

## U.S.-Russia Initiative to Prevent Nuclear Terrorism

### Российско-Американская инициатива по предотвращению ядерного терроризма

September - November 2017 newsletter Информационный бюллетень за сентябрь-ноябрь 2017 г



ИСКРАН

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#### NEWS:

##### **Upgrades of Protection Perimeter at Closed Nuclear City in Russia Go Wrong**

The police of Lesnoy, a closed nuclear city in Russia's Sverdlovsk region, have opened an investigation into the allegedly improper conduct of work to upgrade perimeter protections around the city, according to a Nov. 21, 2017, issue of the Russian Nuclear Security Update by Dmitry Kovchegin. This closed city is the site for Rosatom's Elektrokhimpribor Plant, which is currently considered one of two remaining weapon-assembly sites, according to the update. A recent report by Russia's Znak online news [portal](#) said the Lesnoy police believe that after the "upgrades" the security perimeter is no longer capable of preventing unauthorized entry.

##### **Russia Apparently Decides to Use HEU in New Reactors for Icebreakers**

Russia has apparently decided to develop HEU fuel for reactors that will power its new icebreakers, according to a November 2017 article on the [IPFM website](#). If true, this decision would run counter to its earlier plans to use LEU fuel in such reactors. Russia has been continuing to produce weapons-grade highly enriched uranium, and justifying this production with the explanation that its supplies of HEU are to be used as fuel in Germany's Forschungsreaktor München II reactor, according to renowned expert on Russia's nuclear enterprise [Pavel Podvig](#),

##### **U.S. and Russian Experts Weigh in on North Korea's Nuclear Missile Program**

The director of the Belfer Center for Science and International Affairs, Ash Carter, has called for a combination of deterrence and diplomacy to deal with the North Korean nuclear missile program while the center's executive director for research, Dr. Gary Samore, has pointed out that "Washington has not yet prepared a diplomatic game plan to counter North Korea's 'peace offensive,'" according to a survey of experts published in the Fall/Winter 2017-2018 issue of the center's [newsletter](#). The center's former director and Douglas Dillon professor of government at Harvard Kennedy School Graham Allison has [warned](#) that "the events now cascading on the Korean Peninsula [can] drag the U.S. and China into a great-power war" and [urged](#) Washington to explore whether Beijing would join the U.S. in "taking responsibility for North Korea" in exchange for delaying or even cancelling deployment of missile defenses in South Korea among other things. HKS professor of practice Matthew Bunn has called on the U.S. and North Korea to "explore means to reduce the risk of blundering into war." Dr. Siegfried Hecker of Stanford University's Center for International Security and Cooperation (CISAC) has penned an [op-ed](#) for the Oct. 17 issue of the Bulletin of Atomic Scientists in which he warns that "the Trump administration's undisciplined response to North Korea requires some political control rods to avoid a meltdown resulting in war." In his op-ed, Dr. Hecker urges Washington to talk to

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Pyongyang to lower tensions and avoid war. He [estimates](#) that North Korea had sufficient fissile materials for 25 to 30 nuclear weapons as of September 2017, while former chief of staff of the Russian Strategic Missile Forces Viktor Yesin [believes](#) the DPRK possesses 20-30 implosion-type nuclear devices. Col. Gen. Yesin, who now works as a senior researcher at the Institute for U.S. and Canadian Studies of the Russian Academy of Sciences, believes the North Korean leadership can be persuaded to freeze its nuclear missile program in exchange for assurances that force will not be used against the DPRK. Prof. Allison, Prof. Bunn, Dr. Samore, Dr. Hecker, and



*Carter*

*Samore*

*Allison*

*Hecker*

*Yesin*

Gen. Yesin participate in the work of the of the U.S.-Russia Initiative to Prevent Nuclear Terrorism.

### **France to Investigate Reported Nuclear Security Flaws**

France's National Assembly plans to look into whether any of the country's nuclear power plants are vulnerable to terrorist attacks. The French parliament announced the plan after Greenpeace had unveiled a report claiming that the spent-fuel pools of French utility EDF's nuclear reactors were highly vulnerable to attacks, Reuters reported. Greenpeace activists penetrated security perimeters and launched fireworks on the premises of EDF's Cattenom NPP in northeast France to prove how easy it is to break into a nuclear plant, according to the agency's Nov. 22 [report](#).

### **Mayak Denies Being Source of Ruthenium-106 Contamination**

Russian authorities confirmed on Nov. 21 that there had been a spike in radioactivity in the air over the Ural Mountains. The Russian Meteorological Service said in a statement that it recorded the release of ruthenium-106 in the southern Urals in late September and classified it as "extremely high contamination," according to an [AP](#) report. However, the suspected culprit, the Mayak nuclear fuel-processing plant, denied it was the source of the contamination.

### **NNSA Reports Say Some Nuclear Security Cooperation with Russia Continues**

The National Nuclear Security Administration released the Fiscal Year 2018 [Stockpile Stewardship and Management Plan](#) (SSMP) and [Strategic Plan to Reduce Global Nuclear Threats](#) (NPCR) on Nov. 15. The NPCR says the agency's Nuclear Material Removal is working closely with Russia to return Russian-origin weapon-grade materials from third countries. It also says that the U.S. continues to work toward fulfilling its commitment to dispose of 34 metric tons of surplus weapon-grade plutonium despite Russia's unilateral decision to suspend implementation of the U.S.-Russia Plutonium Management and Disposition Agreement. According to the NPCR, the NNSA has been carrying out monitoring visits in Russia under the terms of the U.S.-Russia Agreement Concerning Cooperation Regarding Plutonium Production Reactors and will conduct three more monitoring visits in Russia in FY 2018.

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#### **U.S. and China Hold Consultations on Countering Nuclear Smuggling**

The United States and China convened their second nuclear smuggling consultation on Nov. 9 in Shanghai according to [Eurasia Review](#). The two sides reaffirmed their resolve to counter the threat of nuclear terrorism, exchanged views on the threat of nuclear smuggling and explored opportunities for the two sides to work together to address this challenge, according to the report.

#### **Draft NDAA Sets Aside \$20B for Nuclear Security, Funds Construction of MOX Plant**

The reconciled version of the 2018 National Defense Authorization Act, which the U.S. Senate approved in mid-November after the House did the same, includes \$20.6 billion for nuclear national security programs, according to [Politico](#). The House version of the NDAA for FY 2018 also calls for continued construction of the Mixed Oxide (MOX) Fuel Fabrication Facility at the Savannah River site in South Carolina. The bill budgeted about \$340 million for the facility, according to the [Aiken Standard](#). The Trump administration has [said](#) it “strongly objects to continued construction” of the facility, which the U.S. committed to build under the now suspended U.S.-Russian Plutonium Management and Disposition Agreement.

#### **Spent Fuel of Plutonium Production Reactors Shipped from Zheleznogorsk to Ozyorsk**

The Krasnoyarsk Mining and Chemical Combine in Zheleznogorsk says it has completed removal of all spent fuel of plutonium-production reactors from the site according to a Nov. 21 article on the [IPFM website](#). The fuel was transferred to the Mayak reprocessing facility in Ozyorsk.

#### **Saradzhyan Testifies on Potential for U.S.-Russian Counter-Terrorism Cooperation**

The director of the Russia Matters project, Simon Saradzhyan, testified at a joint [hearing](#) entitled “Russia: Counterterrorism Partner or Fanning the Flames?” held by the Subcommittee on Terrorism, Nonproliferation and Trade and the Subcommittee on Europe, Eurasia and Emerging Threats of the House of Representatives Committee on Foreign Affairs on Nov. 7. In his testimony Mr. Saradzhyan noted that Russia can theoretically become an effective counter-terrorism partner for the U.S. because both countries share a vital interest in warding off terrorist threats posed by Islamist groups seeking to build a global caliphate and in preventing nuclear terrorism. For the U.S. and Russia to boost their counter-terrorism cooperation, however, they would first have to reconcile their differences over the conflicts in Syria and Ukraine, as well as over Russia’s alleged meddling in the U.S. presidential elections.



#### **Elbe Group Members Participate in Moscow Conference**

Under the [Elbe Group](#) initiative, Ambassador Douglas Lute and Brig. Gen. (retired) Kevin Ryan traveled to Moscow to participate in a conference on U.S.-Russia relations at the Russian General Staff Academy on Oct. 24. Retired Russian General of the Army Anatoly Kulikov, who is the senior Russian Elbe Group member, gave introductory and closing remarks at the

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conference, which was entitled "Russia-USA: Prospects for Mutual Relations—Enemies, Partners or Allies." The conference participants discussed the state of relations between the two countries and explored ways forward. The one point on which both U.S. and Russian speakers could agree was the necessity for mechanisms of military-to-military contact to reduce the risk of an accidental war, according to Gen. Ryan's account of the event. At the conference generals



Kulikov and Ryan also discussed the threat of nuclear terrorism and other items that will be on the agenda of the group's next meeting in March 2018. The members of the Elbe Group are senior U.S. and Russian retired military and intelligence flag officers, all of whom have strong connections with their governments.

*General Kulikov discusses the upcoming meeting of the Elbe Group with Amb. Lute and BG (ret) Ryan. Sitting in are Sergei Kulikov and interpreter Elena Mareeva.*

### **U.S. and Russian Experts Call for Preservation of the Nuclear Deal with Iran**

CISAC's Siegfried Hecker and the Belfer Center's John Holdren and Matthew Bunn were among 90 leading U.S. nuclear scientists to [sign](#) a letter to Congress on Oct. 30 urging American legislators to save the Joint Comprehensive Plan of Action. On Oct. 13 Trump refused to certify that Tehran was complying with the accord, giving Congress a mid-December deadline to decide whether to reinstate sanctions, according to the [Financial Tribune](#). In separate [comments](#), the Belfer Center's Gary Samore warned that an attempt by the U.S. to renegotiate the Iran nuclear deal would be doomed to fail, compelling Trump to face an unsavory choice: "unilaterally reimpose U.S. sanctions, which would be foolish and self-defeating, or back down, which will damage his credibility." Belfer Center's Graham Allison also favors preservation of the JCPOA. Prof. Allison [warned](#) in a recent Washington Post op-ed that decertification would effectively mean "a unilateral American withdrawal from the agreement, freeing Iran from its current constraints and allowing it to resume its quest for a bomb." "For all its flaws, the [Iran] nuclear agreement is the one major hurdle preventing Iran from becoming a second North Korea," Prof. Allison was [quoted](#) as saying in the Fall/Winter 2017-2018 issue of the Belfer Center's newsletter. The director of the U.S.-Russia Initiative to Prevent Nuclear Terrorism, William Tobey, also believes it would be a mistake for the United States to end the deal, primarily "because Iran has already reaped most of its benefits from the deal while ours accrue over time, and because doing so would deepen a fissure with our allies." Mr. Tobey earlier [participated](#) in a



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panel organized by the Wisconsin Project on Nuclear Arms Control to explore how to change the practices of the institutions responsible for implementing the JCPOA in order to increase transparency and make more information about the agreement public. Alexey Arbatov, director of the Center for International Security at the Moscow-based Institute of World Economy and International Relations (IMEMO), also supports preservation of the JCPOA. “This agreement should become a precedent for policy on strengthening the global regime of preventing proliferation of nuclear weapons,” Dr. Arbatov—whose center participates in the work of the U.S.-Russia Initiative to Prevent Nuclear Terrorism—[told](#) Voice of America. In Gen. Viktor Yesin’s [view](#), the JCPOA should not only be preserved but should serve as a model for an agreement for resolving the North Korean nuclear problem.



*Holdren*

*Bunn*

*Tobey*

*Arbatov*

### **Russia Reports Possession of 57 Tons of Civilian Plutonium**

Russia has reported 57.2 tons of civilian plutonium in its 2016 report to the International Atomic Energy Agency, according to an Oct. 21 article in the [IPFM Blog](#). The reported amount included 54.9 tons of plutonium in storage, 1.7 tons in unirradiated MOX and 0.6 tons stored elsewhere. The 2015 numbers were 53.1, 1.5 and 0.8 tons, respectively, for a total of 55.4 tons.

### **Rosatom Begins to Offer NPP Protection Systems to Foreign Customers**



Rosatom has decided to begin offering physical protection systems for nuclear power plants to its foreign customers, according to Nikolai Spassky, deputy director general of Rosatom. "The situation in the world is very turbulent, to put it mildly, so this year ... we made a very serious decision: We are ready to systematically support the countries where we build nuclear power plants in the construction of physical protection equipment," Spassky [said](#) on Oct. 20.

### **Putin Criticizes U.S. for Failing to Reciprocate in Nuclear Security Domain**

Russian President Vladimir Putin showered criticism on Washington for what he saw as lopsided nuclear security cooperation between the U.S. and Russia in a speech and question-answer session in Sochi on Oct. 19. During his three or so hours at the Valdai Discussion Club, Putin repeatedly emphasized his discontent with U.S.-Russian interactions in the area of nuclear security, blaming the U.S. for what he saw as a failure to reciprocate for Russia’s unilateral granting of access to its nuclear weapons facilities in the 1990s. Russia was largely to blame for putting itself “in such a humiliating situation as in the 1990s, when we allowed you into our nuclear facilities expecting a reciprocal reaction. But none came, and expecting one was probably stupid on the part of those who did so back then in the new Russia,” he said. In the 1990s several landmark agreements were signed—for example, [Nunn-Lugar](#) and the [agreement](#) on converting highly enriched uranium to low-enriched uranium, Putin said. As part of these

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agreements Americans made 620 inspection visits to the "holy of holies" of Russia's nuclear weapons complex, including enterprises developing weapons-grade plutonium and uranium, he said. The Russian side demonstrated unprecedented openness as part of this endeavor, Putin claimed. In response, Russia got its national interests fully ignored, the Russian leader complained.

#### **Stanford Offers Free Web Course on Nuclear Terrorism Threat**

Stanford University has released a new open online [course](#) (MOOC) entitled "The Threat of Nuclear Terrorism" created by former Secretary of Defense William J. Perry. The course, which was launched on Oct. 17, explores what can be done about the threat of nuclear terrorism. Graham Allison and Martha Crenshaw were among the scholars to have participated in teaching the course, according to Secretary Perry's [web page](#).

#### **Hecker, Nunn and Lugar Win American Nuclear Society Award**

Siegfried Hecker won the Dwight D. Eisenhower Award from the American Nuclear Society along with former Sens. Richard Lugar and Sam Nunn on Oct. 20. The trio were recognized for "historic achievements in the advancement of nuclear nonproliferation, arms control and peaceful uses of nuclear energy," according to a statement [issued](#) by the society

#### **Luxembourg Forum Holds Annual Conference**

The International Luxembourg Forum on Preventing Nuclear Catastrophe held its annual conference in Paris in October. The conference was to have focused on regional nuclear crises, primarily in connection with North Korea and Iran, as well as on security of nuclear materials, prevention of nuclear terrorism and denial of terrorist access to nuclear facilities, according to the forum's [website](#). Viktor Yesin and senior researcher of IMEMO's Center for International Security Vladimir Dvorkin took part in the conference along with 50 other experts from 15 countries.

#### **Bunn and Roth on Effect of a Nuclear Terrorist Bomb Explosion**

The Belfer Center's Matthew Bunn and Nickolas Roth have penned an [op-ed](#) for the Bulletin of Atomic Scientists that analyzes the hypothetical effects of a terrorist nuclear bomb explosion. "An act of nuclear terrorism could rip the heart out of a major city, and cause ripple effects throughout the world," they write. Given the horrifying consequences of such an event, the primary focus must be on prevention, according to Bunn and Roth. Prevention efforts should focus on revitalizing efforts to address remaining weakness in the sphere of nuclear security, improving anti-nuclear smuggling efforts and convincing states never to consciously provide nuclear weapons or materials to terrorists, according to the Sept. 28 op-ed.

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#### **Russian-Origin HEU Repatriated From Kazakhstan**

The United States, Russia, Kazakhstan and the IAEA have successfully completed removal of all HEU from the VVR-K reactor located at the Institute of Nuclear Physics in Kazakhstan's Alatau, according to a Sept. 19 story in the IPFM's [blog](#). The HEU was of Russian origin. "This final removal will make INP HEU-free, ensuring that a bad actor can never acquire material from the site for a nuclear weapon," [said](#) Dave Huizenga, the NNSA's deputy administrator. In a separate development, the NNSA [participated](#) in an October international workshop in Kazakhstan with stakeholders from government agencies, private industry and academia to address radioactive-source risks in the well-logging industry.

#### **U.S.-Ukrainian Exercise at Zaporizhia NPP**

Ukraine and the United States have held a joint exercise at Ukraine's Zaporizhia nuclear power plant. The exercise, which took place in September, was meant to simulate a response to a radiation spill at the plant, according to [Interfax](#).

#### **Russia Possesses 680 Tons of HEU**

A research report entitled "[The Use of Highly Enriched Uranium as Fuel in Russia](#)," released by the International Panel on Fissile Materials in September, estimates that Russia's HEU stockpile totals 680 tons and that Russia currently operates more HEU facilities than the rest of the world combined. According to the report, Russia has 58 reactors and critical assemblies that use HEU on land and over 50 HEU-fueled naval reactors. As of 2017, Russia is estimated to use about 8.5 tons of HEU of various enrichments annually, a large fraction of which is weapon-grade material, according to the report, which was edited by Pavel Podvig.

#### **Singapore Criminalizes Possession of Nuclear Materials or Explosive Devices**

Starting Sept. 1, it became a criminal offence to possess radioactive material or any nuclear explosive devices with the intention to cause harm in Singapore. Anyone who commits an act of terrorism using radioactive material or nuclear explosive devices will face the mandatory death penalty, according to the country's [Ministry of Home Affairs](#).

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#### **NOTABLE STATEMENTS ON NUCLEAR TERRORISM AND NUCLEAR SECURITY:**

- Director of Asian Studies at the American Enterprise Institute Dan Blumenthal: "Nuclear terrorism is definitely more possible today than it was years ago." ([Duke Chronicle](#), Nov. 17, 2017)
- Pope Francis: "You only have to note that nuclear technologies are spreading, partly because of digital communications, and the instruments of international law have not prevented new states from joining those already in possession of nuclear weapons. The resulting scenarios are deeply disturbing if we consider the challenges of contemporary geopolitics, like terrorism or asymmetric warfare." ([New Vision/AFP](#), Nov. 11, 2017)
- Senior policy analyst at the Center for Arms Control and Non-Proliferation Sara Z. Kutchesfahani: "Make America Great Again is a simple slogan, but the work to make it a

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reality is anything but simple. Part of that effort requires keeping America safe and that isn't possible without a strong, White House-supported nuclear security agenda that keeps prevention of nuclear terrorism a top priority.” ([The Hill](#), Oct. 20, 2017)

- Brig. Gen. (retired) Kevin Ryan on Elbe Group: “We created the Elbe Group to pull experts together to discuss the threat of terrorists getting nuclear weapons. And getting nuclear weapons doesn't mean just getting a nuclear bomb that's already made, say, by the United States or Pakistan. It means making a nuclear weapon. And that terrorists in a country like Afghanistan or Pakistan up in the mountains could make a nuclear device – not just a dirty weapon, but one that would implode and give a nuclear yield. This idea is still difficult for many people to accept and support. And we felt that it was a threat that was being underrated. That is the nuclear terrorist threat we were concerned about.” ([Jewish Policy Center](#), Sept. 27, 2017)
- U.S. Secretary of State Rex Tillerson: “The current nuclear powers, must recommit to sound nuclear security practices and robust and effective non-proliferation efforts in order to keep nuclear weapons and associated materials and technology out of the hands of irresponsible nations, terrorists, and non-state actors.” ([State.gov](#), Sept. 21, 2017).
- Carnegie Endowment's non-resident senior fellow Ariel Levite and co-director of the Nuclear Policy Program Toby Dalton: “China and Russia both derive important benefits from the existing nuclear order, and they stand to gain more influence if their share of the world's nuclear energy business increases. Neither wishes to see its nuclear technology misused or abused by a client state, resulting in a damaging accident, nuclear terrorism, or the spread of nuclear weapons. Yet there is serious doubt whether either country sufficiently prioritizes the development of safety and security best practices in its cooperation with client states.” ([Carnegie Endowment](#), Sept. 7, 2017)

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#### **UPCOMING EVENTS:**

- Dec. 8, 2017: 30th anniversary of the signing the Intermediate-Range Nuclear Forces Treaty.
- Feb. 5, 2018: New START Treaty due date for U.S. and Russia to reach a limit of 1,550 warheads on deployed strategic delivery systems each.
- March 18, 2018: Presidential elections in Russia.
- July 11-12, 2018. NATO summit in Brussels.

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#### **CALL FOR PAPERS, ARTICLES AND COMMENTARY:**

[The U.S.-Russia Initiative to Prevent Nuclear Terrorism \(IPNT\)](#) solicits papers, articles and commentary on nuclear terrorism and nuclear security from readers for inclusion in the newsletter and publication on the Initiative's website. Contact Simon Saradzhyan at (phone) +1-617-496-8228, (fax) +1-617-495-8963 or [simon\\_saradzhyan@hks.harvard.edu](mailto:simon_saradzhyan@hks.harvard.edu).



## **CREDITS:**

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***The Working Group of the U.S.-Russia Initiative to Prevent Nuclear Terrorism includes the following institutions:***

***В рабочей группе по осуществлению Американо-Российской инициативы по предотвращению ядерного терроризма состоят следующие организации:***

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