.[28] Will Russia allocate a similar amount to replace these funds? Convincing the Russian government to allocate funds for nuclear security was a challenge when the Russian economy was healthy. Although it certainly could afford to pay for the security of its nuclear facilities, it has not made doing so a priority in the past, and Russia's recent economic troubles diminish the likelihood that it will prioritize such spending now. This likely means some security upgrades in Russia will not be sustained.

Continuing Areas of Cooperation

Russia and the United States continue to work together on some nuclear security issues. Cooperation with the Russian regulator continues, as does cooperation with a handful of entities within and outside Rosatom. Russia has indicated that it remains interested in working on nuclear security-related issues in other countries. The United States and Russia will continue to work together to repatriate HEU in Kazakhstan and Poland.[29] Some Russian experts have proposed activities like retraining nuclear scientists in Iraq and Libya; strengthening nuclear security in Pakistan; training specialists on export controls in Afghanistan; improving radiation monitoring; and "assessing and modeling" nuclear terrorism threats.[30] Additionally, although Russia is not participating in preparations for the 2016 Nuclear Security Summit, U.S. officials are keeping Russian officials informed.

Russia and the United States will also continue to co-chair the Global Initiative to Combat Nuclear Terrorism (GICNT). The Global Initiative was established in 2006 and includes more than 80 countries.[31] In recent years, it has focused primarily on issues such as nuclear smuggling and emergency response, rather than on the security of facilities that store nuclear material, but that could change if the participants wanted it to.

Despite recent setbacks, it is still possible for the United States and Russia to use these remaining areas of cooperation to build a set of activities that includes a broader, more intensive dialogue based on mutual understanding of what is required for effective and sustainable nuclear security.

Recommendations

The current conflict between the United States and Russia over Ukraine has pitted traditional concepts of security that prioritize sovereignty and territorial borders against cooperation to address transnational threats like nuclear terrorism. Although U.S.-funded nuclear security upgrades in Russia were not suspended only because of this conflict, the conflict will make the resumption of cooperation in various areas and fora difficult. Unfortunately, in the current political climate, the United States and Russia are also unlikely to establish more substantial cooperation on nuclear security. Although the days of U.S.-driven and -financed improvements to Russian nuclear facilities are likely over, there is still work the countries could do together to reduce the risk of nuclear theft, if the political environment permits:

- The prospects for rebuilding nuclear security cooperation will be at least somewhat better if this work is part of a broader set of cooperative efforts between the two countries where there is an established consensus on mutual benefit, including work on environmental remediation and advancing the frontiers of science and engineering. As a first step, technical and scientific cooperation between the two countries should be reestablished. There are a broad range of areas in which scientists in both countries can cooperate. The U.S. Department of Energy should allow Russian scientists to conduct research in the United States and vice versa. Technical experts in both countries should identify areas where joint research could be conducted.

- The United States and Russia should expand cooperative work to address nuclear terrorism in third countries. This includes continuing repatriation of nuclear weapons-useable material in third countries. It also includes strengthening nuclear safety and security in states with both established and burgeoning civilian and military nuclear programs; training specialists on export controls; improving detection of nuclear smuggling;

sharing intelligence; and assessing and modeling nuclear terrorism threats. [32]

- The United States should reestablish – as equal partners – a dialogue with Russia about its nuclear security on the basis of equality, mutual benefit and respect. To be successful, there must be joint ownership in both countries of the cooperative relationship. This should include frequent workshops to exchange ideas and best practices; reciprocal visits to key facilities in each country to demonstrate different approaches to security; support for installation of equipment that both parties agree is needed; joint work on strengthening of material protection control and accounting practices and technologies; expanded training of nuclear security personnel; and sharing reports and briefings regarding terrorist threats, which can help reduce complacency.

- Both the United States and Russia should utilize international fora to continue dialogue on nuclear security. The Global Initiative to Combat Nuclear Terrorism would be a logical place for such a dialogue to take place. Additionally, the ongoing "P5 Process", involving the five officially recognized nuclear weapon states (China, France, Russia, the United Kingdom, and the United States), would be another possible forum for discussion of military materials. The P5 could have the added value of bringing additional countries with nuclear weapons and material other than the United States and Russia into discussions about how to improve nuclear security.

- Russia and the United States should make a commitment to protecting all of their stocks of nuclear weapons and nuclear material against the full range of plausible outsider and insider threats, outlining steps to achieve that goal, paving the road for other countries to travel.

- Russia and the United States should establish jointly-sponsored Centers for Nuclear Security in Russia and the United States where U.S. and Russians could work together on nuclear security and material accounting. The center could assess nuclear security challenges in countries around the world and identify and propose steps to mitigating those challenges. This cooperation should include frequent workshops to exchange ideas and best practices; reciprocal visits to key facilities in each country to demonstrate different approaches to security; support for installation of equipment that both parties agree is needed; joint work on strengthening of material protection control and accounting practices and technologies; and expanded training of nuclear security personnel. Above all, equality and mutual ownership must be integral features of the cooperative relationship.

The Future of Cooperation

Effective nuclear security cannot take place in isolation. States that make the decision to possess nuclear material implicitly take on a global responsibility to not only provide security for that material, but also to give other states confidence that effective security is in place. This rule applies as much to the United States, which has had its own recent problems with nuclear security, as it does to any other state with nuclear material.

At the same time, for nuclear security cooperation to be successful, it fundamentally needs to be about creating relationships, building trust, and fostering environments in which facilities, institutions, and governments can strengthen their capacity to provide effective nuclear security. Early in 2015, Rosatom alluded to this point when it stated it would be ready to return to nuclear energy and science cooperation when the American side was ready for that "and, certainly, strictly on the basis of equality, mutual benefit and respect."[33]

Disagreements about cooperation and differing approaches to security between countries are understandable. Different cultures develop their own perspectives based on unique historical contexts. One value of cooperation, however, is that it allows countries to bridge those gaps and develop better understandings of those cultures and perspectives.

There were many instances where U.S. and Russian officials and technical experts were able to work effectively together to create such environments, but there were also many where cooperation was characterized by an unequal donor-recipient relationship or by disagreement and mistrust.[34] That mistrust is far higher now, with Russia and the United States each seeing the other as implacably hostile. Given the stakes, though, nuclear security cooperation must transcend disputes between countries. Modest steps aimed at increasing trust and based on truly joint approaches, for which each side takes ownership, are likely to be essential to rebuilding much-needed cooperation.

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The views expressed are those of the author and do not necessarily reflect the views of Deep Cuts Commissioners or organizations associated with the Deep Cuts project.

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