

House Foreign Affairs Committee
Subcommittee on Europe

Going Nuclear on Rosatom:

Ending Global Dependence on Putin's Nuclear Energy Sector

ANTHONY RUGGIERO

Adjunct Senior Fellow
Foundation for Defense of Democracies

Washington, DC
March 12, 2024

Chairman Kean, Ranking Member Keating, and distinguished members of this subcommittee, thank you for the opportunity to address you today on this important issue.

My testimony will review the role of Rosatom, Russia's state-run nuclear corporation, in China's nuclear weapons program, the company's role in a potential nuclear disaster at Ukraine's Zaporizhzhia Nuclear Power Plant (ZNPP), how the United States and its allies work with the company, and how Rosatom's senior management may qualify for sanctions. The Biden administration has responded to Rosatom's activities with only a handful of sanctions designations. In March 2022, President Biden expanded Executive Order 14024 to prohibit new investment in Russia's energy sector, but the order failed to determine that nuclear energy imports are subject to sanctions or to threaten secondary sanctions against foreign business with Rosatom. Only in February 2023 did the Biden administration begin sanctioning a few Russian nuclear and Rosatom-linked individuals and entities.¹ The State Department sanctioned three Rosatom subsidiaries last month as part of the administration's actions on the two-year anniversary of the war in Ukraine.² While the administration sanctioned over 500 entities and individuals, it did not sanction Rosatom's senior leadership or articulate a plan to reduce reliance on the Russian nuclear industry.

In 2022, Rosatom claimed that its export revenue increased by 15 percent over the previous year, and the company boasted that it has a 10-year portfolio of foreign orders worth \$200 billion.³ Last November, the company's general director forecast that Rosatom's 2023 unclassified revenue would increase by 40 percent, with export revenue growing by around 25 percent to \$14 billion.⁴ Despite the war in Ukraine, the United States and Europe continue to purchase hundreds of millions of dollars in Rosatom goods and services annually.⁵

¹ U.S. Department of State, Fact Sheet, "The United States Takes Sweeping Actions on the One Year Anniversary of Russia's War Against Ukraine," February 24, 2023. (<https://www.state.gov/the-united-states-takes-sweeping-actions-on-the-one-year-anniversary-of-russias-war-against-ukraine>); U.S. Department of State, Fact Sheet, "Further Curbing Russia's Efforts to Evade Sanctions and Perpetuate its War Against Ukraine," April 12, 2023. (<https://www.state.gov/further-curbing-russias-efforts-to-evade-sanctions-and-perpetuate-its-war-against-ukraine>);

U.S. Department of State, Fact Sheet, "United States Imposes Additional Sanctions and Export Controls on Russia in Coordination with International Partners," May 19, 2023. (<https://www.state.gov/united-states-imposes-additional-sanctions-and-export-controls-on-russia>); U.S. Department of State, Fact Sheet, "Imposing Additional Sanctions on Those Supporting Russia's War Against Ukraine," July 20, 2023. (<https://www.state.gov/imposing-additional-sanctions-on-those-supporting-russias-war-against-ukraine>)

² U.S. Department of State, Fact Sheet, "Responding to Two Years of Russia's Full-Scale War On Ukraine and Navalny's Death," February 23, 2024. (<https://www.state.gov/imposing-measures-in-response-to-navalnys-death-and-two-years-of-russias-full-scale-war-against-ukraine>)

³ "Russia's Rosatom sees 2022 exports growth at 15% - report," *Reuters*, December 25, 2022. (<https://www.reuters.com/business/energy/russias-rosatom-sees-2022-exports-growth-15-report-2022-12-26>)

⁴ "Росатом анонсирует в 2023 году выручку в открытой части более чем в 2 трлн рублей [Rosatom announces revenue in the open part of more than 2 trillion rubles in 2023]," *TASS* (Russia), November 28, 2023. (<https://tass.ru/ekonomika/19400673>); "Зарубежная выручка Росатома в 2023 году составит около \$14 млрд [Rosatom's foreign revenue in 2023 will be about \$14 billion]," *TASS* (Russia), November 28, 2023. (<https://tass.ru/ekonomika/19399031>)

⁵ Martha Mendoza and Dasha Litvinova, "Putin Profits Off U.S. and European Reliance on Russian Nuclear Fuel," *Associated Press*, August 10, 2023. (<https://apnews.com/article/russia-ukraine-war-us-europe-nuclear-exports-4129cbea2aaa69b1da5d09a41804f745>)

Clearly, there is still no leadership from Washington on Russia's nuclear activities and no broad deterrent to countries funding this critical Kremlin revenue stream, which empowers Russia and undermines our Ukraine policy. Moreover, Moscow has shown it is not a reliable energy partner. America and its allies cannot return to business as usual with Rosatom even after the war in Ukraine. My testimony will show that the United States should use its sanctions authorities to lead an effort to end reliance on Russia's nuclear sector. These sanctions should be part of a coordinated strategy to incentivize a transition to U.S. and allied nuclear industries as alternative suppliers over a four-year period to end Russia's domination and ensure that China does not fill the void. If the Biden administration is unwilling to pursue this path, Congress should mandate it through legislation.

Rosatom's Links to China's Nuclear Weapons Program

In late March 2023, Rosatom and China's Atomic Energy Authority signed a cooperation agreement during Chinese President Xi Jinping's visit to Russia.⁶ Rosatom noted that the agreement expanded cooperation on current projects and "cooperation for decades to come."⁷ China's foreign ministry spokesman claimed that "China and Russia carry out normal civilian nuclear cooperation within the framework of international obligations and bilateral governmental agreements."⁸ There is unmistakable evidence, however, that Sino-Russian nuclear cooperation plays a critical role in enhancing Beijing's nuclear weapons capabilities.

The Department of Defense's (DOD's) 2023 report to Congress on China's military developments highlighted that China is "constructing, with Russian assistance including in the form of highly enriched uranium (HEU) supply, two CFR-600 sodium-cooled fast breeder nuclear reactors at Xiapu, each capable of producing enough plutonium for dozens of nuclear warheads annually."⁹

Bloomberg cited unnamed Pentagon officials who said that on December 12, 2022, Rosatom delivered the HEU fuel supply for China's Changbiao Island reactor near Taiwan.¹⁰ The 2023 DOD report noted that China changed from Russian-sourced mixed oxide fuel to HEU fuel, which "has the potential to generate additional weapons-grade plutonium."¹¹

⁶ "China and Russia sign fast-neutron reactors cooperation agreement," *World Nuclear News*, March 22, 2023. (<https://www.world-nuclear-news.org/Articles/China-and-Russia-to-cooperate-on-fast-neutron-reactor>)

⁷ Ibid.

⁸ Jonathan Tirone, "China, Russia Deepen Nuclear Concord That Concerns Pentagon," *Bloomberg*, March 22, 2023. (<https://www.bloomberg.com/news/articles/2023-03-22/china-russia-deepen-nuclear-concord-that-has-pentagon-on-edge?sref=3OIZCXOE>)

⁹ U.S. Department of Defense, Annual Report to Congress, "Military and Security Developments Involving the People's Republic of China," 2023. (<https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>)

¹⁰ Jonathan Tirone, "China's Imports of Russian Uranium Spark Fear of New Arms Race," *Bloomberg*, February 28, 2023. (<https://www.bloomberg.com/news/articles/2023-03-01/china-nuclear-trade-with-russia-risks-tipping-military-balance?sref=3OIZCXOE>)

¹¹ U.S. Department of Defense, Annual Report to Congress, "Military and Security Developments Involving the People's Republic of China," 2023. (<https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>)

On March 8, 2023, John F. Plumb, the assistant secretary of defense for space policy, told the House Armed Services Committee’s Subcommittee on Strategic Forces that the cooperation is “very troubling.”¹² Plumb went further, explaining that “there’s no getting around the fact that breeder reactors are plutonium, and plutonium is for [nuclear] weapons.”¹³ The Pentagon reinforced its concerns by issuing a press release specifically highlighting this issue from Plumb’s testimony.¹⁴

The 2023 DOD report dismissed China’s claims that its nuclear cooperation with Russia allows Beijing to “achieve its civilian nuclear power and carbon neutrality objectives.”¹⁵ The report notes that China “described the CFR-600s as a ‘national defense investment project’ subject to military nuclear facility regulations.”¹⁶

In October 2023, Plumb delivered remarks at a Brookings Institution event and explained that China’s fissile material production through the CFR-600 would allow Beijing to develop “more and more diverse nuclear weapons systems,” allowing China to “field an arsenal of about 1,500 nuclear warheads by 2035.”¹⁷ Thus, the West’s continued purchases from Rosatom, in part, fuel China’s nuclear weapons expansion.

Rosatom’s Role in a Potential Nuclear Disaster in Ukraine

In March 2022, Russia seized Ukraine’s ZNPP, the largest nuclear plant in Europe. Rosatom engineers took over responsibility for running the plant.¹⁸ Information that has emerged since the takeover suggests the risk of a disaster in the making.

The Wall Street Journal reported in June 2022 that Russians at the plant wore uniforms with Rosatom’s insignia and inspected the belongings of plant employees to assess their loyalty to Ukraine.¹⁹ Months later, the *Journal* reported the Russians tortured hundreds of workers,

¹² David Vergun, “Russia Reportedly Supplying Enriched Uranium to China,” U.S. Department of Defense, March 8, 2023. (<https://www.defense.gov/News/News-Stories/Article/Article/3323381/russia-reportedly-supplying-enriched-uranium-to-china>)

¹³ Ibid.

¹⁴ David Vergun, “Russia Reportedly Supplying Enriched Uranium to China,” U.S. Department of Defense, March 8, 2023. (<https://www.defense.gov/News/News-Stories/Article/Article/3323381/russia-reportedly-supplying-enriched-uranium-to-china>); Anthony Ruggiero and Andrea Stricker, “Russia is Fueling China’s Nuclear Weapons Expansion,” *Foundation for Defense of Democracies*, March 13, 2023. (<https://www.fdd.org/analysis/2023/03/13/russia-fueling-china-nuclear-weapons-expansion>)

¹⁵ U.S. Department of Defense, Annual Report to Congress, “Military and Security Developments Involving the People’s Republic of China,” 2023. (<https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>)

¹⁶ Ibid.

¹⁷ John F. Plumb, “ASD Space Policy Keynote Address for Brookings Panel on 2023 DoD Countering Weapons of Mass Destruction Policy (As Prepared),” October 18, 2023. (<https://www.defense.gov/News/Speeches/Speech/Article/3561602/asd-space-policy-keynote-address-for-brookings-panel-on-2023-dod-countering-wea>)

¹⁸ Drew Hinshaw and Joe Parkinson, “Russians Hunt for Spies at Ukrainian Nuclear Power Plant,” *The Wall Street Journal*, June 17, 2022. (<https://www.wsj.com/articles/ukrainian-nuclear-plant-zaporizhzhia-russia-spies-11655474931>)

¹⁹ Ibid.

including Ihor Murashov, ZNPP's director general, in their quest to find spies at the plant.²⁰ Murashov and other staff told the *Journal* that Russia's Federal Security Service operated underground prisons near the plant "where they struck detained workers with rifle butts and batons, shot them in the feet and elbows, deprived them of food and attached electrodes to their ears and fingers."²¹

In late August 2022, my FDD colleagues, Orde Kittrie and Andrea Stricker, and I organized a letter to President Joe Biden from a bipartisan group of 26 nuclear nonproliferation experts calling for action regarding the dangerous situation at ZNPP.²² We urged Biden to prioritize an International Atomic Energy Agency (IAEA) visit to ZNPP "to ensure its operations are safe and secure."²³ Shortly thereafter, IAEA Director General Rafael Grossi led a team of IAEA experts to the plant, and IAEA experts have remained at the facility since then.²⁴ The agency has documented the precarious situation at the facility in which Russian shelling in the vicinity of the plant, periodic reactor shutdowns, and power supply issues create an "extremely fragile" situation with "very real potential dangers of a major accident."²⁵ Grossi told the United Nations Security Council on January 25 that a nuclear accident has not happened, but "complacency could still lead us to tragedy. That should not happen. We must do everything in our power to minimize the risk that it does."²⁶

U.S. and European Allies' Continued Relationship with Rosatom

The United States and its European allies reportedly continue to purchase hundreds of millions of dollars in Rosatom products and services each year, undermining their own efforts to restrict Moscow's revenue and force an end to the Ukraine war.²⁷

²⁰ Drew Hinshaw and Joe Parkinson, "'The Hole': Gruesome Accounts of Russian Occupation Emerge From Ukrainian Nuclear Plant," *The Wall Street Journal*, November 18, 2022. (<https://www.wsj.com/articles/russian-occupation-of-nuclear-plant-turns-brutal-with-accusations-of-torture-and-beatings-11668786893>)

²¹ Drew Hinshaw and Joe Parkinson, "'The Hole': Gruesome Accounts of Russian Occupation Emerge From Ukrainian Nuclear Plant," *The Wall Street Journal*, November 18, 2022. (<https://www.wsj.com/articles/russian-occupation-of-nuclear-plant-turns-brutal-with-accusations-of-torture-and-beatings-11668786893>)

²² "Letter on Russia's Illegal Seizure and Mistreatment of Ukraine's Zaporizhzhya Nuclear Power Plant," Foundation for Defense of Democracies, August 24, 2022. (<https://www.fdd.org/analysis/2022/08/24/letter-to-president-biden>)

²³ "Letter on Russia's Illegal Seizure and Mistreatment of Ukraine's Zaporizhzhya Nuclear Power Plant," Foundation for Defense of Democracies, August 24, 2022. (<https://www.fdd.org/analysis/2022/08/24/letter-to-president-biden>)

²⁴ Uliana Pavlova, Olga Voitovych, Sarah Dean, Hannah Ritchie, and Tara John, "IAEA inspectors visit Zaporizhzhia nuclear plant despite shelling," *CNN*, September 1, 2022. (<https://www.cnn.com/2022/09/01/europe/ukraine-zaporizhzhia-iaea-inspectors-intl/index.html>)

²⁵ International Atomic Energy Agency, Press Release, "Update 208 – IAEA Director General Statement on Situation in Ukraine," January 26, 2024. (<https://www.iaea.org/newscenter/pressreleases/update-208-iaea-director-general-statement-on-situation-in-ukraine>)

²⁶ Ibid.

²⁷ Martha Mendoza and Dasha Litvinova, "Putin Profits Off U.S. and European Reliance on Russian Nuclear Fuel," *Associated Press*, August 10, 2023. (<https://apnews.com/article/russia-ukraine-war-us-europe-nuclear-exports-4129cbea2aaa69b1da5d09a41804f745>)

In February 2023, my FDD colleague, Andrea Stricker, and I published a memo describing the relationship between Rosatom, the United States, and European allies.²⁸ We noted at the time that the administration had not sanctioned Rosatom or its subsidiaries because of a fear of proceeding with sanctions without European Union consensus. The administration has also been hesitant to rattle energy markets or sanction Russian nuclear supplies since it takes time to develop alternative supplies. Yet at the same time, Washington's failure to lead on Rosatom sanctions diminishes market incentives for alternatives and swift action by governments.

Kathryn Huff, assistant secretary of energy for nuclear energy, told the *Financial Times* in November that it is "gravely concerning" that Russia supplies about 20 percent of the fuel used by U.S. nuclear reactors.²⁹ She noted that Russia controls nearly 50 percent of global enrichment capacity and had undermined "the U.S. nuclear supply chain over many years by dumping cheap enriched uranium products on world markets."³⁰ Russia's share of the market is expected to drop to 37.5 percent by 2030 — but only because of an increase in China's enrichment capacity.³¹

The United States still lacks its own commercial enrichment sector, although there has been recent progress in opening a new facility in Ohio.³² The European enrichment consortium, URENCO, is working on increasing enrichment capacity, including at its U.S.-, Germany-, and Netherlands-based plants.³³ France's Orano announced a plan to increase enrichment capacity by 30 percent.³⁴ Both of these developments should increase non-Russian enrichment capacity by 2028 at the earliest.³⁵

In December, the United States, Canada, France, Japan, and the United Kingdom — the Sapporo 5 — announced plans for \$4.2 billion in government and private funding to "develop a secure, reliable global nuclear energy supply chain."³⁶ The Sapporo 5 linked the announcement to a pledge by 22 countries to triple nuclear energy capacity by 2050.³⁷ The announcement

²⁸ Andrea Stricker and Anthony Ruggiero, "Ending Global Reliance on Russia's Nuclear Energy Sector," *Foundation for Defense of Democracies*, February 3, 2023. (<https://www.fdd.org/analysis/2023/02/03/ending-global-reliance-on-russias-nuclear-energy-sector>)

²⁹ Jamie Smyth, "US says reliance on Russian nuclear fuel presents national security risk," *Financial Times* (UK), November 7, 2023. (<https://www.ft.com/content/2c9c325e-e734-4a9f-b089-2f64deebc658>)

³⁰ Ibid.

³¹ "Uranium Enrichment," *World Nuclear Association*, updated October 2022. (<https://world-nuclear.org/information-library/nuclear-fuel-cycle/conversion-enrichment-and-fabrication/uranium-enrichment.aspx>)

³² "Enrichment operations start at US HALEU plant," *World Nuclear News*, October 12, 2023. (<https://www.world-nuclear-news.org/Articles/Enrichment-operations-start-at-US-HALEU-plant>)

³³ Jamie Smyth and Sarah White, "The US plan to break Russia's grip on nuclear fuel," *Financial Times* (UK), January 22, 2024. (<https://www.ft.com/content/a6d584ea-e31a-4a8a-b1a3-9ce36466ba0f>)

³⁴ Ibid.

³⁵ Ibid.

³⁶ U.S. Department of Energy, Press Release, "At COP28, U.S., Canada, France, Japan, and UK Announce Plans to Mobilize \$4.2 Billion for Reliable Global Nuclear Energy Supply Chain," December 7, 2023. (<https://www.energy.gov/articles/cop28-us-canada-france-japan-and-uk-announce-plans-mobilize-42-billion-reliable-global>)

³⁷ U.S. Department of Energy, Press Release, "At COP28, Countries Launch Declaration to Triple Nuclear Energy Capacity by 2050, Recognizing the Key Role of Nuclear Energy in Reaching Net Zero," December 1, 2023. (<https://www.energy.gov/articles/cop28-countries-launch-declaration-triple-nuclear-energy-capacity-2050-recognizing-key>); U.S. Department of Energy, Press Release, "At COP28, U.S., Canada, France, Japan, and UK

highlighted that these investments would occur over the next three years and “enhance uranium enrichment and conversion capacity” to “establish a resilient global uranium supply market free from Russian influence.”³⁸

The Sapporo 5 noted that they are responsible for 50 percent of the world’s uranium conversion and enrichment production capacity.³⁹ While these were important declarations, implementation could be a challenge given China’s rise and unclear pathway to achieve the \$4.2 billion investment. The group will need to ensure that any effort to incentivize non-Russian nuclear energy capacity is not backfilled by China.

In the European Union, Hungary maintains friendly ties with Moscow and has objected to the bloc imposing sanctions on Rosatom. Hungary has reportedly approached France to increase Paris’ role in the Hungarian nuclear program likely because Budapest realizes that returning to business as usual with Russia is not possible.⁴⁰ It is unclear if this new approach will lessen Hungary’s opposition to EU sanctions on Rosatom. In February 2023, Hungary criticized the German government for blocking a permit to allow Siemens to ship equipment to Hungary’s Paks Nuclear Power Plant that Rosatom is building.⁴¹

In December 2021, France’s Framatome and Rosatom extended a 2017 memorandum of understanding with a new strategic agreement on fuel fabrication and other technologies.⁴² In October, Siemens’ supervisory board chairman dismissed calls to cease business with Rosatom, noting that it would be very expensive.⁴³

Announce Plans to Mobilize \$4.2 Billion for Reliable Global Nuclear Energy Supply Chain,” December 7, 2023. (<https://www.energy.gov/articles/cop28-us-canada-france-japan-and-uk-announce-plans-mobilize-42-billion-reliable-global>)

³⁸ U.S. Department of Energy, Press Release, “At COP28, U.S., Canada, France, Japan, and UK Announce Plans to Mobilize \$4.2 Billion for Reliable Global Nuclear Energy Supply Chain,” December 7, 2023. (<https://www.energy.gov/articles/cop28-us-canada-france-japan-and-uk-announce-plans-mobilize-42-billion-reliable-global>)

³⁹ Ibid.

⁴⁰ Marton Dunai, Henry Foy, and Leila Abboud, “Hungary in talks with France over role in Russian-led nuclear plant,” *Financial Times* (UK), March 23, 2023. (<https://www.ft.com/content/52707196-4882-45af-9342-59413472c443>)

⁴¹ “Germany ‘blocking’ equipment for Paks reactors, Hungarian minister says,” *Reuters*, February 14, 2023. (<https://www.reuters.com/article/idUSL1N34U1M2>)

⁴² “Framatome and Rosatom expand cooperation,” *World Nuclear News*, December 2, 2021. (<https://world-nuclear-news.org/Articles/Framatome-and-Rosatom-expand-cooperation>)

⁴³ Petra Sorge, “Germany’s Siemens Energy Chairman Defends Business With Rosatom,” *Bloomberg*, October 28, 2023. (<https://www.bloomberg.com/news/articles/2023-10-28/germany-s-siemens-energy-chairman-defends-business-with-rosatom?sref=3OIZCXOE>)

The Czech Republic, Bulgaria, Finland, and Ukraine have moved away from Rosatom by importing nuclear fuel from Westinghouse or Framatome.⁴⁴ Bulgaria, Finland, and Ukraine are building new reactors that are not supplied by Rosatom.⁴⁵

Last month, U.S. partner Egypt showcased its ongoing cooperation with Rosatom. Putin participated in a virtual meeting with his Egyptian counterpart highlighting Rosatom's construction of a fourth unit of a nuclear reactor complex in Egypt.⁴⁶ Russia is also building reactors in India, Hungary, Turkey, and Bangladesh.⁴⁷

Rosatom Executives May Qualify for U.S. Sanctions

My FDD colleague, Andrea Stricker, and I published a memo in December 2023 detailing how Rosatom executives may qualify for U.S. sanctions. Targeting senior executives of companies is a viable sanctions strategy. In fact, Deputy Secretary of the Treasury Wally Adeyemo in August 2023 extolled the virtues of that approach when the department sanctioned the supervisory board of one of the largest Russian financial and investment conglomerates.⁴⁸ Adeyemo explained that “Wealthy Russian elites should disabuse themselves of the notion that they can operate business as usual while the Kremlin wages war against the Ukrainian people.”⁴⁹

The United States has not sanctioned Rosatom's director general, Alexey Likhachev, even though he sits on the organization's supervisory board and chairs Rosatom's management board.⁵⁰ By contrast, the United Kingdom, Australia, New Zealand, and Ukraine have sanctioned Likhachev.⁵¹ Likhachev travels internationally to conclude deals, including signing Rosatom's

⁴⁴ “US Westinghouse to supply fuel to both Czech nuclear plants,” *Associated Press*, March 29, 2023. (<https://apnews.com/article/czech-westinghouse-nuclear-fuel-cez-rosatom-42bd1f8b2be09fa9cb218157bfd122c3>); “Bulgaria is launching the construction of 2 US-designed nuclear reactors,” *Associated Press*, October 25, 2023. (<https://apnews.com/article/bulgaria-us-nuclear-reactors-westinghouse-energy-72ae5b4e70b87194ff2fc65f10503757>); Anne Kauranen, “Finnish group ditches Russian-built nuclear plant plan,” *Reuters*, May 2, 2022. (<https://www.reuters.com/world/europe/finnish-group-ditches-russian-built-nuclear-plant-plan-2022-05-02>); Pavel Polityuk, “Exclusive: Ukraine to start building 4 new nuclear reactors this year,” *Reuters*, January 25, 2024. (<https://www.reuters.com/business/energy/ukraine-start-building-4-new-nuclear-reactors-this-year-minister-2024-01-25>)

⁴⁵ “Bulgaria is launching the construction of 2 US-designed nuclear reactors,” *Associated Press*, October 25, 2023. (<https://apnews.com/article/bulgaria-us-nuclear-reactors-westinghouse-energy-72ae5b4e70b87194ff2fc65f10503757>); Anne Kauranen, “Finnish group ditches Russian-built nuclear plant plan,” *Reuters*, May 2, 2022. (<https://www.reuters.com/world/europe/finnish-group-ditches-russian-built-nuclear-plant-plan-2022-05-02>); Pavel Polityuk, “Exclusive: Ukraine to start building 4 new nuclear reactors this year,” *Reuters*, January 25, 2024. (<https://www.reuters.com/business/energy/ukraine-start-building-4-new-nuclear-reactors-this-year-minister-2024-01-25>)

⁴⁶ “Putin, Sisi mark new phase of Egypt's Russian-built nuclear plant,” *Reuters*, January 23, 2024. (<https://www.reuters.com/business/energy/putin-sisi-mark-new-phase-egypts-russian-built-nuclear-plant-2024-01-23>)

⁴⁷ *Ibid.*

⁴⁸ U.S. Department of the Treasury, Press Release, “Treasury Imposes Sanctions on Russian Elites and Russian Business Association,” August 11, 2023. (<https://home.treasury.gov/news/press-releases/jy1690>)

⁴⁹ *Ibid.*

⁵⁰ Andrea Stricker and Anthony Ruggiero, “Radioactive: Executives from Russia's Rosatom Corporation May Qualify for U.S. Sanctions,” *Foundation for Defense of Democracies*, December 6, 2023. (<https://www.fdd.org/analysis/2023/12/06/radioactive-executives-from-russia-rosatom-sanctions>)

⁵¹ *Ibid.*

cooperation agreement with China's Atomic Energy Authority.⁵² He also traveled to Kyrgyzstan in June and to Myanmar in October to sign nuclear cooperation agreements.⁵³ U.S. sanctions could lead other countries to think twice before welcoming Likhachev to sign cooperation agreements.

Rosatom's supervisory board includes high-level Russian officials. Of the nine members, the United States and the United Kingdom have sanctioned seven.⁵⁴ However, Washington sanctioned these officials for other problematic activities. Issuing new sanctions for their Rosatom roles will reinforce that the administration is serious about addressing the issue.

SUPERVISORY BOARD OF RUSSIA'S ROSATOM CORPORATION

Sanctioned by US: 7 / 9

Sanctioned by UK: 7 / 9

Not Sanctioned by US or UK

 <p>Sergey Kirienko Chairman of the Board First Deputy Chief of the Presidential Executive Office Former Prime Minister Former General Director</p>	 <p>Larissa Brychyova Board Member Assistant to President of Russia, Head of the Legal Department, Presidential Administration</p>	 <p>Sergey Korolev Board Member Head of the Economic Security Service, Federal Security Service</p>
 <p>Alexey Likhachev Board Member Director General</p>	 <p>Denis Manturov Board Member Deputy Prime Minister of the Russian Federation – Minister of Industry and Trade</p>	 <p>Alexander Novak Board Member Deputy Prime Minister for Fuel Energy Complex Former Minister of Energy</p>
 <p>Maxim Oreshkin Board Member Assistant to President of Russia, Deputy Chief of the Government Staff</p>	 <p>Yuri Trutnev Board Member Deputy Chairman of the Government of the Russian Federation and Representative of the President of the Russian Federation in the Far East Federal district</p>	 <p>Yuri Ushakov Board Member Assistant to President of Russia</p>

FDD Memo by Andrea Stricker and Anthony Ruggiero, "Radioactive: Executives from Russia's Rosatom Corporation May Qualify for U.S. Sanctions"

⁵² "China and Russia sign fast-neutron reactors cooperation agreement," *World Nuclear News*, March 22, 2023. (<https://www.world-nuclear-news.org/Articles/China-and-Russia-to-cooperate-on-fast-neutron-reactor>)

⁵³ "Kyrgyzstan and Rosatom agree nuclear healthcare cooperation," *World Nuclear News*, June 9, 2023. (<https://www.world-nuclear-news.org/Articles/Kyrgyzstan-and-Rosatom-agree-nuclear-healthcare-co>); "Myanmar and Russia sign nuclear infrastructure MoU," *World Nuclear News*, October 11, 2023. (<https://www.world-nuclear-news.org/Articles/Myanmar-and-Russia-sign-nuclear-infrastructure-MoU>)

⁵⁴ Andrea Stricker and Anthony Ruggiero, "Radioactive: Executives from Russia's Rosatom Corporation May Qualify for U.S. Sanctions," *Foundation for Defense of Democracies*, December 6, 2023. (<https://www.fdd.org/analysis/2023/12/06/radioactive-executives-from-russia-rosatom-sanctions>)

Rosatom's 14-person management board establishes "strategies, policies and objectives" for the company.⁵⁵ But Washington has not sanctioned anyone on the management board. By contrast, the United Kingdom sanctioned the entire board almost a year ago in March 2023.⁵⁶

MANAGEMENT BOARD OF RUSSIA'S ROSATOM CORPORATION

Sanctioned by US: 0 / 14 | Sanctioned by UK: 14 / 14

 Alexey Likhachev Chairman of the board Director General	 Konstantin Denisov Deputy Director General for Security	 Kirill Komarov First Deputy Director General for Development and International Business	 Oleg Kryukov Director for Public Policy on Radioactive Waste, Spent Nuclear Fuel and Nuclear Decommissioning	 Alexander Lokshin First Deputy Director General for Nuclear Energetics	 Andrey Nikipelov Deputy Director General for Mechanical Engineering and Industrial Solutions	 Sergey Novikov State Secretary – Deputy Director General for Execution of State Powers and Budgeting
 Sergey Obozov Deputy Director General for Development of ROSATOM's Production System	 Yuri Olenin Deputy Director General for Science and Strategy	 Ilia Rebrov Deputy Director General for Economy and Finance	 Vyacheslav Ruksha Deputy Director General, Director for the Northern Sea Route Directorate	 Nikolay Spasskiy Deputy Director General for International Relations	 Yuri Yakovlev Deputy Director General for the State Safety Policy in the Defense Uses of Atomic Energy	 Andrei Yuvnal'yevich Petrov Director-General, Rosenergoatom

FDD Memo by Andrea Stricker and Anthony Ruggiero, "Radioactive: Executives from Russia's Rosatom Corporation May Qualify for U.S. Sanctions"

The management board plays an important role in Rosatom's overseas nuclear business, and sanctioning them would send a strong signal to the market. Nikolay Spasskiy, Rosatom's deputy director general, traveled to Burkina Faso in October to sign an agreement for a nuclear power plant.⁵⁷ Kirill Komarov, Rosatom's first deputy director general, issued a statement after the company and China's Citic Guoan Group signed a lithium mining agreement with Bolivia worth

⁵⁵ Andrea Stricker and Anthony Ruggiero, "Radioactive: Executives from Russia's Rosatom Corporation May Qualify for U.S. Sanctions," *Foundation for Defense of Democracies*, December 6, 2023. (<https://www.fdd.org/analysis/2023/12/06/radioactive-executives-from-russia-rosatom-sanctions>). As of November 28, 2023, the management board page is no longer on Rosatom's website, potentially to avoid Western sanctions designations. An archived June 2022 web page from the Wayback Machine reveals the identities of 15 board members. Another part of Rosatom's website notes there are currently 16 members. Because of the confusion over the correct composition of the management board, this memo uses 14 members from the March 2023 UK designations, the most recent publicly available information. See: "Management Board," *Rosatom*, June 2022, November 28, 2023. (archived version available at <https://web.archive.org/web/20220609164635/https://www.rosatom.ru/en/about-us/governance/management-board>); "Management Board," *Rosatom*, accessed November 28, 2023. (https://rosatom.ru/en/about-us/governance/board/index.php?sphrase_id=4835934)

⁵⁶ United Kingdom Foreign, Commonwealth and Development Office, "UK Sanctions List Publication," accessed February 6, 2024. (<https://docs.fcdo.gov.uk/docs/UK-Sanctions-List.html>)

⁵⁷ "Burkina Faso and Russia's Rosatom sign agreement for nuclear power plant," *Reuters*, October 13, 2023. (<https://www.reuters.com/world/africa/burkina-faso-russias-rosatom-sign-agreement-nuclear-power-plant-2023-10-13>)

\$1.4 billion in total investment.⁵⁸ Rosatom said it would invest \$600 million, and Komarov said the company could increase the investment “based on the results of geological exploration work.”⁵⁹ China’s Contemporary Amperex Technology Co. Ltd. (CATL), the world’s largest manufacturer of lithium-ion batteries used for electric vehicles, signed a similar investment deal with Bolivia worth \$1.4 billion.⁶⁰

Legislative Branch Recommendations:

1. Mandate a strategy to end reliance on Rosatom. The Biden administration has not yet articulated a strategy for ensuring that America and its allies end their reliance on Russia’s nuclear sector. As described earlier, the company is crucial to China’s nuclear weapons expansion, which could reach 1,500 nuclear weapons by 2035, and it is party to a potential nuclear disaster at ZNPP. Congress has traditionally played an important role in forcing administrations of both parties to undertake strategy development on medium-term issues. While there are competing foreign policy crises at the moment, the executive branch has the capacity to address multiple issues. The strategy should include the recommendations listed below and plans to respond to potential Russian retaliatory actions, including ending the export of enriched uranium and other products to the United States and its allies.
2. Require a sanctions determination within 60 days on Rosatom, management and supervisory boards, and related entities/individuals. The administration has discretionary sanctions authorities, but Congress should require sanctions determinations within 60 days. This would give the administration time to conduct a thorough sanctions review process to determine whether Rosatom, its management and supervisory boards, and related entities and individuals qualify for sanctions. Congress can also require the administration to provide a justification if any of these persons do not qualify for sanctions.
3. Review the U.S.-Russia Civilian Nuclear Cooperation Agreement. New legislation and administration efforts against Rosatom will create a new dynamic in U.S.-Russian nuclear cooperation. Thus, Congress could mandate a review of the 2011 U.S.-Russia Civilian Nuclear Cooperation Agreement to ensure it is consistent with the new approach. One approach would be to impose conditions that Moscow must meet for the United States to continue nuclear cooperation with Russia, and if those conditions are not met, Congress could mandate the termination or modification of the agreement. The 30-year agreement was negotiated by the Obama administration, and Moscow’s actions in

⁵⁸ Daniel Ramos, “Bolivia taps China, Russia’s Rosatom in bid to unlock huge lithium riches,” *Reuters*, June 29, 2023. (<https://www.reuters.com/world/americas/bolivia-seals-14-bln-lithium-deals-with-russias-rosatom-chinas-guoan-2023-06-29>)

⁵⁹ Ibid.

⁶⁰ “Chinese battery giant CATL seals \$1.4 billion deal to develop Bolivia lithium,” *Reuters*, June 19, 2023. (<https://www.reuters.com/markets/commodities/chinese-battery-giant-catl-seals-14-billion-deal-develop-bolivia-lithium-2023-06-19>); Craig Singleton, “Beijing’s Power Play,” *Foundation for Defense of Democracies*, October 23, 2023. (<https://www.fdd.org/analysis/2023/10/23/beijings-power-play>)

Ukraine and the nuclear sector make it difficult to envision U.S.-Russia cooperation in the civil nuclear energy and commercial sectors.⁶¹

Executive Branch Recommendations:

1. Expand Rosatom sanctions to include Rosatom, affiliated entities, and all members of Rosatom's management board and sanction all members of the supervisory board for Rosatom affiliation. A press release announcing new sanctions under Executive Order 14024 would provide an opportunity for the administration to note that the United States and its allies cannot and will not go back to business as usual with Rosatom. The United Kingdom sanctioned Rosatom's management board in March 2023, and nearly a year later, the Biden administration has not sanctioned the same individuals. The Biden administration should also sanction members of the supervisory board for their Rosatom affiliations. The administration could also incentivize compliance with these and other Rosatom-related sanctions by noting that Executive Order 14114 allows the Treasury Department to impose sanctions on foreign financial institutions that conduct significant transactions or provide services to persons sanctioned under Executive Order 14024.⁶²
2. Prohibit activities with Rosatom with wind-down periods. As part of these new sanctions, the administration could create a one-to-four-year period to allow countries, including America's allies, to move away from Rosatom on purchases of reactor fuel, reactor services, and reactor construction as well as other related services. The extended timeline would acknowledge that Rosatom is entrenched in the nuclear global energy sector and would avoid shocking energy markets or causing supply shortages.
3. Work with allies and the nuclear industry to facilitate a transition to alternative suppliers within a one-to-four-year period. Ending reliance on Russia is not as simple as adding Rosatom and affiliated entities and individuals to sanctions lists. Washington must develop a strategy to transition U.S. and foreign nuclear industries away from dependence on Rosatom and reinforce that there will be no return to full cooperation.

On behalf of the Foundation for Defense of Democracies, I thank you again for inviting me to testify.

⁶¹ U.S. Department of State, Fact Sheet, "The Agreement between the Government of the United States of America and the Government of the Russian Federation... (U.S.-Russia 123 Agreement)," January 12, 2011. (<https://2009-2017.state.gov/r/pa/prs/ps/2011/01/154318.htm>)

⁶² Executive Order 14114, "Taking Additional Steps With Respect to the Russian Federation's Harmful Activities," December 22, 2023. (<https://ofac.treasury.gov/media/932441/download?inline>)