The U.S.-Russia Civil Nuclear Agreement

A Framework for Cooperation

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Authors
Robert Einhorn
Rose Gottemoeller
Fred McGoldrick
Daniel Poneman
Jon Wolfsthal
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Since the collapse of the Soviet Union, the United States and Russia have engaged in important but circumscribed areas of nuclear cooperation, such as the 1993 HEU Purchase Agreement under which 500 tons of highly enriched uranium from dismantled nuclear weapons are being blended down to low-enriched uranium and sold to the United States as fuel for its civil nuclear reactors. But for the two countries to enter into more robust forms of nuclear engagement—including U.S. transfers to Russia of nuclear materials, nuclear reactors, and their major components—an agreement on the peaceful uses of nuclear energy (a so-called 123 Agreement, which is required by Section 123 of the *U.S. Atomic Energy Act*) must be in place.

The United States has 123 Agreements with almost all countries with major nuclear energy programs. A glaring exception is Russia, a country with one of the most technologically advanced and commercially active nuclear industries in the world. The reasons for this anomaly include the mutual mistrust that prevailed during the Cold War, the dormancy of the U.S. nuclear industry in the post–Cold War period, and the differing approaches of the two countries toward the nuclear fuel cycle. Since the mid-1990s, the main impediment to a U.S.-Russia 123 Agreement has been Russian nuclear assistance to Iran, which the United States believes is pursuing a nuclear-weapons capability under the cloak of a civil nuclear program. In an effort to induce Moscow to end such assistance, the Clinton administration and initially the Bush administration refused to negotiate a 123 Agreement with Russia unless it halted all nuclear cooperation with Iran, including its construction of a nuclear power reactor at Bushehr.

In recent years, the case for pursuing a 123 Agreement with Russia has gotten stronger. Growing energy needs and concerns about greenhouse gas emissions are improving the outlook for nuclear power worldwide, which, in an increasingly globalized nuclear industry, places a premium on working with foreign partners. The 9/11 attacks and the nuclear programs of North Korea and Iran have elevated preventing nuclear proliferation and nuclear terrorism to the top of the national security agenda, generating strong interest in more proliferation-resistant nuclear technologies and approaches to the fuel cycle that could be advanced through U.S.-Russia collaboration. Moreover, following revelations about Iran’s clandestine enrichment program and other illicit nuclear activities, Russia’s policy—while still committed to the completion of the Bushehr reactor—became more supportive of U.S. and European efforts to press Iran to end its pursuit of fuel-cycle programs that would give it a nuclear-weapons capability.

In light of these developments, the Bush administration in early 2006 relaxed its linkage between the Iran issue and a U.S.-Russia 123 Agreement. Instead of insisting that Moscow terminate all nuclear cooperation with Iran (including Bushehr) before negotiations on a 123 Agreement could
get underway, it would now be willing to enter into negotiations but would only be prepared to complete the agreement and allow it to enter into force if Russia played a constructive role on the Iran nuclear issue.

At the July 2006 meeting of G-8 leaders in St. Petersburg, Presidents George W. Bush and Vladimir Putin announced that bilateral negotiations would begin. The talks proceeded smoothly. An agreement was initialed in Moscow in June 2007 and signed in Moscow on May 6, 2008, by Sergei Kirienko, head of the Russian Federal Nuclear Agency (Rosatom) and William J. Burns, U.S. ambassador to Russia. On May 13, the White House transmitted the 123 Agreement and its supporting documentation to the Congress for its consideration. After a review period of 90 days of “continuous session,” the agreement will enter into force unless Congress adopts a joint resolution of disapproval, adopts a resolution of approval requiring that specific conditions be met before implementation, or enacts separate legislation blocking implementation.

The U.S.-Russia agreement (text contained in appendix A) meets all the legal requirements set forth in Section 123 of the Atomic Energy Act. In particular, it contains all the required nonproliferation guarantees and controls, including a U.S. right of prior consent to retransfers, a guarantee that adequate physical protection measures will be maintained with respect to U.S. exports, and a guarantee that no U.S.-origin nuclear material will be enriched or reprocessed without the prior approval of the United States.

But congressional scrutiny will not be limited to the text of the agreement itself. The agreement will be reviewed in the broader context of U.S.-Russia relations and U.S. nonproliferation goals, especially the goal of preventing Iran from acquiring nuclear weapons. Initially at least, the agreement has been met on the Hill with considerable skepticism. By a vote of 397-16, the House last September passed the Iran Counter-Proliferation Act of 2007 (H.R. 1400), which would block a 123 Agreement with Russia. Its counterpart Senate bill (S. 970), cosponsored by more than 70 senators, is pending. Critics argue that a 123 Agreement would reward a Russian government that has adopted anti-American foreign policies, pursued increasingly authoritarian domestic policies, failed to support tough sanctions against Iran, and continued to provide sensitive assistance to Iran’s nuclear, missile, and advanced conventional weapons programs.

Notwithstanding these early criticisms, entry into force of a U.S.-Russia 123 Agreement can be expected to bring several benefits. At a technical level, an agreement could help accelerate U.S. nuclear energy research and development plans in such areas as fast neutron reactors and advanced fuel-cycle technologies, where the Russians possess both experience and facilities not widely available in the United States. For example, the Department of Energy would like to send fuel elements for testing in Russian fast neutron reactors but can only do so with a 123 Agreement in place. The agreement also supports U.S. commercial interests by allowing U.S. firms to sell nuclear materials, equipment, and technologies to Russia and to team up with Russian companies in joint ventures to develop and market nuclear reactors and other products to third countries.

A 123 Agreement cannot, by itself, mend the U.S.-Russia bilateral relationship, which has deteriorated markedly in recent years. Differences on such issues as NATO expansion, Kosovo,
and missile defenses can be expected to persist. But by building on areas of clear common ground, the agreement can help stop and reverse the downward slide in bilateral relations and perhaps have a positive spillover effect on other issues, which is especially important at a time of presidential transitions in both countries. Conversely, blocking the agreement is likely to adversely affect U.S.-Russia cooperation more broadly.

The most important benefit of a 123 Agreement is that it can facilitate cooperation in preventing nuclear proliferation and nuclear terrorism. It can foster collaboration in the development of advanced, proliferation-resistant nuclear reactors and fuel management technologies. It can allow the United States to contribute materially to the Russian multilateral uranium enrichment facility at Angarsk, which would reduce incentives for countries embarking on nuclear power programs to acquire their own enrichment plants.

A 123 Agreement can also create the necessary legal basis for Russia—should it decide to do so in the future—to establish an international spent fuel storage facility that could accept U.S.-origin spent fuel and spent fuel from other countries and thereby reduce incentives for them to have their own reprocessing facilities. And a 123 Agreement can promote a more promising political and legal environment for pursuing a range of threat reduction programs (e.g., nuclear security upgrades, plutonium disposition) and for developing a new international civil nuclear energy architecture—as agreed in the 2007 Declaration on Nuclear Energy and Nonproliferation—that can boost reliance on nuclear power worldwide without increasing the dangers of proliferation.

In evaluating the 123 Agreement, members of Congress will focus heavily on Russia’s role vis-à-vis Iran’s nuclear program, and they will find that the record is mixed. On the one hand, Russia has resisted tough sanctions against Iran, reduced its leverage with Iran by shipping fuel for the Bushehr reactor, and failed to stop all Russian entities from engaging in sensitive cooperation with Iran. On the other hand, Moscow has insisted on taking back to Russia all spent fuel from the Bushehr reactor, proposed that Iran join an enrichment center in Russia rather than have its own enrichment program, and voted for three modest but increasingly strong UN Security Council sanctions resolutions. The Russians have also pressed Iran publicly and privately to suspend its enrichment program as unnecessary and uneconomic.

Clearly, Russia must do more if Iran is to be persuaded to give up its enrichment program and nuclear ambitions. But the likelihood of getting Russia to do more will be much greater if we proceed to implement the 123 Agreement than if we were to walk away from it.

On the question of Russian entities transferring sensitive nuclear technology to Iran, most of that assistance has already been curtailed, and Russian officials at the highest levels have recently provided assurances that any such assistance will stop. It will be essential to monitor closely whether those assurances are being honored. It is important to note, in this connection, that the 123 Agreement is not self-executing. Even after entry into force, each nuclear export pursuant to the agreement must receive specific approval by U.S. authorities. Moreover, Section 129 of the Atomic Energy Act calls for termination of nuclear exports to any country that contributes to a
nuclear-weapons program by transferring sensitive nuclear technology to a third country. So if the Russians do not honor their pledge, nuclear cooperation with Russia can be stopped.

Some have argued that Russia’s desire for the 123 Agreement gives the United States leverage that can be used to press Moscow to make further concessions as a condition for proceeding with the agreement. This assumes Russia wants or needs the agreement more than the United States does. But while it clearly would like an agreement (for reasons discussed in this report), Russia can live without it. As the Russians are already proving by establishing nuclear energy partnerships with a variety of Western and other countries, they have alternatives to the United States and U.S. companies.

A 123 Agreement can give the U.S. leverage with the Russians. But the leverage, and the ability to influence Russian behavior, comes not from withholding U.S. approval of the agreement; it comes from implementing the agreement and giving the Russians a tangible, vested interest in continuing to cooperate with the United States.

Critical U.S. nonproliferation objectives, especially the goal of preventing Iran from acquiring nuclear weapons, cannot be achieved without the active cooperation of Russia. The best way to gain that cooperation—on Iran and a wide range of other issues—is to bring the U.S.-Russia 123 Agreement into force at an early date.
At the July 2006 G-8 summit meeting in St. Petersburg, Russia, President George W. Bush of the United States and President Vladimir Putin of Russia issued a joint statement (see appendix B) declaring that nuclear energy “is an essential part of any solution to meet growing energy demand” and that strengthening U.S.-Russian cooperation in civil nuclear energy “is in the strategic interests” of both countries. They directed their two governments to negotiate an agreement on the peaceful uses of nuclear energy—a so-called 123 Agreement, which is required by Section 123 of the U.S. Atomic Energy Act in order for the United States to engage in full-scale civil nuclear cooperation with another country. The U.S.-Russia 123 Agreement (see appendix A) has now been completed, signed, and recently transmitted by the White House to the U.S. Congress, which can decide to allow the agreement to enter into force, to block it, or to take some other action.

Even without a 123 Agreement in place, the United States and Russia are engaged in important but limited forms of nuclear cooperation. In 1990, the United States and the Soviet Union concluded an agreement that authorized cooperation in specific areas of nuclear research and development, including environmental protection and waste management, nuclear reactor safety, magnetic confinement fusion, and fundamental properties of matter. After the breakup of the Soviet Union, U.S. cooperative threat reduction assistance programs—also known as Nunn-Lugar programs after their original congressional sponsors, Senators Sam Nunn and Richard Lugar—helped Russia reduce Soviet-era strategic nuclear arms and strengthen the physical protection of Russian nuclear installations and materials. In the wake of the Chernobyl nuclear reactor accident in 1986, the United States provided the Soviet Union, and later Russia and other former Soviet states, critical nuclear safety assistance. In addition, Washington and Moscow collaborated in efforts to eliminate large quantities of weapons-useable nuclear materials. Under the 1992 HEU Purchase Agreement, 500 tons of highly enriched uranium (HEU) from dismantled Soviet-era nuclear weapons is being blended down to low-enriched uranium and sold to the United States to fuel nuclear reactors. The 2000 Plutonium Management and Disposition Agreement requires each country to dispose of 34 tons of weapons-grade plutonium declared to be in excess of defense requirements.

None of these activities required a 123 Agreement under U.S. law. But a fuller exchange of nuclear materials, facilities, and equipment—and to realize the ambitious goals of the 2006 St. Petersburg Joint Statement—will require that a 123 Agreement be put in force.

The United States currently has 123 Agreements in force with 19 individual countries plus Taiwan, and with two international organizations, the International Atomic Energy Agency and
the European Atomic Energy Community (EURATOM), which includes 27 individual countries. A U.S.-Turkey agreement was submitted to Congress in January 2008. A U.S.-India agreement was completed but has not yet been sent to the Congress. An agreement with Jordan is currently being negotiated, and the prospect of entering into agreements with some additional countries, including in the Middle East, is now under active consideration. Russia—with one of the most extensive, diverse, technologically advanced, and commercially active nuclear industries in the world—is the only one of the other four nuclear-weapon states party to the Treaty on the Nonproliferation of Nuclear Weapons (the United Kingdom, France, China, Russia) with which the United States does not have a 123 Agreement.

There are several reasons for this situation. During the Cold War, extensive nuclear cooperation between the two rival superpowers was inconceivable. In the years following the Cold War, with no new nuclear reactor construction in the United States and prospects for future growth highly discouraging, the U.S. nuclear industry saw little value in teaming up with Russian partners. Moreover, differing approaches of the two countries to the nuclear fuel cycle—with the United States opposed to commercial reprocessing and the recycling of plutonium since the presidency of Gerald Ford and Russia committed to reusing separated plutonium and pursuing fast reactors—narrowed the range of cooperative activities that would have been of mutual interest. And in the years immediately following the collapse of the Soviet Union, the top U.S. priority, in terms of nuclear cooperation, was to help the newly independent and economically stressed Russia reduce and secure its nuclear forces, not to collaborate in the civil nuclear energy field.

But the biggest obstacle to achieving a U.S.-Russia 123 Agreement in the last 15 years has been Russian nuclear cooperation with Iran. The United States has long been convinced that Iran is trying to develop a nuclear-weapons capability under the cover of a civil nuclear program. During the 1990s, the Clinton administration sought to convince all nuclear suppliers to avoid any nuclear cooperation that could in any way assist Tehran’s efforts to obtain such a capability. This campaign was successful with all major suppliers except one—Russia.

In 1995, Russia concluded an agreement with Iran to complete the construction of a light-water nuclear power reactor at Bushehr. Siemens, a German company, had started but subsequently discontinued work on this reactor after the Islamic revolution and the Iran-Iraq War. The United States opposed the completion of that reactor, but U.S. officials were especially concerned about intelligence that Russia was providing Iran with sensitive nuclear technology that had more direct application to a nuclear-weapons program than construction of a light-water reactor. Specific concerns included assistance in building a centrifuge uranium enrichment plant and a heavy-water “research” reactor that would be well suited to producing plutonium for nuclear bombs.

Strong U.S. pressure applied at the highest levels of the Russian government succeeded in persuading Moscow to block some of the more worrisome assistance. However, arguing that the Bushehr nuclear power project posed no proliferation risk, the Russians refused to terminate it, although they eventually agreed in the context of the Gore-Chernomyrdin Commission—a bilateral, senior consultative body under U.S. vice president Al Gore and Russian prime minister
Victor Chernomyrdin—to limit cooperation, at least for the time being, to the one nuclear power reactor under construction at Bushehr.

During the mid to late 1990s, evidence continued to accumulate that certain Russian entities persisted in secretly providing Iran with assistance in sensitive areas of the fuel cycle. In an attempt to influence Russian behavior on Iran, the Clinton administration decided to offer Russia the opportunity to expand nuclear cooperation with the United States and to conclude a 123 Agreement if Russia agreed to terminate all nuclear cooperation with Iran, including on the Bushehr power reactor project. The hope was that Moscow would prefer the technical and financial benefits of nuclear cooperation with the United States over those offered by cooperation with Iran. Specifically, U.S. officials hoped that those entities benefiting from cooperation with Iran would have more to gain financially and technically by cooperating instead with the United States. Russian officials expressed interest, but ultimately Russia’s policy toward Iran remained unchanged.

When the Bush administration took office, it continued the policy of linking a U.S.-Russia 123 Agreement to Moscow’s cooperation with Iran. In time, the linkage appeared to broaden beyond nuclear cooperation, with some administration officials citing the need for Russia also to end its cooperation with Iran in the areas of ballistic missiles and advanced conventional weapons.

In the last few years, several developments have increased the desirability of, and improved the prospects for, a U.S.-Russia 123 Agreement. A major factor has been increased interest, both in the United States and internationally, in relying more heavily on nuclear power to meet growing energy needs and to help address the challenge of global warming. If the much-heralded “nuclear renaissance” is to materialize in the United States, the U.S. nuclear industry, slowly reawakening from over a quarter century of relative dormancy, will need to find foreign partners to accelerate the reconstitution and modernization of America’s commercial nuclear industrial base. With its vast nuclear technology and expertise, Russia is a logical partner, especially now that U.S. and Russian approaches to the nuclear fuel cycle may be converging. The Bush administration’s nuclear research initiatives, including the Global Nuclear Energy Partnership (GNEP) and the Advanced Fuel Cycle Initiative (AFCI), have sought to reverse longstanding U.S. opposition to nuclear fuel recycling and to explore what it regards as more proliferation-resistant approaches to fuel processing and recycling in advanced fast reactors. These are among the areas in which cooperation with Russia could be of benefit to the United States.

Another factor that has increased the desirability of a 123 Agreement with Russia in recent years is the shared interest of Russia and the United States in preventing nuclear proliferation, especially in discouraging the spread of uranium enrichment and plutonium reprocessing capabilities to additional countries. The Bush administration’s policies, including those outlined by President Bush in his speech to the National Defense University on February 11, 2004,1 to limit the proliferation of fuel-cycle capabilities to additional countries and the Putin administration’s

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initiative to create international fuel service centers, beginning with the uranium enrichment center already established in the Siberian city of Angarsk, are complementary. Together, they can contribute to a global nuclear energy infrastructure that would enable countries embarking on nuclear power programs to fully realize the benefits of nuclear energy without having to build domestic fuel-cycle facilities that increase the risks of proliferation. Without a 123 Agreement in place, the ability of the United States and Russia to work together on these initiatives would be constrained.

The evolution of the Russian policy toward Iran has been another factor improving prospects for a 123 Agreement. In discussions with the United States during the Clinton years and the beginning of the Bush administration, Russian officials always insisted that they strongly opposed Iran’s acquisition of nuclear weapons. But at the same time, they defended Iran’s right under the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) to acquire nuclear technology for peaceful purposes, and they expressed skepticism about U.S. assertions that Iran was pursuing a nuclear-weapons capability.

Russian views of Iran’s intentions changed significantly in the 2002–2003 period, after an Iranian dissident group disclosed the location in Iran of two previously secret fuel-cycle facilities—a heavy water production plant at Arak and a large, underground centrifuge enrichment facility under construction at Natanz. After that disclosure, an investigation by the International Atomic Energy Agency (IAEA) found that Iran had pursued a covert enrichment program for over 18 years and had committed numerous violations of its safeguards agreement with the agency.

As evidence mounted about the nature of Iran’s program, Russian concerns increased and Moscow began to play an active role in seeking to head off an Iranian nuclear-weapons capability. With serious questions about Iran’s compliance unresolved, it started to slow down the completion of the Bushehr power reactor. To minimize the proliferation risks from the Bushehr reactor, the Russians conducted difficult and lengthy negotiations with the Iranians that resulted in a February 2005 agreement under which Russia would supply enriched uranium fuel for the reactor and take back all spent fuel, thereby minimizing Iran’s need to enrich its own uranium and eliminating its opportunity to extract plutonium from the spent fuel for use in nuclear weapons.

In the fall of 2005, Russia offered the Iranians an opportunity to participate in a joint uranium enrichment venture in Russia. Under this proposal, Iran would send processed natural uranium to Russia, where it would be enriched, fabricated into fuel elements, and returned to Iran as reactor fuel. Iran would not have access to enrichment technology in Russia and would agree to forswear its own indigenous enrichment capability. The offer reflected a convergence of Russian nonproliferation and commercial interests. Stopping an indigenous Iranian enrichment program would impede proliferation, while agreeing to a long-term fuel supply arrangement with Iran would be lucrative for the Russian nuclear industry. The proposal was welcomed by the Bush administration but was rejected by Tehran.
In February 2006, Russia joined the United States and other members of the IAEA Board of Governors in referring the question of Iran’s violations of its nuclear safeguards agreement to the UN Security Council. It became increasingly clear that any effective policy toward Iran, especially in the context of the Security Council, would require Russia’s support. As a result, the United Kingdom, France, Germany, and the United States agreed to include Russia and China in the group of countries working together on the Iran issue, combining the overlapping memberships of the three European countries that had to date done much of the negotiating with Iran (the United Kingdom, France, Germany) with the five Permanent Members of the Security Council. In June 2006, this new group—the “P-5 plus Germany”—offered Iran a package of cooperation in the political, economic, and nuclear areas in exchange for Iran suspending its fuel-cycle programs. When Iran failed to respond, the group announced in July, at the foreign ministers level, that it would seek a UN Security Council (UNSC) resolution under Chapter VII of the UN Charter to make suspension mandatory for Iran. It did so on July 31 with UNSC resolution 1696, which, with Russian support, demanded that Iran suspend all enrichment-related and reprocessing activities and gave it one month to do so or face the possibility of economic and diplomatic sanctions.

Despite Moscow’s collaboration on the package proposal and a legally binding resolution in the Security Council, significant differences remained between Russia and the United States (and Europeans) on how best to deal with Iran. Moscow believed that coercive measures were counterproductive and could push the Iranians to withdraw from the NPT and throw out IAEA inspectors. The Russians had only grudgingly gone along with referring Iran’s noncompliance to the Security Council and, once there, sought to both soften pressures against Iran and draw the process out as long as possible. Still, with the constructive steps Russia had taken publicly and with the firm advice it is believed to have delivered to Iran privately to abandon the enrichment program as unnecessary and uneconomical, Russia’s policy on Iran had become more supportive of U.S. efforts to end Tehran’s pursuit of a nuclear-weapons capability.

In early 2006, the Bush administration began rethinking its position on a 123 Agreement with Russia. With the United States interested in expanding the use of nuclear power and placing an increased premium on international cooperation, the case for normalizing U.S.-Russia nuclear cooperation had grown stronger in recent years. The main hurdle for the administration was the longstanding linkage between a 123 Agreement and Russia’s cooperation with Iran.

It has been clear since the Clinton administration that linking a 123 Agreement to termination of the Bushehr reactor project was not going to persuade the Russians to abandon the Bushehr project. Moreover, the proliferation risks associated with the construction of that power reactor have never been as acute as those associated with assistance to Iran’s fuel-cycle programs—and that has especially been the case after Russia’s negotiation of the spent fuel take-back agreement for Bushehr.

In light of these developments, the U.S. approach toward linkage had changed by early 2006. No longer would a 123 Agreement be linked to the complete termination of Russian nuclear
cooperation with Iran—some of which (Bushehr) was no longer considered especially sensitive
and the remainder of which seemed to have been curtailed. Instead, a 123 Agreement would be
linked to whether Russia was playing a positive role in preventing Iran from acquiring nuclear
weapons. And linkage of a 123 Agreement to other areas of Russian-Iranian cooperation—missile,
chemical, biological, and advanced conventional arms—was apparently relaxed, whether because
Russian cooperation in those areas was no longer a problem or because the administration had
decided to give priority to the nuclear issue.

Within the Bush administration, a consensus emerged that a 123 Agreement should be used as
leverage to encourage constructive Russian behavior on the Iran nuclear issue. The internal debate
was over how best to bring that leverage to bear. One group argued for continuing to hold off on
negotiating a 123 Agreement while waiting to see what role Russia played in resolving the Iran
issue. Another group maintained that entering into negotiations and making the potential benefits
of a 123 Agreement more tangible and achievable would provide stronger incentives for Moscow
to work closely with the United States to prevent an Iranian nuclear-weapons capability. The
latter group prevailed, and a decision was taken at the highest levels to begin negotiations. But
linkage was maintained. Completion of a 123 Agreement and entry into force would still depend
on Russia playing a constructive role on the Iran nuclear issue.

In May 2006, Sergey Kiriyenko, head of the Russian Federal Nuclear Agency (Rosatom), came to
Washington and raised the question of concluding a 123 Agreement. He found a receptive
audience, and the two bureaucracies began drafting the joint statement, to be issued by their two
presidents in St. Petersburg, announcing their decision to enter into negotiation on a 123
Agreement. At the time of the St. Petersburg meeting, Peter Watkins, a White House spokesman,
pointed out that the Bush administration’s decision to begin negotiations did not mean that
linkage had been dropped. “We have made clear to Russia that, for an agreement on peaceful
nuclear cooperation to go forward, we will need active cooperation in blocking Iran’s attempt to
obtain nuclear weapons.”

Negotiations on the agreement proceeded more rapidly than expected, with Richard Stratford,
head of the State Department’s Nuclear Energy Affairs office, and Nikolay Spasskiy, deputy head
of Rosatom, leading their respective delegations. Agreement on the main substantive points was
reached after only a few months, with the governments taking several months longer to resolve
the remaining details. The agreement was initialed in Moscow on June 29, 2007, by Spasskiy and
the U.S. ambassador to Russia, William J. Burns.

Since then, the U.S. administration has taken the elaborate legal and procedural steps that must be
taken before a completed 123 Agreement can be signed and transmitted to the U.S. Congress
(described in the next chapter). During this period, there have been some developments that
raised questions about moving forward with a 123 Agreement with Russia while other
developments reinforced the Bush administration’s decision to proceed.

In the negative category was the Russian decision to begin shipping fuel for the Bushehr reactor in
December 2007. Until then, Moscow, with U.S. encouragement, had been “slow rolling” the
supply of enriched uranium fuel needed to begin operations at Bushehr, publicly citing financial and technical reasons for the delays but making it clear privately that Russia was unwilling to send the fuel until questions about Iran’s nuclear intentions had been resolved. The fall 2007 U.S. National Intelligence Estimate on Iran, by conveying the misleading impression that Iran’s interest in nuclear weapons—and not just its “weaponization” efforts—had terminated in 2003, may have contributed to the Russian decision to proceed, as did the strong pressures Russia was receiving from the government in Tehran. While many in the Bush administration felt the Russian move seriously undercut leverage on Iran to suspend enrichment, the administration publicly put the best face on it, saying that Russia’s supply of enriched uranium fuel for Bushehr demonstrated that Iran has no legitimate need to produce enriched uranium indigenously.

Another area of concern was Russia’s strong opposition to imposing tough UN Security Council sanctions on Iran. Using its ability to veto council resolutions and working with the Chinese and other opponents of sanctions, the Russians succeeded in blocking most of the measures favored by the United States and the Europeans that would have significantly raised the stakes for Tehran or interfered with lucrative Russian commerce with Iran, including bans on arms sales to Iran and completion of the Bushehr project. The Russians often supported sanctions measures only after insisting that they be watered down, for example, by making them advisory rather than legally binding on states.

In addition, concerns remained about nuclear cooperation between Russia and Iran outside the openly acknowledged interactions taking place between the two countries on the Bushehr project. While the sensitive nuclear cooperation that Russian entities had pursued with Iran during the 1990s had substantially decreased in recent years, it had not been stopped altogether and became the focus of high-level U.S. diplomatic efforts with Russian leaders in the period following the initialing of the 123 Agreement.

On the positive side of the ledger, U.S.-Russian cooperation in the last couple of years has intensified in areas of vital national security importance to both sides where the interests of the two countries coincide and where the two of them, working together, can make a unique contribution to international security. Those areas include accelerating security upgrades at Russian nuclear facilities under the 2005 Bratislava summit initiative, building broad international support for concrete steps to implement the Global Initiative to Combat Nuclear Terrorism (which they initiated in July 2006), and pursuing joint efforts to help other countries gain the benefits of the peaceful uses of nuclear energy without having to acquire their own sensitive fuel-cycle capabilities (which they began in July 2007 with their Declaration on Nuclear Energy and Cooperation at Kennebunkport, Maine [see appendix C]). Especially at a time when bilateral relations have become strained, it is important that the United States and Russia find areas of convergent interests, such as preventing nuclear proliferation and nuclear terrorism, and cooperation in several such areas could be facilitated by the entry into force of a 123 Agreement. Moreover, although Russia has opposed tough sanctions on Iran, it has been clear in public and reportedly also in private talks with Tehran that it does not want Iran to continue with its
uranium enrichment program. In February, Foreign Minister Sergey Lavrov of Russia said, “We don’t approve of Iran’s continuously demonstrating its intentions to develop its missile industry and continue uranium enrichment.” His deputy, Sergei Kislyak, on the Foreign Ministry’s Web site, called on Iran to freeze uranium enrichment and said such a freeze “is entirely achievable if the appropriate political decisions are taken.” He advised Iran to create more favorable conditions for Iran’s cooperation with other countries, noting that “frankly speaking, our Iranian colleagues could have started this work long ago and not wasted so many years on confrontation.”

And while it is true that Russia has been a key factor in watering down the sanctions adopted by the Security Council, it has in the end gone along with the idea of progressively stronger measures, adopted unanimously by the P-5 countries and hopefully by the council as a whole, that could send a powerful political signal to the Iranians. The three sanctions resolutions adopted by the council—UNSCR 1737 in December 2006, UNSCR 1747 in March 2007, and UNSCR 1803 in March 2008—were all supported by the Russians and, although much weaker than the United States preferred, have nonetheless given legitimacy to U.S.-led efforts outside the council with governments, banks, and businesses to impose financial and other economic pressures on Iran.

Finally, it was reported that during the March 2008 visit to Moscow by Secretary of State Condoleezza Rice and Secretary of Defense Robert Gates, the Russians at the highest levels provided strong and explicit assurances that any sensitive cooperation between Russian entities and Iran would be stopped.

At their meeting in Sochi in April, Presidents Bush and Putin reviewed the question of a U.S.-Russian 123 Agreement and agreed that “we will sign in the near future and work to bring into force” the agreement. They stated in their U.S.-Russia Strategic Framework Declaration (see appendix D) that “this agreement will create the necessary legal basis for our cooperation in the peaceful uses of nuclear energy and will permit the expansion of such cooperation. It will allow U.S. and Russian companies to partner in joint ventures, and transfer nuclear materials, reactors and major reactor components between our two countries. It is critical to facilitating U.S.-Russian further cooperation under bilateral programs and initiatives in the field of peaceful use of nuclear energy.”

On May 6, 2008, the agreement was signed in Moscow by William J. Burns, U.S. ambassador to Russia, and Sergei Kiriyenko, director general of Rosatom. The two saluted the agreement as a sign of the important relationship between the two countries and their unique responsibilities as advanced nuclear powers to help promote nuclear energy and nonproliferation in the twenty-first century. On May 13, 2008, the agreement, together with its supporting documentation, was transmitted to the U.S. Congress. The administration contends that there are enough legislative days in the 110th Congress for the required review period to elapse and the agreement to enter into force before the end of its term in office.

Now the Congress will have to evaluate the agreement, measuring it against the requirements of U.S. law. But congressional scrutiny will not be limited to the text of the agreement itself. Members will also look at the agreement in the context of broad U.S. nonproliferation goals,
especially its implications for preventing an Iranian nuclear-weapons capability, and in the context of overall U.S.-Russian bilateral relations, which have deteriorated significantly over the last few years.

Members of Congress will ask a wide range of probing questions: What are the benefits of this agreement for the United States? Specifically, will cooperation with the Russians under the agreement advance U.S. nuclear energy, foreign policy, and nonproliferation goals? What is the United States getting from this agreement that would not be available without it? Are the Russians playing a helpful role on the Iran nuclear issue? Will the agreement improve prospects for U.S.-Russian cooperation on Iran—and on nonproliferation issues generally? What impact will it have on the U.S.-Russian bilateral relationship? Does the agreement give the U.S. leverage to influence Russian behavior on Iran and other issues?

This report seeks to address these and other questions. Its main purpose is to assist the Congress, interested observers, and the public at large in assessing the 123 Agreement that the United States and Russia have concluded. Chapter Two outlines the legal requirements for a 123 Agreement, assesses how well those requirements have been met in the present agreement, explains U.S. procedures for approval and entry into force of the agreement, and discusses which types of nuclear cooperation require a 123 Agreement and which do not. Chapter Three looks at the potential technical and political benefits of the 123 Agreement for the United States. Chapter Four does the same for Russia. Chapter Five assesses the overall value of the agreement (including its potential impact on nonproliferation goals), discusses Russia’s recent role on the Iran nuclear issue, evaluates the idea of linking implementation of the agreement to Russia’s behavior on Iran and other issues, and makes a recommendation on how to proceed.
U.S. legal requirements for international nuclear commerce are defined by existing law and
regulation. This chapter lays out the legal requirements established for U.S. peaceful nuclear
cooperation agreements, including the specific nonproliferation guarantees and controls that such
agreements must contain, and assesses whether the proposed U.S.-Russia agreement for
cooperation in the peaceful uses of nuclear energy meets those requirements. In addition, this
section describes the procedures for presidential and congressional approval of such an
agreement. Finally, since each export of nuclear material, equipment, or technology from the
United States to Russia must receive a specific export license or other authorization, this chapter
will explain the various elements of U.S. regulations for nuclear exports.

The Congress has established clear standards for U.S. peaceful nuclear cooperation with other
countries. These place a high priority on nonproliferation in relation to other foreign policy
interests. The requirements for U.S. peaceful nuclear cooperation are based on the Atomic Energy
Act of 1954, as amended by the Nuclear Non-Proliferation Act of 1978 (NNPA). Other legislation
may apply to nuclear cooperation with specific states. For instance, the Omnibus Appropriations
Act (P.L. 106-113), enacted into law in 1999, contained specific requirements for entry into force
of any agreement for cooperation that the United States might negotiate with the Democratic
People’s Republic of Korea. The Congress also enacted the Henry J. Hyde United States–India
Peaceful Atomic Energy Cooperation Act of 2006, which allows the president to waive certain
provisions of the Atomic Energy Act for nuclear exports to India. At the same time, it specified
additional requirements for U.S.-India nuclear cooperation. In addition, the Congress enacted the
Iran Freedom Support Act in 2006 that contains a sense of the Congress that the United States
should not enter into an agreement for cooperation with any country that is, among other things,
assisting the Iranian nuclear program or selling it advanced conventional munitions, although
these provisions are not binding on the administration. Congress is also considering additional
legislation on Iran that could make nuclear cooperation with Russia effectively impossible (see
below.)

Nuclear export regulations can best be understood by examining major components of the
system. Different kinds of nuclear-related exports have different legal requirements: (1) significant
nuclear exports require the recipient state to have a peaceful nuclear cooperation agreement in
effect with the United States, as well as a Nuclear Regulatory Commission (NRC) license; (2)
transfers of other nuclear components and substances require only an NRC license; (3) transfers
of technology require approval by the U.S. secretary of energy; (4) dual-use nuclear exports
require a license issued by the U.S. Department of Commerce; and (5) transfers of those items
that are not on export control lists but may nonetheless contribute to nuclear-weapon programs are covered by “catch-all” authority and require a license from the Department of Commerce. Each of these is explained in more detail below.

**Agreements for Cooperation and the Export of Nuclear Materials, Production, and Utilization Facilities**

U.S. peaceful nuclear cooperation agreements are not treaties, but so-called congressional-executive agreements. The U.S. Constitution does not explicitly provide for international agreements other than treaties, but executive agreements of varying kinds have been common in U.S. history. Congress has authorized the president to negotiate and conclude agreements on various subjects, including nuclear cooperation with other countries, and it is widely accepted that a congressional-executive agreement is an alternative to a treaty. Like a treaty, such agreements require congressional “approval” and are the law of the land.

In general, Congress has sought over time to add more requirements to U.S. nuclear cooperation agreements. In 1954, Congress amended the Atomic Energy Act to permit peaceful nuclear cooperation with other countries but defined a set of the conditions that should govern such cooperation. In the 1970s, Congress became concerned that the conditions and controls for international nuclear cooperation were overly flexible. As a result, Congress passed the Nuclear Non-Proliferation Act in 1978 amending the Atomic Energy Act and strengthening those controls considerably by toughening procedures for review and approval of peaceful nuclear cooperation and exports. The NNPA, among other things, sets forth:

- nonproliferation controls that must be incorporated in U.S. agreements for cooperation;
- agencies of the executive branch that are to negotiate and/or review peaceful nuclear cooperation agreements;
- procedures for reviewing such agreements, including the documentation that needs to be prepared for the review;
- procedures for submitting the agreement and its documentation to the president for his approval;
- presidential determinations, as well as the documentation, that must be submitted to the Congress for its review; and
- procedures for congressional review, including the time period the Congress has to review an agreement.

**Nuclear Trade Requiring a Peaceful Nuclear Cooperation Agreement**

Sections 54 and 123 of the Atomic Energy Act state that significant nuclear exports from the United States may only take place pursuant to an agreement for peaceful nuclear cooperation with
the recipient state, and that special nuclear material and nuclear equipment must be exported only pursuant to an agreement for cooperation. Special nuclear material is defined as plutonium, uranium enriched in the isotope 233 or in the isotope 235, or any other material that the NRC determines to be special nuclear material. These are materials deemed most directly relevant for use in nuclear weapons.

Nuclear equipment is defined under the agreement as:

1. “utilization facilities,” including power and research reactors and the four major components of these reactors (pressure vessels, the primary coolant pumps, the complete control rod system, and in the case of heavy water reactors, the fuel charging and discharging machines); and

2. “production facilities,” including reactors for producing nuclear material through irradiation, as well as enrichment and reprocessing plants and important component parts especially designed for such facilities. Because of the strict statutory and policy criteria required for approval, no U.S. exports of production facilities have been approved since enactment of the NNPA in 1978.

Other nuclear components and substances that can be exported without an agreement for cooperation in place may be made subject to an agreement for cooperation.

Since the enactment of the NNPA, the U.S. government has consistently required that an agreement for cooperation be in place for any commercial exports of source material. This practice is supported by Section 402 of the Atomic Energy Act, which prohibits the export of source material for purposes of enrichment except pursuant to an agreement for cooperation. (Source material includes uranium, thorium, or any other material that the NRC determines by regulation to be source material or ores containing one or more of the foregoing materials in such concentration as the NRC may determine from time to time.)

Section 123 of the Atomic Energy Act: Nonproliferation Requirements of a Peaceful Nuclear Cooperation Agreement

Section 123 of the Atomic Energy Act requires that U.S. peaceful nuclear cooperation agreements contain a number of guarantees and controls. (For this reason, peaceful nuclear cooperation agreements are sometimes referred to as 123 Agreements.)

The guarantees and controls required by Section 123 are:

Safeguards. Section 123 (a) (1) requires a guarantee that safeguards as set forth in the agreement will be maintained with respect to all nuclear material and equipment subject to the agreement so long as the material and equipment remain under the jurisdiction or control of the cooperating partner, irrespective of the duration of other provisions of the agreement or whether the agreement is terminated or suspended for any reason. However, neither this provision of U.S. law nor the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) requires the application of IAEA safeguards to materials in a nuclear-weapon state. Thus, the United States peaceful nuclear
agreement with China, a nuclear-weapon state, does not contain a requirement for IAEA safeguards but does have a provision for U.S.-Chinese bilateral visits and exchanges of information.

In the case of the proposed U.S.-Russia agreement, Article 13 contains a requirement that nuclear material transferred pursuant to the agreement to Russia, as well as nuclear material produced from nuclear material, equipment, or components transferred, shall be subject to the voluntary safeguards agreement between the Russian Federation and the IAEA. The United States has assumed a similar obligation with respect to nuclear material subject to the bilateral agreement in the United States. The United States has placed all of its civil nuclear facilities on the eligible list of its safeguards agreement with Russia, whereas the current Russian-IAEA voluntary safeguard agreement contains only a few reactors on its eligible list. There is no obligation that either party place any nuclear material that will be subject to the proposed U.S.-Russia peaceful uses agreement in a facility that is on the eligibility list of its safeguards agreement with the IAEA. Since 1994, the IAEA has conducted about 500 inspections at seven eligible U.S. nuclear facilities. In contrast, the IAEA has not applied safeguards at any Russian facilities, but Russia appears committed to submit at least some elements of its uranium enrichment complex at Angarsk to IAEA inspections.

**Safeguards in Perpetuity.** As noted above, Section 123 (a) (1) requires that the safeguards as set forth in the agreement will be maintained with respect to all nuclear material and equipment subject to the agreement so long as the material and equipment remain under the jurisdiction or control of the cooperating partner, irrespective of the duration of other provisions of the agreement or whether the agreement is terminated or suspended for any reason. Paragraph 2 of Article 20 provides for the perpetuity of the safeguards contained in Article 13 of the proposed U.S.-Russia peaceful nuclear cooperation agreement.

Although not required by law, U.S. peaceful nuclear cooperation agreements typically contain a provision for so-called fall-back safeguards in the event that the IAEA is unable to apply safeguards or for some reason is not applying safeguards. Paragraph 3 of Article 13 of the proposed U.S.-Russia peaceful nuclear cooperation agreement provides that in the event that a voluntary safeguards agreement referred to in Article 13 is not being implemented, the parties shall consult and establish a mutually acceptable alternative to that voluntary safeguards agreement consistent with their status as a nuclear-weapon state party to the NPT.

**Full-scope Safeguards.** Section 123 (a) (2) of the act requires as a condition of export that, in the case of nonnuclear-weapon states parties, IAEA safeguards be maintained with respect to all nuclear materials within the territory of that state or under its jurisdiction or control anywhere. This requirement does not apply to Russia as a nuclear-weapon state.

**No Nuclear Explosive Purposes.** Section 123 (a) (3) requires, in the case of a nonnuclear-weapon state, a guarantee that the nuclear material, equipment, or technology subject to the agreement will not be used for any nuclear explosive device, or for research on or development of any nuclear explosive device, or for any military purpose. This requirement does not apply to
cooperation with nuclear-weapon states such as Russia. However, Article 12 of the proposed U.S.-Russia agreement precludes the use of any items or technology subject to the agreement for any nuclear explosive device, for research on or development of any nuclear explosive device, or for any military purpose. (This requirement would not preclude the United States or Russia as nuclear-weapon states from utilizing their own nuclear materials or equipment for nuclear-weapons purposes; rather, it would apply only to items that would be subject to the U.S.-Russia agreement for cooperation.)

**Right of Return.** Section 123 (a) (4) provides that the United States must have the right to require the return of any nuclear materials or equipment subject to the agreement if a cooperating partner that is a nonnuclear-weapon state detonates a nuclear explosive device or violates or terminates or abrogates an agreement providing for IAEA safeguards. This requirement does not apply to Russia, which is a nuclear-weapon state. The U.S.-Russia agreement, therefore, does not contain such a right of return. The 1985 U.S. peaceful nuclear cooperation agreement with China, another nuclear-weapon state, also contains no right of return.

**Consent Rights on Retransfers.** Section 123 (a) (5) requires a U.S. right of prior consent to retransfers by the cooperating partner of items subject to the agreement and any special nuclear material produced through their use. Paragraph 2 of Article 8 of the proposed U.S.-Russia agreement meets this requirement of U.S. law.

**Adequate Physical Protection.** Section 123 (a) (6) requires guarantees that adequate physical protection will be maintained with respect to the nuclear material subject to the agreement. The U.S. NRC has promulgated regulations establishing levels of physical protection for U.S. nuclear exports that require physical protection measures at a minimum protection comparable to that set forth in IAEA document INFCIRC/225. The United States and its cooperating parties often exchange information and visits on physical protection pursuant to the agreement. Article 11 of the proposed U.S.-Russia agreement for cooperation meets this requirement of U.S. law.

**Consent Rights.** Section 123 (a) (7) requires that U.S. agreements contain a guarantee that no nuclear material subject to the agreement will be reprocessed, enriched or (in the case of plutonium, uranium 233 or uranium enriched to greater than 20 percent in the isotope 235, or other materials that have been irradiated) otherwise altered in form or content without the prior approval of the United States. Article 9 of the proposed U.S.-Russia peaceful nuclear cooperation agreement contains the consent rights required by this section of the Atomic Energy Act. The article prohibits all forms of alteration in form and content of nuclear material subject to the agreement without U.S. consent except those specified in the article. While the United States gives its consent in Article 9 to conversion, enrichment to less than 20 percent in the isotope uranium-235 and various other nonsensitive activities, it is notable that the United States does not grant consent to reprocessing of materials subject to the agreement in Russia. (Reprocessing constitutes a kind of alteration in form or content.) This is in contrast to the long-term advance consent that the United States has accorded EURATOM and Japan to the reprocessing of U.S.-obligated spent fuel and the use of the recovered plutonium in specified nuclear facilities in EURATOM and
Japan. The United States has also given advance consent to the retransfer of U.S.-obligated Swiss spent fuel to EURATOM for reprocessing and the return of the recovered plutonium to Switzerland for use in Swiss nuclear reactors. The United States is proposing in the draft U.S.-India agreement to grant advance consent to reprocessing of U.S.-obligated spent fuel in India. However, as already noted, the proposed U.S.-Russia agreement does not contain a long-term, advance consent to reprocessing, and it is not yet clear how the United States would respond to any future Russian request to reprocess nuclear material subject to the agreement.

Consent Rights on the Storage of Nuclear-weapons-usable Materials. Section 123 (a) (8) requires a guarantee that no plutonium, no uranium 233, and no uranium enriched to greater than 20 percent in the isotope 235 will be stored in a facility that has not been approved in advance by the United States. Paragraph 1 of Article 8 of the proposed U.S.-Russia peaceful uses agreement meets this requirement of the Atomic Energy Act. As noted above, it is not clear how the United States will deal with any future requests for consent to reprocessing of U.S.-obligated spent fuel in Russia, and so it is not clear if or when Russia might have any separated U.S.-obligated plutonium available for storage. Moreover, it is unlikely that the United States will be transferring highly enriched uranium (HEU) to Russia. Thus this requirement is not likely to apply to any U.S.-supplied material to Russia for the foreseeable future. However, since the agreement is reciprocal in nature, if Russia were to transfer HEU to the United States pursuant to the agreement, Russia would have the right to approve the U.S. facility in which such material would be stored. In addition, if the United States were to decide to reprocess spent fuel produced from nuclear material supplied by Russian under the proposed agreement, the United States would have to obtain Russian consent to such reprocessing.

Sensitive Nuclear Technology. Section 123 (a) (9) of the Atomic Energy Act requires that agreements for cooperation contain “a guaranty by the cooperating party that any special nuclear material, production facility, or utilization facility produced or constructed under the jurisdiction of the cooperating party by or through the use of any sensitive nuclear technology transferred pursuant to such agreement for cooperation will be subject to all of the requirements specified in this subsection” (i.e., all of the nonproliferation assurances and controls described above). (The Nuclear Non-Proliferation Act of 1978 defines “sensitive nuclear technology” as technology that is not available to the public and that is important to the design, construction, fabrication, operation, or maintenance of a uranium enrichment, plutonium reprocessing, or heavy water production facility, but does not include restricted data.)

Paragraph 2 of Article 7 of the proposed U.S.-Russia peaceful nuclear cooperation agreement does not permit the transfer of sensitive nuclear facilities, technology, or their major critical components under the agreement, and allows for such transfer only by amendment to the agreement. Any amendment to the agreement would be subject to the same procedures for presidential approval and congressional review as those set forth in Section 123 of the Atomic Energy Act for a new agreement.
Some sensitive nuclear technology, not incorporated in enrichment, reprocessing, heavy water facilities, or their major critical components, may be transferred outside an agreement for cooperation. Documentation or interpersonal exchanges of information would be examples of such transfer of sensitive nuclear technology. Such transfers may be authorized by the U.S. secretary of energy in accordance with Section 57 (b) of the Atomic Energy Act and pursuant to 10 CFR Part 810 of the Code of Federal Regulations. The secretary of energy may authorize such transfers only upon receiving the concurrence of the secretary of state and after consulting with the Nuclear Regulatory Commission, the Department of Commerce and the Department of Defense.

**Restricted Data (RD).** The Atomic Energy Act defines “restricted data” as “all data concerning (1) design, manufacture, or utilization of atomic weapons; (2) the production of special nuclear material; or (3) the use of special nuclear material in the production of energy, but shall not include data declassified or removed from the Restricted Data category....” Paragraph 2 of Article 6 of the proposed U.S.-Russia peaceful nuclear cooperation agreement precludes the transfer of RD under the agreement. This is a standard provision in U.S. peaceful nuclear cooperation agreements.

**Survival of Nonproliferation Assurances, Guarantees, and Consent Rights.** Typically, U.S. agreements for peaceful nuclear cooperation provide that the nonproliferation assurances, guarantees, and consent rights contained in the agreement will continue in effect notwithstanding the termination or suspension of the agreement. Paragraph 2 of Article 20 of the draft U.S.-Russia agreement provides for the continuation of all the nonproliferation guarantees and controls contained in the agreement, notwithstanding its suspension or termination.

**Section 129 of the Atomic Energy Act and Termination of Cooperation**

In addition to Section 123 of the Atomic Energy Act, Section 129 of that law contains provisions that directly affect U.S. nuclear cooperation with other countries. Section 129 of the act requires that no nuclear materials and equipment or sensitive nuclear technology be exported to countries if they are found by the president to have engaged in certain nuclear activities relating to the proliferation of nuclear weapons. Under Section 129 (2) of the act, termination of nuclear cooperation with the Russian Federation as a nuclear-weapon state would be triggered if Russia:

(A) materially violated an agreement for cooperation with the United States, or, with respect to material or equipment not supplied under an agreement for cooperation, materially violated the terms under which such material or equipment was supplied.

(B) assisted, encouraged, or induced any non-nuclear-weapon state to engage in activities involving source or special nuclear material and having direct significance for the manufacture or acquisition of nuclear explosive devices, and has failed to take steps which, in the President’s judgment, represent sufficient progress toward terminating such assistance, encouragement or inducement; or
(C) entered into an agreement after the date of enactment of this section for the transfer of reprocessing equipment, materials, or technology to the sovereign control of any non-nuclear-weapon state except in connection with an international fuel cycle evaluation in which the United States is a participant or pursuant to a subsequent international agreement or understanding to which the United States subscribes.

U.S. terms typically contain a provision that if either party does not comply with the agreement’s requirements dealing with peaceful, nonexplosive use assurances, safeguards, physical protection, and consent rights, etc., or terminates, abrogates, or materially violates a safeguards agreement with the IAEA, the other party shall have the rights to cease further cooperation under the agreement and to require the return of any material, equipment, and components transferred under the agreement and any special nuclear materials produced through their use. As noted above, the right of return does not apply to a nuclear-weapon state such as Russia, and the U.S.-Russia agreement does not contain such a provision. However, Article 15 of the proposed agreement gives each party the right to temporarily suspend or to cease further cooperation under the agreement if the other party does not comply with the provisions of the agreement.

Section 129 of the Atomic Energy Act also allows the president to waive this requirement and to permit nuclear exports if he or she determines that a cessation of nuclear cooperation would be prejudicial to the achievement of U.S. nonproliferation objectives or would otherwise jeopardize the common defense and security of the United States. However, prior to the effective date of any such determination, the president must submit the determination, together with a report containing the reasons for that determination, to the Committee on International Relations of the House of Representatives and the Committee on Foreign Relations of the Senate for a period of 60 days of continuous session. Such a waiver would not become effective if the Congress passed a resolution disfavoring such a determination.

**Iran Freedom Support Act, H.R.1400 and S.970**

In addition to the requirements of the Atomic Energy Act, Section 401(a) of the Iran Freedom Support Act of 2006 could apply to a proposed agreement for cooperation between the United States and the Russian Federation. This provision contains a nonbinding sense of the Congress that

> It should be the policy of the United States not to bring into force an agreement for cooperation with the government of any country that is assisting the nuclear program of Iran or transferring advanced conventional weapons or missiles to Iran unless the President has determined that—

(1) Iran has suspended all enrichment-related and reprocessing-related activity (including uranium conversion and research and development, manufacturing, testing, and assembly relating to enrichment and reprocessing), has committed to verifiably refrain permanently from such activity in the future (except potentially the conversion of uranium exclusively for export to foreign nuclear fuel production facilities pursuant to internationally agreed
arrangements and subject to strict international safeguards), and is abiding by that commitment; or

(2) the government of that country—

(A) has, either on its own initiative or pursuant to a binding decision of the United Nations Security Council, suspended all nuclear assistance to Iran and all transfers of advanced conventional weapons and missiles to Iran, pending a decision by Iran to implement measures that would permit the President to make the determination described in paragraph (1); and

(B) is committed to maintaining that suspension until Iran has implemented measures that would permit the President to make such determination.

While this legislation is not binding on the executive branch, additional legislation may be approved that could directly affect the ability of the government to implement a 123 Agreement with Russia. H.R.1400, *Iran Counter-Proliferation Act of 2007*, was introduced into the House of Representatives in March 2007, adopted by a vote of 37 to 1 by the House Foreign Relations Committee on June 26, 2007, and passed overwhelmingly by the House of Representatives in September 2007. This bill would require that no agreement for cooperation between the United States and the government of any country that is assisting the nuclear program of Iran or transferring advanced conventional weapons or missiles to Iran may be submitted to the president or to Congress pursuant to Section 123 of the *Atomic Energy Act*. It also requires that no such agreement may enter into force with such country and no nuclear trade could be licensed to such country until the president determines and reports to the Committee on Foreign Relations of the Senate and the Committee on International Relations of the House of Representatives that “(A) Iran has ceased its efforts to design, develop, or acquire a nuclear explosive device or related materials or technology; or (B) the government of the country that is assisting the nuclear program of Iran or transferring advanced conventional weapons or missiles to Iran (1) has suspended all nuclear assistance to Iran and all transfers of advanced conventional weapons and missiles to Iran; and (2) is committed to maintaining that suspension until Iran has implemented measures that would permit the president to make the determination described in paragraph (A).”

On July 9, 2007, Senator Gordon Smith (R-OR) introduced to the floor of the Senate S.970, the *Iran Counter-Proliferation Act*, which would also bar nuclear cooperation between Russia and the United States if Russia were assisting the Iranian nuclear program. This bill has been referred to the Senate Finance Committee, which has held hearings on the matter.

Either bill, if enacted without waiver authority, could effectively make it impossible for the administration to conclude or implement a peaceful nuclear cooperation agreement with Russia.

**Policy Conditions and Reciprocity**

In addition to the legal requirements of Section 123 and 129 of the *Atomic Energy Act*, the United States, as a matter of policy, has incorporated several other nonproliferation controls in all its recent agreements for cooperation. These include the perpetuity of all nonproliferation
assurances, conditions, and controls, including prior consent rights, even if an agreement expires or terminates, as well as a provision for so-called fall-back safeguards in the event the IAEA is not applying safeguards to nuclear material subject to an agreement. As already noted, fall-back safeguards are provided for in Paragraph 4 of Article 13 of the proposed U.S.-Russia peaceful nuclear cooperation agreement.

Finally, although not required by law, it is worth noting that since 1978, U.S. agreements for cooperation have applied nonproliferation conditions, assurances, and controls in a reciprocal manner. This same practice has been applied to the proposed U.S.-Russia peaceful nuclear cooperation agreement. Thus, the United States would be assuming all the obligations contained in the U.S.-Russia agreement with respect to any nuclear materials or equipment that it might import from the Russian Federation pursuant to the agreement.

From Negotiation to Implementation

The Atomic Energy Act requires that the Department of State negotiate agreements for cooperation with the technical assistance of the Department of Energy. It also provides that each agreement must be reviewed by the Departments of State and Energy as well as the Nuclear Regulatory Commission. Once an agreement has been negotiated, the secretary of state must prepare a nuclear proliferation assessment statement analyzing the consistency of the agreement with the requirements of the Atomic Energy Act. In addition, the statement must assess the adequacy of the safeguards and other controls contained in the agreement to ensure that any assistance furnished will not be used to further any military or nuclear explosive purpose. Each assessment statement is to be accompanied by a classified annex prepared in consultation with the Central Intelligence Agency summarizing relevant classified data. The law also requires that an agreement must be approved by the secretary of state and the secretary of energy, who must then make a recommendation to the president. If the president makes the statutory determination that “the performance of the agreement will promote, and will not constitute an unreasonable risk to, the common defense and security” of the United States, he or she may authorize execution or signature of the agreement.

Once the agreement is signed, the president has to submit the proposed agreement along with an unclassified nuclear proliferation assessment statement to the Congress for review. If the president submits to the Congress an agreement for cooperation that meets all the requirements of Section 123 of the Atomic Energy Act, the congressional review must last for 90 days of continuous session. The agreement may enter into effect if the Congress does not enact a joint resolution of disapproval. The Congress may also adopt a resolution of approval and attach conditions to its approval of the agreement as it did in the case of the U.S.-China peaceful nuclear cooperation agreement.

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1 For purposes of Section 123 of the Atomic Energy Act, continuity of session is broken only by an adjournment of Congress sine die at the end of a Congress; and the days on which each House is not in session because of an adjournment of more than three days are excluded in the computation of any period of time in which the Congress is in continuous session. (See Section 130 (g) (2) of the Atomic Energy Act.)
agreement of 1985. The proposed U.S.-Russia agreement meets all of the requirements of Section 123 of the *Atomic Energy Act*.

If the president submits an agreement for cooperation to the Congress that does not contain all of the requirements of Section 123 as described above, then the agreement may not enter into force until Congress enacts legislation approving the agreement. The president has never approved or submitted to Congress an agreement for cooperation that lacked any of the statutorily required conditions for such agreements. However, the *Henry J. Hyde United States–India Peaceful Atomic Energy Cooperation Act of 2006* exempts U.S.-India peaceful nuclear cooperation from certain requirements of the *Atomic Energy Act*, and it is anticipated that the president will submit to the Congress a peaceful nuclear cooperation agreement with the government of India that does not contain a requirement for IAEA full-scope safeguards as required by the *Atomic Energy Act*. In the Indian case, Congress will need to enact a resolution of approval before a U.S.-India agreement may enter in force.

**Nuclear Export Licensing and Authorizations of Retransfers**

A 123 Agreement is neither a commitment to supply nor a license to export. Rather, it provides the legal framework so that nuclear commerce may take place. In other words, an agreement for cooperation is not self-executing and is not itself an authorization for individual U.S. nuclear exports. Once a 123 Agreement is in place, each export of nuclear material, equipment, or technology must receive a specific export license or other regulatory approval.

**Source Material, Special Nuclear Material, Production and Utilization Facilities Export Procedures**

Exports of source or special nuclear material for nuclear use and the export of production and utilization facilities may not be exported from the United States until two procedures are completed. As discussed above, the first is the conclusion of a 123 Agreement with the recipient country. The second is an independent licensing procedure wherein the NRC issues export licenses under Section 127 of the *Atomic Energy Act*.

The NRC may issue a license if it determines that legal requirements have been met and only after the secretary of state notifies the NRC that the executive branch has determined that a proposed export “will not be inimical to the common defense and security.” The *Atomic Energy Act* specifies that the secretaries of state, energy, defense, and commerce are to participate in the formulation of the executive branch’s judgment. Unless waived by the secretary of state, the law requires that an executive branch judgment must be completed within 60 days of receipt of a license application from the NRC.

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2 The NRC is an independent regulatory agency and is not part of the executive branch of the U.S. government. The president appoints the five commissioners with the advice and consent of the Senate.
If the NRC is unable to make the required statutory determinations, the president may still authorize an export by executive order if “he determines that withholding the proposed export would be seriously prejudicial to the achievement of U.S. nonproliferation objectives, or would otherwise jeopardize the common defense and security.” However, prior to the issuance, the president must submit to the Congress an executive order and an explanation of why, in light of the NRC’s decision, the export should nonetheless be made. Congress then has a period of 60 days of continuous session in which to consider and reject the order (per Section 126 (b) (2) of the Atomic Energy Act). This procedure has been invoked in only two cases, for two shipments of fuel to the Tarapur reactors in India in 1978 and 1980.

**Exports of Nuclear Components and Other Items and Substances**

The export of other nuclear components, substances, or items as identified in 10 CFR Part 110 are not required to be exported pursuant to an agreement for cooperation but may be made subject to such an agreement. The Atomic Energy Act directs the NRC to determine which component parts and other items or substances will require special licensing because of their significance for nuclear proliferation. Section 109 (b) of the Atomic Energy Act permits the export of such components provided that the following criteria or their equivalent are met:

- IAEA safeguards as required by Article III (2) of the NPT will be applied with respect to the components, substances, or items. (The reference to safeguards requirement by the NPT is not be relevant to a nuclear-weapon state such as Russia);
- No component, substance, or item will be used for any nuclear explosive device, or for research on or development of any nuclear explosive device; and
- No component, substance, or item will be retransferred to the jurisdiction of any other nation or group of nations unless the prior consent of the United States is obtained for such retransfer.

The NRC must also determine that the export of such components will not be inimical to the common defense and security. In addition to these requirements of U.S. law, the export of components must also satisfy the provisions of the Nuclear Supplier Guidelines (INFCIRC/254), which includes that other assurances be applied to the export of such components.

In this connection, it is worth noting that the United States has harmonized its nuclear export controls to agree with the so-called trigger lists of nuclear equipment, materials, components, and technology of the NPT Exporters Committee (the so-called Zangger Committee) published in IAEA document INFCIRC/209 and the Nuclear Suppliers Group published in IAEA document INFCIRC/254.

**Subsequent Arrangements and Retransfers**

U.S. agreements for cooperation and other export controls would have little meaning if recipients were able to retransfer U.S.-supplied nuclear material, equipment, components, or special nuclear material produced through their use to a third country without the same controls. For this reason,
U.S. agreements for cooperation contain so-called retransfer consent rights. The Department of Energy has responsibility for authorizing retransfers of U.S.-obligated nuclear items from one country to another. Section 131 of the *Atomic Energy Act* stipulates that “approvals for the transfer, for which prior approval is required under an agreement for cooperation, by a recipient of any source or special nuclear material, production or utilization facility, or nuclear technology” are so-called subsequent arrangements. Section 131 of the *Atomic Energy Act* also provides that, prior to entering into any proposed subsequent arrangement under an agreement for cooperation, the secretary of energy shall obtain the concurrence of the secretary of state and shall consult with the Nuclear Regulatory Commission and the secretary of defense. The secretary of energy must make a written determination that the proposed subsequent arrangement will not be inimical to the common defense and security.

The secretary of energy must also approve other requests for U.S. permission for various activities pursuant to an agreement for cooperation. To approve spent fuel reprocessing or retransfers involving plutonium in excess of 500 grams, the secretary of energy must make a determination, with the concurrence of the secretary of state and after consultation with the NRC and the secretary of defense, that the proposed activity will not result in a significant increase in the risk of proliferation. Additional special procedures for the approval of reprocessing requests or requests to transfer over 500 grams of plutonium are also required, including the submission of the proposed subsequent arrangement to Congress for its review for 15 days of continuous session before the subsequent arrangement may take effect.

In addition, the law requires that the secretary of energy may approve a request for reprocessing and plutonium transfers only after he or she has determined that such an approval will not be inimical to the common defense and security and will not result in a significant increase in the risk of proliferation. It requires that “[a]mong all the factors in making this judgment foremost [consideration] will be given to whether or not the reprocessing or retransfer will take place under conditions that will ensure timely warning well in advance of the time at which the non-nuclear-weapon state could transform the diverted material into a nuclear explosive device.”

**Exports of Nuclear Technology**

The Department of Energy has responsibility under the *Atomic Energy Act* for authorizing the export of nuclear technology. Section 57 (b) of the AEA provides that

> It shall be unlawful for any person to directly or indirectly engage in the production of any special nuclear material outside of the United States except (1) as specifically authorized under an agreement for cooperation made pursuant to section 123, including a specific authorization in a subsequent arrangement under section 131 of this Act, or (2) upon authorization by the Secretary of Energy after a determination that such activity will not be inimical to the interest of the United States....

Such authorization may be given only after concurrence of the secretary of state and after consultations with the Departments of Commerce and Defense and the NRC. In practice Energy
Department procedures allow certain transactions involving nonsensitive technology or assistance to countries that share U.S. nonproliferation objectives. Exports of nuclear technology do not require authorization when the information is already in the public domain, when it is for radiological emergencies, when it is given in connection with programs of the IAEA or when it involves assistance to civil nuclear power in countries that share U.S. nonproliferation objectives. However, certain kinds of assistance do require the secretary’s specific authorization. These are:

1. Assistance to civil nuclear power in countries on a list contained in section 810.8 Code of Federal Regulations. Russia is one of over 70 countries on this list.
2. Assistance to enrichment, reprocessing, plutonium fuel fabrication, heavy water production, or research and test reactors above 5 megawatts thermal in any country.

Assistance pursuant to Part 810 would only be granted after careful interagency review and under conditions to ensure no use for nuclear explosives or unsafeguarded fuel cycle activities. One of the factors that DOE takes into consideration in making its determination is whether the recipient state has an agreement for cooperation in effect with the United States.

**Exports of Dual-Use Items and Technology**

Exports of so-called dual-use items or technology are those that have both civil and military nuclear uses and are not exported under an agreement for cooperation or licensed by the NRC. Section 309 (c) of the NNPA directs the Department of Commerce to control all export items, other than those licensed by the NRC, which could be, if used for unauthorized purposes, of significance for nuclear explosive purposes (i.e., so-called dual-use commodities and technology). These items are contained on a nuclear referral list that is revised periodically. The U.S. list of dual-use items and technology has been brought into harmony with the list of dual-use items as defined by the international Nuclear Suppliers Group.

Department of Commerce license applications are referred directly to all reviewing agencies, which must provide their positions within 30 days. Cases on which there is no consensus or that raise significant nonproliferation issues are referred for discussion to an interagency group known as the Subcommittee on Nuclear Export Control.

**Catch-all Controls**

Finally, the Department of Commerce has the authority to require that any item, not on any export control list, be exported under a license if the exporter “knows” that the item will be used for nuclear explosive activities, unsafeguarded nuclear activities, or safeguarded nuclear activities involving reprocessing, heavy water production, enrichment or plutonium fuel fabrication. The regulations governing so-called catch-all controls are found in Export Administration Regulations Part 744.
Russian Legal Controls

The laws that control Russia’s civil nuclear trade with other countries are much different and much less detailed than those found in the United States. In Russia, several documents affect the establishment of nuclear trade, including the Russian constitution; the federal law “On the Government of the Russian Federation”; the federal law “On International Treaties/Agreements of the Russian Federation”; the federal law “On Use of Atomic Energy”; and the federal law “On Export Control.”

Russian laws on the use of atomic energy do not contain requirements concerning agreements on peaceful nuclear cooperation such as those found in Sections 123 and 126 of the Atomic Energy Act in the United States. The executive branch of the Russian government is pre-delegated all the necessary legislative authority to conduct negotiations, sign, and enter into force peaceful nuclear cooperation agreements with other countries. The government has the necessary authority to delegate the conduct of negotiations and signing of agreements on peaceful nuclear cooperation with other states to the Ministry of Foreign Affairs, Federal Atomic Energy Agency (Rosatom), or other federal agencies of the executive branch as it might choose.

Furthermore, in accordance with the Russian federal law “On International Treaties/Agreements of the Russian Federation,” such agreements are not subject to mandatory ratification procedures in the Russian Federation’s State Assembly, and therefore the government does not need to seek additional authority from the legislative branch. It also does not appear that there are any specific preconditions that such cooperation agreements must meet. Russian officials have indicated that they plan to submit the 123 Agreement to the Russian Duma for approval as an intergovernmental agreement.

The head of the Federal Atomic Energy Agency of the Russian Federation (Rosatom) or the Russian ambassador to the United States can both conduct negotiations on a 123 Agreement and sign it. The prime minister or the head of Rosatom can validate a 123 Agreement. Based on past precedent of peaceful nuclear cooperation agreements, the procedure of entering them into force is defined by the agreements themselves and by the federal law “On International Treaties/Agreements of the Russian Federation.” These legislative acts define the main components that must be included in the preliminary agreement on peaceful nuclear cooperation (such as the requirement of nonuse of transferred material and equipment for military purposes).

The agreement must also reference key related agreements between the two states, including the 1993 U.S.-Russia HEU agreement; the October 1999 U.S.-Russia Agreement Regarding Cooperation in the Area of Nuclear Material Physical Protection, Control, and Accounting; the July 1998 U.S.-Russia Agreement on Scientific and Technical Cooperation in the Management of Plutonium that Has Been Withdrawn from Nuclear Military Programs; and the September 2000 U.S.-Russia Agreement Concerning the Management and Disposition of Plutonium Designated As No Longer Required for Defense Purposes and Related Cooperation.
The prospects that nuclear energy will experience a long-predicted global expansion, both in scope and geography, appear to be increasing. The United States, too, may increase its reliance on nuclear power in the coming decades as it seeks to deal with increasing energy demand and the concern over greenhouse gas emissions. American proponents of a 123 Agreement with Russia maintain that such cooperation will help the United States pursue its own domestic and international civil nuclear goals, as well as more effectively achieve policy objectives toward Russia including influencing Moscow’s nonproliferation and nuclear trade policies. These factors are among the many that led to the Bush administration’s 2006 decision to pursue a 123 Agreement with Moscow.

Despite the current absence of a 123 Agreement between Washington and Moscow, important nuclear-related cooperation is already underway between the two former Cold War rivals. Most of this cooperation is on nuclear security and safety, and this work is likely to continue even if a 123 Agreement is not quickly implemented. The broader U.S.-Russia nuclear cooperation agenda, including the areas of cooperation laid out in the July 2007 Kennebunkport Joint Declaration from Presidents Putin and Bush, as well as the Strategic Framework Declaration of April 6, 2008, however, can only be fulfilled under a 123 Agreement (see chapter 2).

According to the Bush administration and technical experts, a 123 Agreement will enable the United States to accelerate its nuclear energy development plans by gaining access to Russian nuclear capabilities. In addition, political observers and officials believe putting an agreement in place will allow Washington to more effectively pursue the global expansion of nuclear power without increasing the risk of proliferation and to have greater influence over Russian nonproliferation and nuclear policies. Lastly, it is hoped that a 123 Agreement will improve ties between Washington and Moscow and help the United States pursue other related nonproliferation and security objectives with Russia.

It is likely that the United States can achieve some of its nuclear-related goals without an enhanced cooperative relationship with Russia. U.S. companies and government entities have mature and diverse nuclear energy and research relationships with their counterparts in Europe and East Asia. However, many U.S. officials and experts believe that Russia’s large and diverse nuclear infrastructure could be useful to the United States as it pursues its nuclear energy and research goals. Russia’s commercial nuclear industries have been active for many decades, particularly so over the past few years. Russia, for its part, can also pursue some of its goals without engaging in increased cooperation with the United States, but Russian officials are
supportive of completing such a pact for a variety of reasons (see chapter 4). Thus, the agreement is not critical for either state to achieve its stated goals but could bring important benefits to both.

**Technical Benefits**

In the near term, Washington’s desire to pursue enhanced nuclear energy cooperation with Russia is directly linked to the United States’ interest in maintaining and even increasing its reliance on nuclear energy. Over the long term, U.S. officials seek to work more closely with Russia on efforts to develop more proliferation-resistant fuel-cycle approaches that could enable nuclear energy to expand without increasing the risk of nuclear proliferation. The U.S. government is working to develop and implement a nuclear energy research and development (R&D) program. Currently, these efforts are focused on the Department of Energy’s Advanced Fuel Cycle Initiative (AFCI) and the Global Nuclear Energy Partnership (GNEP). The direction and ultimate fate of GNEP is uncertain, but given the growing global interest in nuclear power, the United States is likely to pursue long-term nuclear energy R&D over the coming years, and many technical experts believe that Russia can play an important part in those plans. The trend in these complex areas is increasingly multinational, and U.S.-Russia cooperation in advanced nuclear R&D could be beneficial for both states.

The United States’ renewed interest in nuclear power has several motives, including the need to address concerns over global warming and the importance of diversifying sources of energy supply. The U.S. government and an increasing number of energy utilities and corporations are beginning to gear up for the work required to maintain the United States’ aging fleet of existing reactors and for possible new orders for nuclear power plants. The U.S. nuclear infrastructure, stagnant for several decades after the Three Mile Island accident, may be unable to resurrect quickly all the capabilities needed to support the predicted increased demand. Russia’s nuclear complex, while also slowed over the past several decades, has retained a large and more robust industrial base than the United States and may be useful in providing key components for U.S. nuclear facilities. While the bulk of large industrial orders is likely to be filled domestically or by more established partners in Europe and East Asia, Russian capabilities may be an important supplemental source of equipment and components. In addition, access to the full array of international nuclear suppliers and partners, including those in Europe, Japan, and Russia, may be needed to help the U.S. jumpstart its own capabilities.

The potential for cooperation in these areas was highlighted by Presidents Bush and Putin at their July 2007 meeting in Kennebunkport, Maine, where they issued a Declaration on Nuclear Energy and Nonproliferation. In the document, the two presidents stated that they “share a common vision of growth in the use of nuclear energy, including in developing countries, to increase the supply of electricity, promote economic growth and development, and reduce reliance on fossil fuels, resulting in decreased pollution and greenhouse gases.” They went on to stress that both countries are “determined to play an active role in making the advantages of the peaceful uses of nuclear energy available to a wide range of states, in particular developing countries.” They
further stated that the 123 Agreement provided “an essential basis for the expansion of Russian-U.S. cooperation in the field of peaceful use of nuclear energy.” The presidents listed a number of activities their cooperation could help promote, including supplying proliferation-resistant, safe, and modern nuclear reactors internationally, developing multinational programs for the supply of reactors, helping states develop the necessary infrastructure to utilize nuclear energy, and developing solutions to deal with the management of spent fuel. Implementation of the 123 Agreement, should it be approved, would be a symbol and instrument of this new nuclear relationship and will be useful as both states seek to flesh out and implement the agenda announced in 2007. The two countries reiterated their support for cooperation in the fields of nuclear energy development and nonproliferation at the April 2008 Sochi summit meeting.

Beyond its near-term efforts, the U.S. government is pursuing several international nuclear energy programs, including the development of advanced, proliferation-resistant fuel cycles. The hope is to design and develop new fuel-cycle approaches that will enable nuclear power to expand without increasing the risk of nuclear proliferation. These two goals (expanding nuclear energy and developing new nuclear concepts), combined with a policy that seeks to avoid the worldwide spread of uranium enrichment and plutonium reprocessing facilities, has led the United States to propose broader international cooperation with a number of advanced nuclear states, including Russia.

While the 123 Agreement could benefit U.S. nuclear energy plans in the next few years, the more significant benefits of an agreement may materialize over the long run as the two countries seek to develop a deeper technical agenda in the field of nuclear energy and nonproliferation research and development. The presidents’ St. Petersburg 2006 summit resulted in the establishment of a bilateral technical expert group that laid out an agenda for technical cooperation that identified the following areas for near-term cooperation:

- develop unified safety and nonproliferation requirements for small- and medium-size nuclear power plants;
- conduct joint experiments with transuranic fuels;
- develop methodology for establishing international nuclear fuel service centers;
- develop new nuclear material and facility monitoring, control, and accounting technologies;
- increase efficiency and safety for fast spectrum reactors; and
- develop requirements for spent fuel reprocessing and waste isolation.

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Work in these areas could help form the basis of the next generation of nuclear power plants that could be sold and operate in currently developing parts of the world, as well as in advanced countries. While some of these projects may become areas of U.S.-Russia private industry cooperation, work will take place first as government-to-government projects. These efforts will take place under the ACFI and GNEP and can be expected to continue in some form as long as the United States pursues new nuclear power plants and explores new directions in the global nuclear regime.

Of particular interest from a nonproliferation point of view is how a proposed 123 Agreement might affect U.S-Russia relations on the long-standing and often controversial issue of the recycling and civil use of plutonium. In the United States, the newly formed efforts to address the future of the fuel cycle include technical efforts to develop fuel processing technologies that are more proliferation resistant than the PUREX (Plutonium-URanium EXtraction) process currently being used in Russia and France. Cooperation on recycling is somewhat controversial since the U.S. nuclear fuel cycle is currently built around the once-through fuel cycle where spent fuel (containing uranium and weapon-usable plutonium) is stored intact while awaiting permanent geologic disposal. The Department of Energy maintains that the new fuel treatment processes currently being considered will be more proliferation resistant than PUREX, which separates plutonium in a form that can be recycled as fuel for electricity production but can also be used in weapons, posing a proliferation risk.

In the past, the United States has not encouraged the reprocessing of plutonium and has not supported states’ plutonium recycling programs outside of a small group of countries with well-established, industrial-scale programs and strong nonproliferation credentials (in Western Europe and Japan). The Bush administration has adopted an alternative approach that seeks to shape the direction of fuel-management strategies in states by partnering more closely with them. It is hoped the cooperative development of new approaches with Russia will help wean states, including Russia, off of PUREX and other processes that could produce separated direct weapon-usable material and will help discourage the spread of enrichment and reprocessing technologies. The debate over whether engaging in reprocessing activities is the best way to have a policy impact on other states is an old one with a complex history. It remains to be seen if active engagement will be more successful than past efforts to discourage the civil use of separated plutonium.

U.S. officials are pursuing cooperation with Russia in order to gain access to information and facilities seen as key to pursuing technology related to advanced reactors and fuel-cycle technology. Russia has experience developing commercial-scale applications of fast reactor technology and possesses and operates large-scale chemical processing laboratories suitable for fuel processing and examination. As part of its current plans, the United States intends to fabricate and ship test fuel assemblies to Russia for irradiation, reprocessing, and examination. Shipping nuclear materials to Russia and allowing them to be reprocessed or “altered in form” requires that a U.S.-Russia 123 Agreement be in place, and U.S. officials maintain that such cooperation will be key to future U.S. efforts to develop advanced fuel-cycle technologies.
In addition to the sensitive issue of reprocessing, another plutonium-related area of discussion between the two countries is plutonium disposition. The United States and Russia are currently revising their 2000 Plutonium Management and Disposition Agreement under which both nations will dispose of at least 34 metric tons of plutonium formerly in the defense sector. Russia now intends to irradiate a considerable portion of its 34 tons in fast neutron reactors. U.S.-Russian cooperation on fast reactors has been identified as a potential area of cooperation under the scope of a 123 Agreement and could help promote greater bilateral cooperation. The United States is seeking to ensure that any Russian use of fast reactors for plutonium disposition proceeds in a way that serves broader nonproliferation and nuclear security goals. Bilateral cooperation on fast reactors under a 123 Agreement might be beneficial for the overall plutonium disposition effort, a long-standing U.S. government objective.

**Uranium Trade**

A discussion of the implications of a U.S.-Russia civil nuclear agreement would not be complete without a review of the complex and important issue of trade in uranium and uranium enrichment services between the two countries. Approximately 20 percent of U.S. electricity is produced by nuclear reactors, and roughly half of that is produced using uranium recovered from Russian nuclear warheads. This trade takes place under the terms of the HEU Purchase Agreement, negotiated between the United States and Russia in 1993. Under the deal, the United States is purchasing 500 metric tons of uranium after it is downblended into low enriched uranium (LEU). The material is then shipped to the United States for fabrication into fuel for peaceful nuclear reactors. To date, enough material for over 13,000 nuclear weapons has been diluted into LEU and shipped to the United States. The United States Enrichment Corporation is the executive U.S. agent under the agreement (and a cosponsor of this report). All of this trade can and has taken place even in the absence of a 123 Agreement because the materials have been coming from Russia to the United States.

Aside from material shipped under the terms of the HEU Purchase Agreement, Russia has been effectively unable to export additional amounts of uranium to the United States because of a trade dispute dating back to the early 1990s. Russia was accused of illegally “dumping” uranium into the U.S. market at below market value, and as a result, a large tariff was imposed on any Russian uranium sold in the United States beyond that covered under the HEU Agreement. The two sides agreed to suspend the investigation into the dumping allegations, as well as the imposition of penalties and any additional shipments of Russian uranium to the United States (besides those under the HEU Agreement) while the underlying trade issues were negotiated. In February 2008, the two sides reached a settlement that establishes new quotas for how much uranium Russia can export to the United States over the next few years, including amounts over and above what is being purchased under the 1993 HEU deal. The amounts allowed into the United States before 2012, when the HEU deal expires, are relatively small but grow substantially once the HEU deal ends to ensure that U.S. utilities will have reliable access to needed supplies of fuel.
The settlement fulfills long-standing Russian requests to deal directly with U.S. customers before the expiration of the HEU Purchase Agreement and helps U.S. customers and consumers by building additional reliability into the U.S. uranium market, which remains highly dependent on Russian imports.

An additional possible area of uranium trade that would be directly affected by the 123 Agreement would be the possible shipment of U.S.-obligated uranium to Russia for re-enrichment. It appears that Russian businesses may be interested in enriching certain kinds of U.S.-origin or obligated materials (including enrichment tails and uranium recovered from reprocessing operations). Allowing Russia to accept U.S. materials, including those owned by other countries, would give Russia access to potentially large amounts of uranium. Russia has extensive enrichment capabilities but faces shortages of domestic supplies given increasing demand. Russian entities have been especially active in pursuing joint uranium surveying and mining projects in Kazakhstan, Ukraine, South Africa, and elsewhere. There are hundreds of tons of such material in the United States and in Europe (most of which is owned by Japanese utilities located at commercial reprocessing facilities\(^2\)), and Russia has previously expressed interest in providing enrichment for such materials. Russia cannot receive or re-enrich such materials unless a 123 Agreement is in place with the United States.

Thus, it appears that implementing a 123 Agreement with Russia could be a benefit to U.S. nuclear utilities by further increasing the amount of uranium fuel available worldwide. At the same time, however, these developments could prove a concern for U.S.-based enrichers who are currently seeking to expand U.S. enrichment capabilities to compete in a growing market and who are seeking to ensure a stable and predictable market environment. It may prove hard to balance these two issues, but overall it appears that a 123 Agreement would enable the market to find equilibrium between domestic and foreign supplies of uranium and enrichment services and have a net benefit for electricity producers and consumers.

**Policy Benefits**

While some of the technical areas for bilateral cooperation can be outlined in advance, the broader political benefits an agreement may produce are harder to predict with precision. Even so, the potential benefits of an agreement for the bilateral relationship should not be discounted. U.S. officials hope that a normalized civil nuclear relationship with Russia can serve to stabilize strained bilateral relations between Moscow and Washington and that closer nuclear ties with the United States might help influence Russian decisionmaking on regional and global security issues, including Iran. There is precedent for these hopes. During the 1990s, the constructive nuclear security agenda helped moderate the relationship despite sometimes vastly different approaches to

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\(^2\) FEPC Japan is a cosponsor of this report. Many FEPC companies are owners of recovered uranium. Also, Japan and Russia have recently completed a nuclear energy cooperation agreement that would allow Japanese-owned uranium to be shipped to Russia.
issues such as NATO enlargement and missile defenses. The proposed 123 Agreement, moreover, comes at a delicate time for the bilateral relationship with the elevation of President Dmitry Medvedev to the Kremlin in May 2008 and the looming election of a new U.S. administration in November. Finding positive ways to work together will be a key task for new leaders, and for lack of other topics, the nuclear energy cooperation agenda could play a prominent and constructive role.

Nonproliferation Policy

The United States sees the completion of a 123 Agreement with Russia and the opening of closer bilateral civil nuclear commerce as a way to advance U.S. nonproliferation objectives. U.S. policy now seeks to engage Russia to further reduce the global demand for nuclear weapons, address the risks of nuclear proliferation and nuclear terrorism, and improve the protection of nuclear materials throughout Russia’s nuclear complex. Forging a more diverse, constructive, and equal partnership on civil nuclear projects could strengthen the ability of the two countries to work together on these goals and could provide a powerful symbol of success to advocates of closer U.S.-Russia cooperation inside the Russian political system. In addition, as discussed above, it is hoped that engaging Russia in developing more proliferation-resistant fuel cycles will encourage Moscow to adopt these technologies for its own domestic fuel cycle. Replacement of Russia’s current generation of plutonium production and extraction facilities could reduce the risk of nuclear theft and diversion.

The United States has also repeatedly endorsed the Russian effort to develop a multilaterally owned and operated uranium enrichment facility at Angarsk. This project remains a high political priority for the Russian government and a major business initiative of the Russian nuclear industry. While U.S. political support for the project has been welcomed, completion of a 123 Agreement would allow the United States to contribute to the effort materially. This support could even include allowing U.S.-obligated uranium to be shipped to and enriched in the facility. U.S. engagement in the project would be supportive of American efforts to reform the international nuclear fuel regime in a way that helps persuade other countries that they have no need to develop national fuel enrichment or recycling programs.

A 123 Agreement could also help reduce the spread of reprocessing capabilities to other states by opening the way for Russia to establish an international facility for storing U.S.-obligated spent fuel. Proposals for Russia to build and operate a fuel storage facility have been around for over a decade but could not proceed so long as the U.S. and Russia did not have a 123 Agreement in place. While Russia does not appear to have near-term plans for importing foreign spent fuel for storage or disposal, establishing an international spent fuel storage facility in Russia could yield important nonproliferation benefits. The main customers for such a facility may be utilities in Taiwan and South Korea, who use mostly U.S.-obligated fuel. Both Seoul and Taipei have large stockpiles of U.S.-obligated spent nuclear fuel and have no long-term disposal plan in place. These growing stocks raise concern that both may seek domestic facilities to handle the back end of their nuclear energy cycles, potentially giving both states access to weapon-usable nuclear materials and
technology. The development of domestic reprocessing in South Korea and Taiwan would ignite concern that they were developing a hedge to build nuclear weapons under the protection of a peaceful nuclear program. Establishing a spent fuel storage facility in Russia could reduce the potential interest those and other countries might have to develop domestic reprocessing capabilities. With proliferation pressures in East Asia growing as a result of North Korea’s nuclear programs, an international spent fuel facility in Russia could be a critical tool for eliminating the possible justification of a domestic reprocessing capability on fuel management grounds.

The creation of a spent fuel storage center in Russia could also provide additional resources for nuclear security upgrades and maintenance in Russia. By some estimates, Russia’s nuclear bureaucracy could reap as much as $15 billion to $20 billion in revenue over 20 years from a spent fuel facility. While it is not guaranteed that this money would go to improve the security of the overall nuclear complex, additional resources could lead to a more reliable stream of support for security upgrades. The United States could make the expenditure of resources on strengthened security a condition of its approval of the transfer of U.S.-obligated spent fuel to Russia. Moreover, states that transfer spent fuel to Russia for management will be able to raise security as part of any contractual arrangements negotiated with their Russian counterparts.

**Bilateral Relations**

The U.S.-Russia relationship is going through a difficult period of transition. Disputes over missile defense in Europe, NATO’s eastward expansion, Kosovo, Iran, and other important international issues, as well as U.S. concern over the direction of domestic policy in Russia, have exacerbated tensions between Washington and Moscow. Both sides have an important incentive, however, to ensure that interactions between the two countries remain positive and constructive.

Two areas where the interests of both countries currently overlap are the mutual desire to see nuclear energy expand worldwide and the development of more proliferation-resistant approaches to the nuclear fuel cycle and nuclear power. These areas of agreement have been repeatedly stressed by the leaders of both countries, most recently at the 2007 Kennebunkport meeting. The joint pursuit of peaceful nuclear technology and reform of the international fuel-cycle system, perhaps more than any other set of issues, has the potential to strengthen the technical and economic ties between the two countries and serve as an anchor in an otherwise choppy relationship.

U.S. officials expect that a closer and more normalized nuclear relationship with Russia could promote greater consensus in dealing with regional and global nonproliferation challenges. Historically, the United States and the Soviet Union had a shared interest in preventing proliferation and worked constructively to keep the number of nuclear states to a minimum. Over the past several decades, however, U.S. and Russian policies have diverged, and the United States has tried to sway or even compel changes to Russian policy with regards to nuclear transfers to India and Iran and on broader nonproliferation efforts as well. Improved cooperation in nonproliferation is in both the U.S. and Russian strategic interest, but competing concerns have periodically led the two countries to see issues like Iran’s nuclear program differently. While there
is no expectation that the completion of a 123 Agreement will dramatically change Russian or U.S. views on key international issues, the prospects for closer cooperation could help promote better communication and enhanced personal relationships between key officials and possibly lead to improved policy coordination on a variety of nuclear-related issues, including those involving nuclear exports and nonproliferation.

This has an important precedent. During the 1990s, there were often periods of tension in the bilateral relationship. These difficulties were eased, in part, by the importance both states placed on their bilateral cooperation on nuclear material security and reductions in nuclear armaments. High-level endorsement of this cooperative agenda by the presidents of both countries helped remind their respective bureaucracies of the importance their leaders placed on constructive relations. While disputes existed over the pace of economic and political reforms, as well as NATO expansion, Iran, missile defenses, and others familiar issues, bilateral cooperation on nuclear security issues under the Nunn-Lugar umbrella served to stabilize the broader relationship and enabled the countries’ top leadership to point to important successes. This important agenda of negotiated nuclear reductions and cooperation to secure nuclear materials has continued, but it now occupies a less central position in the bilateral relationship.

Bilateral civil nuclear cooperation could now take on the same role played by the nuclear security agenda during the 1990s. The parallel nuclear energy and nonproliferation interests in both states could prove to be an important pillar for bilateral interactions. As concerns over both global warming and nuclear proliferation grow in the years ahead, U.S.-Russia cooperation on the modernization of the global nuclear energy complex could be a critical asset. Beyond its own benefits, this cooperation could spill over and make it easier for the leadership in both countries to resolve other areas of tension and to engage on a wider range of issues, including those related to regional security, nonproliferation, energy security, etc.

Over the past several years, officials from Rosatom and within the nuclear complex have proven to be useful interlocutors and advocates inside the Russian government for closer cooperation with the United States. Their interest in completing a 123 Agreement has clearly been a motivating factor in their positive engagement with the United States. Completing and implementing an agreement may further strengthen these voices of moderation within the Russian government. Successes achieved under the label of nuclear cooperation may also provide these officials with additional incentives to urge counterparts within the Russian system to cooperate with U.S. efforts on nuclear security, nonproliferation, and broader security measures.

**Conclusion**

Various emerging interests have led the United States to reverse years of policy and negotiate an agreement for nuclear cooperation with the Russian Federation. Frustration over nuclear cooperation between Russia and Iran, among other issues, prevented the normalization of U.S.-Russia commercial nuclear relations throughout the 1990s. Now, the desire for the United States to advance its domestic nuclear industry, as well as to influence more directly the future direction
of Russian nuclear, nonproliferation, and security policies, have all led to a change in U.S. policy that could open up a more fruitful nuclear relationship with Moscow. Bilateral issues will continue to present challenges to U.S. policymakers even if the 123 Agreement enters into force. However, the agreement does not require the United States to authorize any specific nuclear trade with Russia; it only provides the legal authority needed for such trade. Licenses or approvals will be required for specific transfers of materials, equipment, and information to take place, possibly giving the United States additional opportunities to influence Russian behavior. In fact, the biggest challenge for the U.S. government may well be managing the expectations of Russian and other international partners as to what kinds of cooperation the United States may or may not be willing to authorize given current conditions. Regardless, it is clear that the U.S. nuclear industry and the government appear ready to pursue fuller nuclear relations with the Russian Federation and that doing so may well advance important U.S. energy, technical, and policy objectives.
Russia is working actively to reinvigorate and expand its nuclear industry and its reliance on nuclear power in the decades to come. Key to this process is the transformation of the formerly government-run Agency of Atomic Energy into market-oriented, state-run enterprises geared toward financial stability and profitability. Over the past several years, the Soviet Union’s old nuclear power complex has been reorganized. Its new market-oriented incarnation includes Rosatom and AtomEnergoProm with other sub-entities oriented to expand Russian domestic nuclear and export businesses and further international technical cooperation. These reform efforts are in line with Russia’s broader energy strategy—to expand Russia’s global role as an energy provider. This role will necessitate expanding the domestic production of nuclear energy as a way of freeing up fossil fuels, particularly natural gas, for export. Inherent in this strategy is the expansion of Russia’s nuclear export business to transform Rosatom into a major player in the world nuclear energy market and Russia into the “go to” country for nuclear fuel-cycle services.

The Russian Federation’s interest in concluding a nuclear cooperation agreement with the United States is grounded, in large part, in its desire to implement this strategy. Although Russia is not dependent on obtaining access to U.S. technology and is already actively pursuing its nuclear energy goals, Russian officials have consistently signaled over the past two years that they seek to cooperate further with Washington in the civil nuclear arena. Russia remains the only recognized nuclear-weapon state (under the NPT) that does not have a nuclear cooperation agreement with the United States, and it has the most advanced nuclear complex of any state without a 123 Agreement in place. Russian nuclear energy officials are clearly interested in pursuing joint projects with the United States, but they are also eager to find a way that Russia’s status as a leading civil nuclear energy country can be recognized by the United States and the Western business community. The deputy director of Rosatom, Dr. Nikolay Spasskiy, has noted that “a 123 Agreement…will eliminate the abnormal situation in our affairs. So far our cooperation [with the United States] in this area went on without sound legal basis. So any issue required a separate agreement, and this was not convenient at all. Now this anachronism will be overcome.” Russia’s interest in a 123 Agreement may have as much to do with finding a way for the United States to

This chapter is based mainly on a report provided by Anton Khlopkov of the Center for Policy Studies in Russia (PIR). His research provided the basis for the chapter, and the authors are indebted to him and his PIR colleagues.

1 Interview with Nikolay Spasskiy, Security Index 84, no. 2 (summer 2008), PIR Center, Moscow, Russia.
recognize Russia as a key nuclear energy state as with any specific cooperative project or business proposal. Spasskiy has also noted that “we do not expect any revolutionary breakthrough from [the 123 Agreement], but it will facilitate our interaction.” At the same time, it is clear that Russian government officials and technical experts see a range of cooperation that would be possible under the auspices of a 123 Agreement, and putting a 123 Agreement in place may remove artificial barriers to expanded cooperation on the Russia side.

Background

The Russian view of nuclear relations with the United States is heavily influenced by the Cold War and by an episode from the period just after its demise. In 1991, several months before the fall of the Soviet Union, the Kurchatov Institute in Russia received permission to display an advanced nuclear reactor for spacecraft power generation in the United States. Cooperation in the exploration of space had been an area of U.S.-Soviet cooperation dating back to the 1970s, and hopes for greater bilateral cooperation in space and other issues were high as the Soviet Union underwent extensive reform before its collapse in 1991. A model of the Topaz II space reactor (containing no nuclear materials) was taken to the United States for display and sparked a great deal of interest among American companies and engineers. However, when it was time to return the model to Russia, U.S. Customs officials refused to allow the system out of the United States without an export license due to its sensitive nuclear nature, even though the reactor model was designed and built in Russia. The export of any nuclear reactor designs or models, even back to their state of origin, requires an export license under U.S. law. Obtaining a license was impossible given the lack of a 123 Agreement between the United States and the USSR.

Russian scientists returned to Moscow without the Topaz model. Understandably, serious concerns were expressed in Moscow due to the dual nature of the system (it could have both peaceful and military space applications). Russian officials raised the issue directly with then-President George H.W. Bush in a letter drafted in part by Foreign Minister Eduard Shevardnadze. Eventually, a special presidential waiver for the return of the model was obtained, but the process took weeks and demonstrated the limits of U.S.-Russia cooperation. This episode helps inform Russian attitudes on nuclear cooperation with the United States and underlies, in part, the current Russian desire to establish a more normal nuclear relationship with Washington.

Interviews with Russian officials and experts, as well as other research, indicate that Russians expect considerable political, technical, and financial benefits to result from the implementation of a civil nuclear cooperation agreement with the United States. They also indicate that most well-informed experts believe that a 123 Agreement is in Russia’s strategic and technical interests. The speed and flexibility with which the Russian government reached agreement with the United States on the text of a 123 Agreement are signs of this strong interest.

2 Ibid.
Recent Developments

Over the past 18 months, the Russian nuclear industry has been active in expanding its business internationally and in laying the groundwork to ensure its position in the international nuclear services market. In February 2008, the Russian government issued a new energy “master plan” that laid out the country’s ambitious nuclear energy production plans until 2020. This new strategic plan calls for two new plants to enter operation before 2010: for one VVER-1000 reactor and eight new VVER-1200 units and one BN-800 fast reactor to start between 2011 and 2015; and for between 15 and 20 VVER-1200s and six new-design VBER-300 boiling water reactors to be completed between 2015 and 2020. Rosatom’s energy plans call for 25 percent of Russia’s electricity to be nuclear based by 2030, up from the current level of approximately 15 percent. Overall investment in the nuclear energy sector is expected to top $55 billion over the next decade, with roughly half coming from the federal budget. The remainder would come from internal sources, including gas producers who will be able to sell gas freed from domestic consumption overseas at significant profits.

These ambitious plans are matched by an equally robust set of nuclear initiatives and joint ventures launched by Russia with international partners. These include the settlement of outstanding issues preventing the expansion of uranium enrichment service sales in the United States (see below) and the establishment of partnerships with Kazakhstan and possibly Armenia for an international uranium enrichment center at Angarsk. Russia has won contracts to build two nuclear plants in Bulgaria and, in addition to pursuing cooperation with United States, is also pursuing ties with Canada, Chile, Morocco, Namibia, South Africa, and states in the former Soviet Union. Russia is also likely to bid for proposed nuclear power programs in Turkey and Egypt, as well as to continue its export efforts in India, China, and elsewhere. Russia has also recently negotiated a nuclear cooperation framework agreement with Japan in anticipation of a U.S.-Russia 123 Agreement being implemented.

This surge of activity and planning demonstrates Russia’s commitment to the expansion of nuclear power both domestically and in the international export market. Russia’s strong interest in putting in place a bilateral nuclear cooperation agreement with the United States is part of this broader strategy.

Technical Cooperation

Russian experts and officials have expressed a desire to cooperate with the United States on a number of nuclear energy–related projects for decades. Some of these projects would necessitate a nuclear cooperation agreement, while others could be pursued absent a new legal framework (discussed in chapter 2). Even though Russian nuclear activities are expanding into cooperative projects with numerous partners, cooperation with the United States is not seen as a critical requirement for Russia to pursue its nuclear energy goals. However, there are certain areas of the U.S. nuclear industry that Russian companies would like to access and that would aid Russian nuclear activities. Moreover, the political benefits (discussed below) are seen in some areas as
equally or even more significant than the technical opportunities made available under the 123 Agreement.

Russia’s interest in pursuing technical cooperation with the United States is evidenced by its desire to conclude a 123 Agreement and also by the persistent desire to see that document include a list of technical programs that could be pursued under a 123 Agreement. Article 2 of the U.S.-Russia Agreement includes a list of such projects, including: research and development on nuclear reactors and their fuel cycles, thermonuclear fusion, radioactive waste handling and the decommissioning of nuclear facilities, nuclear and radiation safety and regulation, nuclear industry and commerce, the shipment of nuclear materials, international issues related to the peaceful uses of nuclear energy including nonproliferation, IAEA safeguards and environmental protection, and other areas to be agreed upon by the parties.³

**Domestic Energy Plans**

Russia is actively seeking to expand the domestic role of nuclear power, in large part to make greater amounts of natural gas available for export to earn hard currency. With rising energy demand in Russia, Moscow announced plans in 2006 to increase the nuclear energy share of domestic electricity production to 23 percent by 2020. The plans, further updated in February 2008, seek for Russia to have 51,000 MWe of nuclear energy–based electric capacity on line by the end of the next decade. Rosatom, according to industry sources, is also planning to construct seven further floating nuclear power plants in addition to the one now under construction (see next section), each with two 35 MWe KLT-40S nuclear reactors.⁴

Key to Russia’s plans to expand its domestic energy reliance on nuclear power is the need to increase its share of the nuclear export market and improve reactor efficiency. Expanding its nuclear energy complex will create greater economies of scale in Russia and allow for greater investment to expand Russia’s domestic nuclear industrial base. Expanding Russia’s nuclear power exports has been difficult for the past several decades for a variety of reasons. The depression of the global nuclear energy market has been a major issue, as has the legacy of the Chernobyl disaster. International competition for limited markets has also been a factor as companies in several advanced nuclear states have had to rely increasingly on foreign markets for revenue. As a result, Russia has largely been limited to offering nuclear services to countries where the United States and other Western companies were unable or unwilling to compete. Moreover, Russia has often faced international pressure not to pursue business opportunities with certain countries (e.g., India and Iran) on nonproliferation grounds.

To improve their ability to pursue nuclear exports in larger, more lucrative and more internationally acceptable markets, Russian officials and industry are increasingly interested in

developing joint initiatives with the United States and other countries. Russia recognizes that Western and U.S. companies have certain areas of technical advantage over Russia, just as the United States recognizes that it can benefit from accessing certain Russian capabilities. While Russia’s nuclear industry has been far more active than its U.S. counterpart over the past several decades, there are still gaps in the Russian nuclear engineering chain and areas where U.S. technical expertise could improve the outlook for Russian exports. This is especially true in the area of control and safety systems, known as automated control and technical processes (ACPS). In the past, China and other countries have asked that some reactors purchased from Russia be equipped with non-Russian made ACPS. Partnering with German and French companies appears to have helped Russian firms win a bid to build two reactors in Bulgaria. Complete control systems cannot be exported from the United States unless the recipient or partner has a 123 Agreement in place.

There is also strong sense in Russia that pursuing Russia-U.S. or Russia-West joint ventures could enhance Russian efforts to export nuclear technology. Russia is already pursuing cooperation with German and French nuclear partners for projects in Eastern Europe and Asia and is interested in similar cooperation with the United States.

A particular area of interest to Russian companies is the possible export market for nuclear energy in Turkey. Turkey has plans to construct its first nuclear power plant on the Black Sea by 2015. Russia knows that Turkey, as a NATO member and an aspirant to the European Union (EU), may not be strongly inclined to consider Russian reactors for this energy project. However, the chances of a Russian provider being chosen would increase if it were part of a joint Russia-U.S. or Russia-Europe venture. This could give Russia an important foothold for future energy and nuclear-related cooperation with Turkey. Egypt has also announced plans to build its first nuclear power reactor, and Egypt and Russia signed a nuclear cooperation pact in March 2008.

**Efficiency**

Beyond the export market, Russian officials have expressed interest in enhancing cooperation with U.S. companies to increase the efficiency and safety of reactors already operating in Russia. U.S. nuclear power reactors are online almost 90 percent of the time, as compared with the Russian operating level of 73.4 percent in 2005. Thus, from a cost and energy supply perspective alone, Russia sees something to gain in closer cooperation with the United States and Western nuclear operators.

In addition, the United States has expertise Russia would like to harness in the area of reactor life extension. Most nuclear reactors in the United States were licensed to operate for 40 years. As these reactors reach the end of their 40-year operating licenses, the U.S. Nuclear Regulatory Commission is in the process of reviewing approvals for 20-year life extensions. This life extension process, and the work required to achieve these licenses, may be of value as Russian reactor operators work to extend the life cycles of their own plants. Russian nuclear regulators have worked closely with their U.S. counterparts over the past 15 years, and some of the experience from the U.S. market may be directly relevant to Russian utilities.
Also, Russia is eager to reduce the maintenance costs of its nuclear reactor operations. According to official Russian government projections, Russia’s nuclear operators are hoping to reduce their maintenance costs by 20 percent by the year 2015. The United States nuclear industry has already reduced its maintenance costs by almost half (from 3.4 to 1.68 cents/kilowatt hour) since the mid-1980s and this experience may be of real value as Russia works to meet its targets. Also, the United States is beginning to accumulate a considerable amount of experience in the decommissioning of small and commercial-size reactors. The technical and legal processes in the United States may have direct application in Russia, and Russian businesses are believed to have an interest in pursuing cooperation in this area. Thus, there is a full set of operating and regulatory expertise Russian experts and officials hope to tap into as the bilateral civil nuclear agenda broadens.

New Technical Areas of Nuclear Cooperation

In January 2006, Presidents Putin and Bush directed their governments to assess their respective approaches to the development of nuclear energy and recommend areas of cooperation and joint development. Their summit established a governmental experts group (which in turn established smaller working groups on specific technologies), which included representatives from the U.S. Department of Energy and Russia’s Rosatom. This group identified areas where cooperation could be pursued. These include advanced fast spectrum reactors and their fuel cycles, small- and medium-size reactors, and new technologies for spent nuclear fuel reprocessing, separation, transmutation, and waste isolation. A number of these smaller working groups are developing proposals for joint collaboration that will require or be supported by the completion of a 123 Agreement.

The 2007 Kennebunkport Joint Declaration also laid out an ambitious nuclear energy cooperation agenda that included plans for supplying proliferation-resistant, safe, and modern nuclear reactors internationally, developing multinational programs for the supply of reactors, helping states develop the necessary infrastructure to utilize nuclear energy, and developing solutions to deal with the management of spent fuel.

These two sets of statements from the two presidents lay out a rich set of areas for cooperation. Some key areas are discussed below.

New Reactor Development. The most immediate opportunities for U.S.-Russia cooperation on reactor designs relate to the development of advanced, light-water reactors (LWR). Areva and Siemens are already constructing an advanced LWR in Finland with a capacity of 1500 MW. Westinghouse and General Electric are both developing and looking to market their own advanced light and boiling water reactors. Russian entities such as Atomstroyexport may be interested in partnering with U.S. or European companies to avoid competing with both European and U.S. providers in a market that still remains extremely limited. Russian officials see a particular opportunity to provide major reactor components that the United States is not currently able to provide, like reactor pressure vessels. Russia has a number of reactor designs under development, including the third-generation VVER-1200 reactor, the BN-800, and a next-generation BN-1800 reactor is planned as well.
In addition, Russian officials have for several years been promoting the development of small- and medium-size nuclear reactors—both conventional land-based and barge-based floating reactors. Russian and U.S. officials have agreed to work together in developing uniform principles and approaches to developing such reactors for safety, nonproliferation, and commercial viability. Russia has already developed floating reactors for cold-weather environments and may want to engage U.S. companies in developing similar models for warmer climates.

**Advanced Reactors and Fuel-Cycle Concepts.** Another area where Russian companies may seek U.S. cooperation is in the development of advanced nuclear reactors. These are reactor concepts that would be phased into operation as current power reactors reach the end of their service lives over the next two decades. There are multiple concepts being advanced in this area, including both fast neutron reactors and other alternatives, including high-temperature, gas-cooled, and thorium-fueled reactor concepts. The United States has expressed renewed interest in advanced reactor concepts as part of GNEP, and Russia is particularly interested in pursuing joint projects that have significant nonproliferation advantages over existing designs.

Russia has extensive experience and investments in fast reactor technology. Russia’s BN-800 fast reactor is currently scheduled to go into operation in 2012. Moreover, Moscow has considerable legacy experience in the operation of such facilities, with systems such as the commercial-scale Soviet-built BN-350 and BN-600. By contrast, the United States has never built a commercial-scale fast reactor and has shut all of its experimental units. The United States, however, does have considerable experience in some types of fuel that could be utilized in fast reactors, including those using metal or nitride. Russia’s fast reactor fuels mostly rely on more traditional oxide fuels. In order to research and develop the most efficient, safe, and economic reactor concepts possible, Russia may want to tap into U.S. expertise on alternative fuels for fast reactors. Russian officials have maintained for years that pursuit of these capabilities, especially the use of fast neutron reactors, could have major nonproliferation benefits over existing fuel cycles but Moscow cannot cooperate with the United States in some of these areas without an intergovernmental agreement such as a 123 Agreement.

**Advanced Fuel-Cycle Research and Spent Fuel Storage Technologies.** Russia is seeking to close its nuclear fuel cycle, meaning that it hopes to create a self-sustaining energy source by reusing spent nuclear fuel and minimizing the volumes of waste that need to be processed and disposed of. This will require considerable work in the area of spent nuclear fuel storage and treatment as well as use of plutonium-based fuels (both MOX and other types) in advanced fast reactors. The United States and Russia both have experience in conventional, wet reprocessing that could be used to support research into newer approaches for spent fuel recycling and waste management. In particular, the United States has been developing a “dry” reprocessing technology for several decades that is of interest to Russia for management of fast reactor fuels.

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5 The high-temperature, gas-cooled reactor (HTGR) project is being funded by General Atomics and the thorium-fueled reactor is supported by Thorium Power. Both are sponsors of this report.
Russia has pursued recycling technologies more concertedly over the past several decades, but it may still benefit from U.S. and international research on these programs. Recycling technologies are particularly sensitive since they can be used to recover materials directly usable in nuclear weapons and are subject to special provisions under U.S. law.

Also, Russian officials in the past have tried to use the idea of an International Spent Fuel Storage Center (ISFSC) to help build internal support for the development of technologies needed for extended spent fuel storage in Russia. Prolonged spent fuel storage could provide important additional time to develop advanced fuel-cycling technologies. The reduced interest in Russia providing spent fuel storage services for third countries (see below), however, does not reduce Russia’s need to develop more advanced dry and wet fuel storage capabilities as it pursues a closed cycle. More important, however, is the need for Russia to develop alternatives to current wet reprocessing technologies that produce large amounts of radioactive waste. Russia is keenly interested in developing more advanced and lower waste product reprocessing streams and has expressed support for working with the U.S. GNEP program, which envisions several kinds of separation technologies.

The head of Russia’s Rosatom, Sergei Kiriyenko, has said that U.S.-Russia peaceful nuclear cooperation would include joint development of new nuclear technologies, including fourth-generation reactors. In this connection it is worth noting that, on July 13, 2006, the Generation IV International Forum (GIF), a group of the world’s leading nuclear nations working together to develop more efficient and less waste-intensive advanced reactors to meet future energy challenges, voted unanimously to extend an offer of membership to China and Russia.

**Uranium Service Sales**

One of the strongest motives behind Russia’s desire to negotiate a 123 Agreement relates to the complex issue of selling uranium enrichment services. Russia’s extensive uranium enrichment facilities left over from its Cold War nuclear program give it a major resource it hopes to exploit for hard currency and trade. However, a significant percentage of the uranium available worldwide that could be sent to Russia for enrichment is covered by U.S. consent rights because it was either mined or originally enriched in the United States. For example, Japan and several European countries own large amounts of U.S.-obligated uranium recovered from reprocessing in Europe. These states have an interest in having this material re-enriched for use in domestic reactors. Russia and Japan, for example, have negotiated a nuclear cooperation agreement that would allow for this trade, but it cannot take place without U.S. legal consent. This consent cannot be given without a U.S.-Russia 123 Agreement. State Department officials have indicated that they would support a Japan-Russia agreement but have been cautious not to get too far out in front of the negotiations on the U.S.-Russia agreement. In addition, Russia believes there is a lucrative market in re-enriching depleted uranium left over from previous enrichment activities

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6 The Federation of Electric Power Companies of Japan and AREVA are sponsors of this report.
only now made economical by the rising price of uranium. The United States possesses large amounts of these “enrichment tails” that could be sent to Russia for enrichment.

Efforts that help increase the reliability and vitality of the uranium supply market could also be helpful in undermining the rationale for more states to develop national enrichment capabilities. The expansion of existing uranium resources and the establishment of both international uranium enrichment centers and redundant fuel supplies could also help in this regard (discussed below). Making more enriched uranium available to the market could further undermine arguments made in support of initiating enrichment efforts in states currently lacking such facilities.

Russia already provides 50 percent of the uranium used in U.S. nuclear reactors through the HEU Purchase Agreement. In an effort to normalize the U.S.-Russia nuclear relationship, Russia has recently succeeded in long-standing efforts to resolve an outstanding set of legal hurdles to expanding its ability to sell enrichment services to U.S. customers. Since the early 1990s, Russia’s ability to provide enriched uranium—beyond the materials covered in the HEU Purchase Agreement—was blocked by accusations that Russia was “dumping” (or selling at a below market price) uranium onto the U.S. market. The investigation into this matter was suspended until 2007, along with Russia’s ability to export any additional material (beyond that covered in the HEU Purchase Agreement) to the United States.

This arcane and prolonged battle was resolved in December 2007 when the United States and Russia agreed to terms that would allow Russia to resume sales of enrichment services to U.S. customers. The deal sets quotas on the amounts of material that Russia can sell to the United States, but it allows Russian officials to achieve their stated goal of establishing direct commercial contracts with U.S. customers before the expiration of the HEU Purchase Agreement. The limits would allow Russia to continue providing the lion’s share of uranium to U.S. customers once the HEU deal expires in 2012.

**International Enrichment Center**

Another issue related to both the 123 Agreement and Russia’s desire to use its extensive enrichment capabilities is President Putin’s proposal to establish an International Uranium Enrichment Center (IUEC) in Angarsk. Russian officials believe that, by enabling U.S.-obligated uranium (in Europe and elsewhere) to be sent to Russia for enrichment, a 123 Agreement would allow for fuller U.S. participation in the IUEC project and increase its chances of succeeding.

In January 2006, President Putin proposed the creation of IUEC in Russia to provide uranium enrichment services on a nondiscriminatory basis under the supervision of the International Atomic Energy Agency. This proposal was linked to the growing crisis over Iran’s pursuit of an independent fuel enrichment capability but also addressed the larger problem of fuel-cycle capabilities proliferating around the world. Putin’s initiative came a year after President Bush’s initiatives to reduce the spread of fuel-cycle technologies to additional states. Both the United States and Russia now support the development of alternative fuel-cycle approaches to ensure the
reliability of the nuclear fuel market. This confluence may be enhanced by a nuclear cooperation agreement, and certain of these concepts could benefit from a normal trading relationship between the two states. Establishment of the Russian center with U.S. cooperation would help improve the outlook for its success and could provide sources of revenue. This would, in turn, help lock in Russia’s position as a commercial provider of enrichment services.

**Spent Fuel Storage Facility**

Beginning in the 1990s, Russian nuclear officials began proposing the establishment of an international spent fuel storage facility in Russia. The accumulation of large amounts of U.S.-obligated spent fuel in countries such as Taiwan and South Korea offered Russia a potentially lucrative market to provide such services, and given its vast nuclear complex and experience, Russia seemed well placed to build and operate such a facility. The fact that most of the fuel in these countries is U.S. obligated, however, meant that any plan would first require the completion of a 123 Agreement between Russia and the United States.

In 2001, the Russian Duma approved a change to Russian law governing nuclear commerce, allowing the import of spent fuel from foreign countries under certain circumstances. Differing proposals for a spent fuel facility have been put forward over the past decade. Some ideas would store the fuel for decades pending return to the state of origin, while others would store the fuel pending reprocessing in Russia. Under this latter proposal, the waste products and even the plutonium could be shipped back to the customer. Both the transfer of U.S.-obligated materials to Russia and their reprocessing would require U.S. consent and a 123 Agreement. Estimates of the exact profit for Russian entities are hard to validate, but depending on the scope of the proposed activities, Russia could gain between $15 billion and $20 billion over the life of such a storage facility.

Given the relative strength of the Russian economy due to oil and gas exports, the need for Russia to pursue this initiative as a source of hard currency has diminished over the past several years. Moreover, given criticism from environmental groups in Russia, Russian officials—specifically Rosatom director Sergei Kiriyenko—have become extremely cautious about endorsing such concepts. Thus, the likelihood that a spent fuel storage facility project will gain near-term acceptance in Russia has diminished over the past two years.

**Political Benefits**

Russia hopes that completion of a 123 Agreement with the United States will bring with it legal protections and technical opportunities in the fields of civil nuclear cooperation and enable Russian commercial entities to more effectively pursue domestic and international goals. Russian officials and technical experts also hope to gain nontechnical benefits from completing a 123 Agreement, benefits that are only tangentially related to the agreement itself. As indicated in chapter 2, some significant areas of nuclear cooperation are already underway without a 123 Agreement in place. These can be expected to continue even in the absence of a 123 deal, including important work on nuclear security projects inside Russia and the continued sale of
Russian-enriched uranium for U.S. power reactors. However, Russian officials expect that a 123 Agreement will give a political and symbolic boost to bilateral cooperation as well as improve the Russian nuclear industry’s prospects both at home and abroad.

One key political benefit that Russians see coming from a completed 123 Agreement is the prospect that the United States and other advanced nuclear states will accept Russia as a nuclear peer. As noted above, Russia is the only NPT nuclear-weapon state without a peaceful cooperation agreement with the United States. There is a strong desire in Moscow to establish a more “normal” nuclear relationship with the United States. Even though the U.S. nuclear industry is not as dominant as in past years, the political “stamp of approval” that would come with a normalized nuclear relationship is seen as useful inside Russia.

Russian officials also hope that adoption of a 123 Agreement will reduce some of the tension that has characterized U.S.-Russia nuclear interactions over the past decade. This, some hope, will increase Russia’s ability to cooperate with the United States even in areas available without a legal agreement. While Russian officials understand that Washington and Moscow will not always see eye to eye on certain Russian nuclear exports, there is a hope that broadened nuclear and economic cooperation between the two will help resolve remaining differences and bring about greater cooperation in the nonproliferation area.

**Bilateral Relations**

Russian officials and industry representatives also expect, rightly or wrongly, that a 123 Agreement may improve U.S.-Russia bilateral relations generally. Although that relationship has become strained in recent years on a variety of fronts, groups within Russia—including the nuclear industry—are eager to maintain and expand cooperative ties in areas where interests converge, including the future expansion of nuclear energy. As leaders in nuclear energy technology with a strong incentive to prevent the further spread of nuclear weapons, Russia and the United States have a common stake in expanding the use of nuclear power in a way that minimizes the risk of proliferation. With the current U.S. administration looking to revive the U.S. nuclear industry and explore approaches to the fuel cycle similar to those long advanced in Russia, the outlook on civil nuclear energy in both countries has never been closer. Cooperation in this area can provide policymakers on both sides an incentive to maintain positive relations, especially in trying times.

Also, beyond the technical benefits of a 123 Agreement, there is a sense in Russian technical and political circles than the implementation of a 123 Agreement would be a useful step in putting the U.S.-Russia security relationship on a more stable footing. Many in Russia have complained that past security and technical assistance has had too much of a donor (U.S.)–recipient (Russia) quality, which has hampered cooperation in some areas. Changing this dynamic could lead to Russia taking greater responsibility for internal nuclear security efforts, including possibly expanding existing efforts to additional civil facilities and into new areas of work related to counterterrorism.
Conclusions

Russian governmental and commercial entities believe a 123 Agreement with the United States would facilitate cooperative projects with the West, allow for Russia to increase its nuclear energy export opportunities, and generate additional revenue for internal requirements. A new formal intergovernmental agreement between the two countries will also provide a level of stability and predictability that will help to strengthen overall relations between Russia and the United States. The benefits to Russia for completing a 123 Agreement appear modest, but tangible. If a U.S.-Russia peaceful cooperation agreement is not put into effect or not implemented, then the negative impact on cooperative projects with the United States could be felt outside the nuclear arena, and the credibility and influence of Russian nuclear energy officials who have advocated better relations with the United States could be adversely affected.
On May 6, 2008—Vladimir Putin’s last full day as president of the Russian Federation—Sergei Kirienko, director general of Rosatom, and William J. Burns, U.S. ambassador to Russia, signed the 123 Agreement that had been initialed nearly a year earlier. The signing date reflected not just political considerations, but also legal urgency. Under the terms of the Atomic Energy Act, the signed agreement, along with a Nonproliferation Impact Statement and accompanying letters from the U.S. secretaries of state and energy and the chairman of the Nuclear Regulatory Commission, must be submitted by the president to the Congress. As noted in chapter 2, since the proposed U.S.-Russia agreement meets all the requirements of Section 123 of the Atomic Energy Act, the agreement would enter into effect after a review period lasting 90 days of continuous session, unless the Congress were to enact a joint resolution of disapproval. Had the signing been delayed beyond May 6, the 2008 congressional session would most likely have ended before the 90-day clock would have run. As this report goes to press, it remains unclear whether enough continuous days remain in the 110th Congress to allow entry into force in this manner.

Given the uncertainty surrounding the legislative calendar, it is important to remember that the Atomic Energy Act also permits the Congress to adopt a resolution of approval of the 123 Agreement, which would obviate the need for the agreement to lie before the Congress for the full 90-day review period that otherwise would be required.

In the event, the White House submitted the 123 Agreement to the Congress on May 13, where it did not encounter a warm reception. Last fall, the House had already gone on record by passing H.R. 1400, which would bar entry into force of a 123 Agreement with any country “that is assisting the nuclear program of Iran or transferring advanced conventional weapons or missiles to Iran” until that country

- has suspended all nuclear assistance to Iran and all transfers of advanced conventional weapons and missiles to Iran; and
- is committed to maintaining that suspension until Iran has implemented measures that would permit the President to determine that Iran has ceased its efforts to design, develop, or acquire a nuclear explosive device or related materials or technology.

The Senate counterpart to that bill, S. 970, has already garnered more than 70 cosponsors, although it is uncertain when and if the Senate bill will pass, be reconciled with the House version, and become law. Once it became clear that the signing of the agreement was imminent, Representatives Ed Markey, John Dingell, and Bart Stupak, and 33 senators led by Senators Evan Bayh and Norm Coleman, urged the president not to proceed with the 123 Agreement.
The Congress now bears the important responsibility of reviewing the 123 Agreement in the light of its constitutional authorities, the statutory requirements of the Atomic Energy Act, and considerations of public policy. As noted in chapter 2, the signed agreement does fulfill the requirements of Section 123 of the Atomic Energy Act. Given that fact, the balance of this conclusion will be devoted to reviewing the 123 Agreement from the perspective of U.S. national interests, informed by the analyses from the earlier chapters.

A number of public policy considerations must be weighed in evaluating the impact of the 123 Agreement, relating to U.S. national security, energy, environment, and economic objectives. Among these considerations, those relating to national security hold the greatest salience and urgency and will receive the greatest attention in the pages that follow.

**Impact of the 123 Agreement on U.S.-Russia Relations**

U.S.-Russia relations have deteriorated markedly in recent years. From a relatively auspicious beginning in the current administration, when Presidents Bush and Putin established a good working relationship in their first meeting in Slovenia and President Putin decided (despite objections from some of his top advisers) to permit the U.S. armed forces to use Central Asian military bases as a platform for operations in Afghanistan in the wake of the 9/11 attacks on the United States, the story has been one of chronic disagreement and disappointment. The differences have run the gamut from mutual mistrust and antagonism over such issues as NATO expansion and the colored revolutions in Ukraine and Georgia, to the Conventional Forces in Europe treaty, missile defenses and gas-pipeline routes to Europe, rule of law and investor protections for foreign businesses in Russia, disagreement over whether to recognize an independent Kosovo, and many more. Russia’s supply of conventional arms to Iran and China also runs contrary to U.S. interests. Substance aside, the tone of Russian foreign policy statements toward the United States has been increasingly critical and abrasive in recent years.

It is far too early to say whether the U.S.-Russia bilateral relationship will move in more positive directions under President Medvedev. Medvedev has repeatedly spoken out against “legal nihilism,” most recently in his inaugural address, identifying the strengthening of the rule of law in Russia as his top priority. It indeed has a very long way to go. On the other hand, it is important to note that Medvedev has spoken approvingly of Putin’s assertive foreign policy, as when he echoed the criticism of others’ “intentions to intrude in the affairs of other states,” an implicit slap at U.S. foreign policy. Finally, Putin, newly anointed as prime minister and surrounded by many of his own loyalists, will likely retain an important role in shaping Russian foreign policy, including toward the United States, for some time to come.

What is the appropriate way to consider the 123 Agreement in the context of the broader bilateral U.S.-Russia relationship? Two opposing options frame the spectrum of possible approaches. First, one could conclude that negative Russian behavior on other subjects justifies “punishing” Russia by blocking a 123 Agreement. This approach suffers two drawbacks. First, and most importantly,
to the degree that the 123 Agreement would reduce the nuclear threat faced by U.S. citizens, it would seem to be counterproductive to compromise those benefits by blocking the agreement’s entry into force. Protecting Americans against nuclear threats is of paramount importance and should not be held hostage to other national interests, even important ones.

The second drawback only magnifies the first; as a practical matter, blocking a 123 Agreement would not likely produce improved Russian conduct on these other issues, but rather produce retaliatory responses likely to inflict further damage on U.S. interests. It would seem unwise to dismiss out of hand the possibility that Medvedev may chart a friendlier course toward U.S. interests by greeting the new Russian president with a strong, negative message. Blocking the 123 Agreement would effectively vindicate the most hostile aspects of Russian foreign policy, while souring the political environment surrounding one of the only major issues (and the most important one, at that) where the United States and Russia find substantial common ground of self interest. This deterioration could adversely affect cooperation on nonproliferation and terrorism, undermine key security benefits for U.S. citizens, and reverse gains that have been accomplished over many years of work in Cooperative Threat Reduction, the Proliferation Security Initiative, and other joint programs. Indeed, blocking the 123 Agreement could lead to negative impacts on healthy existing programs that reduce nuclear threats to U.S. citizens at a time when the Russian Federation is increasingly willing to pay for its share of the cooperation.

The second, opposing option would be to approve the 123 Agreement on the theory that it will help restore a greater sense of mutual interests in the broader U.S.-Russia bilateral relationship, thus leading to progress on other subjects of concern. Here, again, one’s expectations should be modest. True, entry into force of the 123 Agreement would clearly represent a significant step forward in U.S.-Russia bilateral relations and would likely improve the overall political atmosphere and sense of shared interests between the two nations. That said, approval of the 123 Agreement is unlikely to reduce Russian attachment to their traditional interests and objectives (e.g., their freedom of action in the near abroad, opposition to NATO expansion, etc.) any more than it is to reduce U.S. commitments to our traditional interests and objectives. At best, it could help reverse the downward slide in the relationship and provide a beachhead from which to begin to build a more positive bilateral relationship.

The bottom line is that the 123 Agreement’s effect on other issues—whether it is withheld to coerce or approved to promote improved Russian conduct—is likely to be limited. Therefore it is more appropriate to judge the 123 Agreement in terms of its effect not on the full range of other issues but rather on those to which it more directly relates and where its impact is bound to be more significant, both in scale and intrinsic importance, namely national security and nonproliferation.
Impact of the 123 Agreement on U.S. National Security and Nonproliferation Interests

The dominant national security interest directly affected by the 123 Agreement is the interest of the United States in combating nuclear proliferation, both globally and—most critically where Russia is concerned—in Iran. It is noteworthy that, despite the overall deterioration in U.S.-Russia bilateral relations noted above, in relative terms the issue of thwarting nuclear proliferation and nuclear terrorism represents an island of cooperation in a sea of acrimony. Despite their many sharp disputes and the overall sourness in the relationship, the United States and Russia have been able to work together up to the presidential level in the area of reducing nuclear threats. On July 3, 2007, President Bush and President Putin issued a joint declaration at Kennebunkport that pledged “to play an active role in making the advantages of the peaceful use of nuclear energy available to a wide range of interested States, in particular developing countries, provided the common goal of prevention of proliferation of nuclear weapons is achieved.” The declaration underlined both presidents’ strong support for the Nuclear Non-Proliferation Treaty and its further strengthening, for universal adherence to the IAEA Additional Protocol, and for the activities of the IAEA with respect to both safeguards and promotion of peaceful nuclear energy.

Less than a year later, during their final meeting as presidents at Sochi in April 2008, Presidents Bush and Putin built on the Kennebunkport Declaration by signing a strategic framework. The framework charted a path forward on a wide array of issues related to security (post-START, missile defenses, INF, arms sales, defense technology cooperation), combating global nuclear terrorism (through bilateral and multilateral initiatives), as well as economic and climate change issues. On nonproliferation, the Sochi Declaration identified a dozen areas of cooperation, including cooperation to upgrade security at Russian nuclear facilities, the Proliferation Security Initiative, assurances of nuclear fuel supply to dissuade new countries from uranium enrichment and plutonium reprocessing, the Global Initiative to Combat Nuclear Terrorism, and cooperation in addressing the proliferation threats posed by North Korea and Iran. Also under the rubric of preventing the spread of weapons of mass destruction, the Sochi Declaration pledged the two sides to sign and bring into force the 123 Agreement “in the near future.” On Iran, the Sochi Declaration included the following statement:

We remain committed to political and diplomatic efforts to find a negotiated solution guaranteeing that Iran’s nuclear program is exclusively for peaceful purposes. We reiterate the necessity for Iran to comply with the requirements of the IAEA Board of Governors and United Nations Security Council Resolutions 1737, 1747, and 1803, including full and verifiable suspension of enrichment-related and reprocessing activities. We affirm our commitment on the way forward as expressed in the March 3, 2008, statement by the P5+1 Foreign Ministers. Russia’s agreement to deliver nuclear fuel and take back spent fuel from Iran’s nuclear reactor at Bushehr is a welcome step that provides Iran a civil nuclear power capability without the need for the indigenous enrichment of uranium or reprocessing of spent nuclear fuel.
Standing beside President Putin at a joint press conference, President Bush acknowledged Russia’s cooperation to date on Iran:

We talked about Iran. As I told Vladimir, that in the States, when asked about this at the press conferences, I’ve always told people how much I appreciate his leadership on the Iranian issue. After all, Russia went to the Iranians and said: You should have civil nuclear power. I agree. He then went on to say: And we’ll provide the fuel for you. Therefore, there’s no need for you to enrich.

And it’s your leadership on this issue, Mr. President, that’s very important in making sure that the regime honors the international commitments that we expect it to.

Subsequent to the Sochi Declaration came the welcome news that Russia had shut down one of the last remaining plutonium-production reactors—the first such shutdown in over 15 years, carried out in cooperation with the Department of Energy’s National Nuclear Security Administration (NNSA)—to help eliminate weapons-grade plutonium production in Russia.

While it may seem strange that Russia has shown a unique degree of cooperation with the United States in the area of fighting proliferation and nuclear terrorism despite the raft of disagreements in other areas, in fact it is perfectly understandable for a simple reason: cooperation to reduce nuclear threats clearly falls within the vital interest of each country, as well as in the broader interests of all nations in minimizing nuclear dangers. Russia was not doing the United States a favor any more than the reverse; each government was acting to protect its own citizens.

To be sure, these agreements and areas of cooperation with Russia do not imply total harmony between Moscow and Washington on nuclear issues, either in the development or implementation of policies. As noted in chapter 1, while Russia has made important progress in some areas aimed at preventing Iranian development of nuclear weapons, in other areas they have been less cooperative and at times have sought to dilute and delay actions aimed at confronting Iran’s defiant nuclear program. Moscow has often been a frustrating interlocutor, and it would be naïve to expect that this will change any time soon. (It is worth noting, however, that Russia is not the only country that has pushed back against U.S. efforts to maintain a solid, hard line against Iran’s nuclear activities. Some of our European allies have also advocated a more accommodating posture toward Iran.)

Nor does entry into force of a 123 Agreement imply that the United States should curb its strong opposition to actions by Russian entities that provide dangerous nuclear assistance to potential proliferators. The U.S. government has had serious concerns that Russian entities have provided sensitive nuclear assistance to Iran and has pursued those concerns vigorously with the Russian authorities. In that context, Russia has recently provided assurances at the highest levels that any such assistance will be stopped, which appears to have been a critical factor in the administration’s decision to sign the 123 Agreement. It is imperative that the United States continue to monitor nuclear commerce closely—and remain engaged with the Russian Federation—to make sure
those assurances are fulfilled. The need for case-by-case U.S. government approvals for nuclear transfers to Russia will enable us to curtail transfers to Russia if those assurances are not honored.

Indeed, as noted in chapter 2, Section 129 of the Atomic Energy Act provides that, if the president finds that the Russian Federation has materially violated the 123 Agreement, transferred sensitive equipment or technology, or otherwise assisted another country to gain access to nuclear weapons, then he or she must terminate nuclear cooperation with Russia “unless the President determines that cessation of such exports would be seriously prejudicial to the achievement of United States non-proliferation objectives or otherwise jeopardize the common defense and security” and explains why in a report to Congress. So existing law already requires that the United States can and must act if the Russians are assisting the Iranians or others in their pursuit of nuclear weapons.

The key question now, however, is not what grade the United States should assign Moscow for its degree of compliance with U.S. wishes in combating the spread of weapons of mass destruction (including in Iran). Rather, the key question is whether Russian cooperation with the United States and support for U.S. policies will more likely be enhanced by bringing the 123 Agreement into force or blocking it.

To analyze that question requires, first, that the 123 Agreement be considered in the context, not of overall U.S.-Russia relations, but of U.S.-Russia security (and more narrowly nuclear) relations. Here, the Sochi Declaration merely codified through formal agreement that which had already been true for years, namely that the 123 Agreement is only one tile in a much wider mosaic of U.S.-Russia nuclear relations, including post-START issues, fighting global nuclear terrorism, cooperating in interdicting nuclear smuggling operations, improving security over vulnerable Russian nuclear-weapon materials, and supporting reliable fuel assurances to new nuclear energy players to reduce their perceived need for their own uranium enrichment and plutonium reprocessing facilities. Compared to some of these other initiatives, Russian interest in obtaining U.S. approval of the 123 Agreement is particularly strong. Indeed, it is this quality that seems to make the 123 Agreement an attractive “hostage” to take in order to extract further concessions from Russia.

Unfortunately, such hostage taking may well backfire. A likely Russian reaction to the United States walking away from its Sochi Declaration commitment to bring the 123 Agreement into force would be to walk away from a high U.S. priority in that declaration, perhaps the strong Russian commitment to cooperate on Iran. In addition, the notion that the United States can continue to dangle—but not approve—a 123 Agreement in order to induce improved Russian conduct on proliferation matters is based on a number of questionable assumptions:

1. that the benefits from the 123 Agreement are not reciprocal but rather that Russia has much more to gain than the United States under the agreement;

2. that the prospect of the 123 Agreement remains an evergreen source of leverage, so that the United States never needs to deliver on its side of the bargain in exchange for past
Russian actions but just needs to keep moving the goalposts to secure still further Russian concessions;

3. that the 123 Agreement confers significant benefits simply by entry into force, without any implementing contracts or licenses; and

4. that the United States will enjoy more leverage over Russia by abstaining from the expanded forms of peaceful nuclear cooperation enabled by the 123 Agreement than through increasingly robust forms of nuclear cooperation.

These assumptions do not stand up well to scrutiny. First, it would be a mistake to presume that Russia wants or needs a 123 Agreement much more than the United States does, and that we therefore have continuing leverage in withholding such an agreement from the Russians. Chapters 2 and 3 make it clear that both the United States and Russia will gain from the enhanced nuclear cooperation enabled by a 123 Agreement. While Russia would clearly like an agreement (for reasons identified in chapter 4), it can live without it. As the Russians are already proving by establishing nuclear energy partnerships with a variety of Western and other countries, they have alternatives to the United States and U.S. companies.

Thus the gains for Russia in cooperating with us are not so significant that we can expect Moscow to make major changes of policy (e.g., halting Bushehr) in order to achieve them. Indeed, even in the 1990s, when Russia was in desperate economic shape, the lure of a 123 Agreement—and the $10 billion to $20 billion in economic benefits then assumed available from hosting spent fuel storage facilities in Russia—was not sufficient to persuade Russian leaders to terminate all nuclear cooperation with Iran. Today, when Russia is riding high economically, our leverage is even weaker.

Second, over the past several years the United States has successfully used the prospect of a 123 Agreement as part of a strategy to help persuade Russia to fulfill several important U.S. objectives:

- to curtail sensitive nuclear cooperation with Iran;
- to insist on a cradle-to-grave contract under which Russian will supply enriched uranium to the Bushehr reactor and remove from Iran all spent fuel, with the unseparated plutonium that material contains; and
- to support three UN Security Council resolutions imposing (admittedly modest, but increasingly tough) sanctions on Iran in response to its nuclear defiance.

It would be unwise to assume that we can keep using the prospect of mere entry into force of a 123 Agreement to provide further leverage to secure further concessions. It is a wasting asset. If blocked by the Congress, its residual value may be lost.

Third, entry into force of the 123 Agreement in and of itself does not confer any tangible benefit—no revenues, no contracts, no licenses—to Russia. It is not a self-executing agreement. It simply establishes a legal framework within which specific nuclear cooperation agreements and
deals can be negotiated. The other principal benefit is that it sends a political message that the
United States views Russia as its partner, not the object of its concern or target of coercion.

Fourth, if the 123 Agreement is approved, and U.S. companies begin to cooperate with Russia,
then the Russians will gain a vested interest in continued cooperation with the United States. They
will also understand that such cooperation cannot continue absent cooperation with the United
States in dealing with Iran. And they will be led by self-interest to a greater degree of cooperation
with U.S. efforts to confront Iran. As if to underline this point, after the 123 Agreement was
signed, in one of his final acts as president, Vladimir Putin signed a decree implementing the
provisions of the UN Security Council Resolution 1803, imposing new sanctions against Iran over
its refusal to halt uranium enrichment. Thus, entry into force of the 123 Agreement will likely lead
to new and, in fact, growing U.S. leverage over time, while at the same time aligning U.S. and
Russian overall nuclear interests more closely so that Russia is more likely to see its self-interest
served by cooperating on nuclear (and other) matters.

And if, for whatever reason, the logic of self-interest does not persuade Russia to cooperate with
the United States vis-à-vis Iran, then the United States still retains leverage and can withhold
further peaceful nuclear cooperation with Russia. The reason is that, as pointed out in chapter 2,
actual cooperation requires case-by-case U.S. approvals. That legal requirement will give Russia
continuing incentives for cooperation and for avoiding irresponsible nuclear interactions with
third parties.

If one were to consider the 123 Agreement not merely as a source of leverage over the Russians
but rather as the cornerstone of enhanced cooperation with them, still other nonproliferation
benefits may be realized. As the Kennebunkport and Sochi declarations make clear, preventing
nuclear proliferation and nuclear terrorism are areas where U.S. and Russian interests clearly
coincide. A 123 Agreement could facilitate bilateral cooperation in those areas over the long
run—for example, developing more proliferation-resistant nuclear energy technologies, providing
fuel assurances to new entrants to the nuclear power market, and cooperating in developing a new
international civil nuclear energy architecture (with international fuel-cycle centers) that would
enable countries around the world to rely more heavily on nuclear power to meet their growing
energy needs without increasing the dangers of proliferation. Although Russian interest in the idea
of an international spent fuel storage facility has flagged in recent years, entry into force of a 123
Agreement would permit Russia to generate significant revenues from building such a facility (by
permitting shipment to such a facility of U.S.-origin fuel from third countries). A spent fuel
storage facility could also serve nonproliferation goals by offering states back-end fuel-cycle
services as an alternative to investing in and developing their own fuel-cycle capabilities.

**Impact of the 123 Agreement on U.S. Interests in Nuclear Energy and the Environment**

Chapters 3 and 4 analyze the nuclear energy benefits that the United States and Russia may be able
to achieve once the 123 Agreement enters into effect. It is not necessary to repeat those in detail
Here. Some of the technical areas that might be facilitated include research and development on nuclear reactors and their fuel cycles, thermonuclear fusion, radioactive waste handling and the decommissioning of nuclear facilities, nuclear and radiation safety and regulation, and environmental protection.

Another significant contribution may come in the expansion of nuclear power to meet rising power generation requirements around the world. The nuclear industry has seen a great deal of consolidation in recent years, and now a relatively few major players are seeking opportunities to sell nuclear power stations to a host of countries that have never before built, owned, or operated these reactors as part of the electricity infrastructure. Every week the newspapers seem to report additional governments either deciding to build nuclear power plants or moving seriously down that road, including a number of countries in Asia and the Middle East. The 123 Agreement will allow U.S. companies to cooperate with Russian counterparts in pursuit of these opportunities. This will bring three benefits to the United States. First, to the extent that U.S. companies team up with Russian companies in building reactors in new markets, U.S. involvement will ensure that the highest standards of nonproliferation will be applied to those projects. Second, to the extent that cooperation with Russia may expand market opportunities for U.S. companies, it may help ensure the continued vitality of the U.S. domestic nuclear industry, with the technical and human infrastructure to remain a major player in setting the global agenda for nuclear energy and nonproliferation policies. Third, to the extent that international cooperation, including with Russia, presents the U.S. nuclear industry with new opportunities to expand their activities, it will also allow those companies to spread their costs across a broader customer base, thereby reducing marginal costs and increasing their competitiveness.

The environmental impact of the 123 Agreement could also be positive. A 2003 MIT study analyzed future electricity demand trends (driven significantly by demand in developing countries to modernize and industrialize their countries) and concluded that in order for nuclear power simply to make a significant contribution to capping greenhouse gas emissions, it would need to retain its existing market share of electric power generation (17 percent) worldwide. That, in turn, would require the global nuclear fleet to triple in size, to a roughly 1,000-GWe installed base. Expansion of nuclear power on that scale will require extensive international collaboration among leading suppliers. Working together with Russia, therefore, the U.S. nuclear industry could make a significant contribution to the fight against global warming. Failing to do so may disadvantage U.S. industry in its efforts to participate in this worldwide effort.

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Taking all of the considerations from this and the foregoing chapters into account, we conclude that U.S. nuclear nonproliferation objectives—including the imperatives to thwart Iran’s nuclear weapon ambitions and prevent nuclear terrorism—cannot be achieved without active cooperation of the Russian Federation. Blocking the 123 Agreement would undermine U.S. efforts to persuade
Russia to continue, much less expand, such active cooperation. Entry into force of the agreement would be an important step in securing and expanding U.S.-Russia cooperation on nuclear nonproliferation goals and will engage the self-interest of the Russians in that cooperation. Over time it will enhance, not deplete, the reservoirs of U.S. leverage and influence vis-à-vis Russian nuclear activities. The U.S.-Russia 123 Agreement should therefore be approved.
The following pages reproduce the text of the U.S.-Russia 123 Agreement in facsimile form.
AGREEMENT BETWEEN
THE GOVERNMENT OF THE UNITED STATES OF AMERICA
AND THE GOVERNMENT OF THE RUSSIAN FEDERATION
FOR COOPERATION IN THE FIELD OF
PEACEFUL USES OF NUCLEAR ENERGY

The Government of the United States of America and the Government of the
Russian Federation, hereinafter referred to as the Parties;

Convinced that the use of nuclear energy for peaceful purposes is a reliable
basis for meeting national energy sector requirements in a manner that is
sustainable, environmentally safe, and economically beneficial;

Seeking to expand and enhance mutually beneficial cooperation in the field of
the peaceful uses of nuclear energy on a stable, reliable, and predictable basis;
Recognizing that the expansion and enhancement of cooperation between the
United States of America and the Russian Federation on an equal footing will
help strengthen international stability, as well as promote political and
economic progress;

Taking into account that both the United States of America and the Russian
Federation have achieved an advanced level in the use of nuclear energy for
production of electric power and in the development of nuclear industry and
scientific research in this field, and guided by the common goals of achieving a
higher level of safety and protection of populations and the environment;

Mindful of their respective obligations under the Treaty on the Non-
Proliferation of Nuclear Weapons of July 1, 1968 ("NPT"), to which both the
United States of America and the Russian Federation are parties;
Reaffirming their commitment to the international development and use of nuclear energy for peaceful purposes that are consistent with the provisions of the NPT;

Taking into account that the United States of America and the Russian Federation are members of the International Atomic Energy Agency (“IAEA”);

Affirming their support for the objectives and Statute of the IAEA and their commitment to the Guidelines of the Nuclear Suppliers Group;

Acknowledging the importance of the provision of nuclear fuel supply assurances under the auspices of the IAEA;

Acknowledging the need for measures for the physical protection of nuclear material and facilities and affirming compliance with the obligations set forth in the Convention on the Physical Protection of Nuclear Material of October 26, 1979, to which the United States of America and the Russian Federation are parties;

Expressing a firm commitment to strengthening the international regime of nuclear non-proliferation and IAEA safeguards;

Noting the need to establish conditions governing the transfer for peaceful purposes of nuclear material, relevant equipment and technologies between the United States of America and the Russian Federation that avoid interference in the civilian nuclear programs of the United States of America and the Russian Federation;

Mindful that peaceful nuclear activities must be undertaken taking into account the need to ensure protection of the international population and environment from radioactive, chemical and thermal contamination;
Have agreed as follows:

ARTICLE 1

For the purposes of this Agreement, the terms listed below shall have the following meanings:

1. “Component” means a component part of equipment or other item so designated by agreement of the competent authorities of the Parties;

2. “Equipment” means any reactor, other than one designed or used primarily for the production of plutonium or uranium-233, or any other item so designated by agreement of the competent authorities of the Parties. “Reactor” means any apparatus, other than a nuclear weapon or other nuclear explosive device, in which a self-sustaining fission chain reaction is maintained. The phrase “designed or used primarily for the production of plutonium or uranium-233” shall not apply to breeder reactors that do not produce nuclear material for use in nuclear explosive devices, nor with respect to reactors primarily used for the production of plutonium-238;

3. “High enriched uranium” means uranium enriched to twenty percent or greater in the isotope uranium-235;

4. “Information” means scientific, commercial or technical data or information in any form that are appropriately designated by agreement of the competent authorities of the Parties to be provided or exchanged under this Agreement;

5. “Low enriched uranium” means uranium containing less than twenty percent of the isotope uranium-235, but more than the content of uranium-235 in natural uranium;
6. “Major critical component” means any part or group of parts essential to the operation of a sensitive nuclear facility;

7. “Moderator material” means heavy water, or any other material suitable for use in a reactor to slow down neutrons and increase the likelihood of further fission, as jointly designated by the competent authorities of the Parties;

8. “Nuclear material” means source material and special fissionable material, and includes, inter alia, irradiated source material and irradiated special fissionable material. “Source material” means uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope uranium-235; thorium; any of the foregoing in the form of metal, alloy, chemical compound, or concentrate; any other material containing one or more of the foregoing in such concentration as the Board of Governors of the IAEA shall from time to time determine; and such other materials as the Board of Governors of the IAEA shall from time to time determine or as may be agreed by the Parties. “Special fissionable material” means plutonium, uranium-233, uranium enriched in the isotopes uranium-233 or uranium-235; any material containing one or more of the foregoing; and such other fissionable material as the Board of Governors of the IAEA shall determine or as may be agreed by the Parties. “Special fissionable material” does not include “source material.” Any determination by the Board of Governors of the IAEA under Article XX of the IAEA Statute or any determination by the Board of Governors of the IAEA that otherwise amends the list of materials considered to be “source material” or “special fissionable material” shall have effect for the purposes of this Agreement only when the Parties have informed each other in writing that they accept this amendment. For the purposes of this Agreement, “plutonium” does not include plutonium with a content of the isotope plutonium-238 exceeding eighty percent;

9. “Peaceful purposes” or “peaceful use(s)” include the use of information, nuclear material, moderator material, equipment and components in such fields
as scientific research, electric power generation, medicine, agriculture and industry, but do not include their use in, or use for research on or development of, any nuclear explosive devices or any military purposes. Military purposes shall not include provision of power for military bases drawn from any power network, production of radioisotopes to be used for medical purposes in military hospitals, and other similar purposes as may be agreed by the Parties;

10. “Authorized person” means any individual subject to the jurisdiction of the United States of America and any legal entity, including a joint venture or partnership, subject to the jurisdiction of either Party, that is authorized by the relevant Party to implement cooperation under this Agreement, but does not include the Parties to this Agreement;

11. “Restricted Data” means all data concerning (1) design, manufacture or utilization of nuclear weapons, (2) the production of special fissionable material, or (3) the use of special fissionable material in the production of energy, but shall not include data that the Government of the United States of America has declassified or removed from the category of Restricted Data;

12. “Russian Federation State Secret Information” means information protected by the Russian Federation in the area of its military, foreign policy, economic and other activities, whose dissemination could be detrimental to the security of the Russian Federation;

13. “Sensitive nuclear facility” means any facility designed or used primarily for uranium enrichment, reprocessing of irradiated nuclear material, heavy water production, or fabrication of nuclear fuel containing plutonium;

14. “Sensitive nuclear technology” means any information, including information that is incorporated in equipment or an important component, that is not available to the public and is important to the design, construction, fabrication, operation or maintenance of any sensitive nuclear facility, or any
other such information that may be so designated by one of the Parties prior to its transfer under this Agreement.

ARTICLE 2

The Parties may cooperate in the field of peaceful use of nuclear energy in the following areas:

- Scientific research and development pertaining to the nuclear power sector, including nuclear reactors and their fuel cycles.

- Scientific research and development in the field of controlled thermonuclear fusion, including multilateral cooperation.

- Radioactive waste handling, decommissioning of nuclear facilities and environmental restoration.

- Nuclear and radiation safety, including issues of regulation.

- Nuclear industry and commerce.

- Shipments, based on the provisions of this Agreement, of moderator material, nuclear material, technologies and equipment, as well as services in the area of the nuclear fuel cycle, either for use in the United States of America or in the Russian Federation.

- International issues related to the peaceful use of nuclear energy, including issues of non-proliferation, IAEA safeguards, and environmental protection.

- Other areas that may be agreed upon by the Parties in writing.
ARTICLE 3

1. The Parties shall cooperate in the field of peaceful use of nuclear energy in accordance with the provisions of this Agreement and the respective legislation, regulations, norms and license requirements of the United States of America and the Russian Federation as may be applicable, and international agreements to which they are parties.

2. The Parties shall facilitate trade in moderator material, nuclear material, equipment, and technologies, as well as services pertaining to the nuclear fuel cycle, between authorized persons of the United States of America and the Russian Federation in the field of peaceful use of nuclear energy.

3. Authorizations, including import and export licenses, as well as the issuance of authorizations to third parties, relating to trade, industrial operations or nuclear material movements to the territory of the United States of America or of the Russian Federation shall not be used to restrict trade.

4. The cooperation contemplated by this Agreement as cooperation between the Parties may also be carried out between authorized persons.

ARTICLE 4

In conformity with the provisions of this Agreement, the Parties undertake to facilitate commercial relations between authorized persons of the Parties involved in cooperation in the nuclear power sector, which may include, but need not be limited to:

- investment cooperation;
- the establishment of joint ventures;
environmental projects on an industrial or commercial scale;
- trade in nuclear material, moderator material, and relevant services.

ARTICLE 5

For the purposes of implementation of this Agreement, the Parties hereby designate the following competent authorities:

- For the United States of America, the U.S. Department of State, the U.S. Department of Energy, and the U.S. Nuclear Regulatory Commission.

- For the Russian Federation, the State Corporation for Atomic Energy “Rosatom” and the Federal Service for Environmental, Technological and Nuclear Oversight.

In case of a change in the competent authorities specified in this Article or the designation of new competent authorities, the Parties shall immediately inform each other thereof in writing through diplomatic channels, without amendment to this Agreement.

ARTICLE 6

1. This Agreement does not require the transfer of any information that the Parties are not permitted to transfer under their respective national laws and regulations, or whose transfer is inconsistent with international agreements to which the United States of America or the Russian Federation is party.
2. Restricted Data shall not be transferred by the United States of America under this Agreement.

3. Russian Federation State Secret Information as well as information similar to the information defined in paragraph 11 of Article 1 of this Agreement shall not be transferred by the Russian Federation under this Agreement.

4. The Parties recognize that they may need to protect certain information to be transferred under the terms of this Agreement by one Party to the other in connection with activities undertaken by the Government of the United States of America and the Government of the Russian Federation or on their behalf pursuant to this Agreement. In order to protect such information:

   - Protected information transferred by one Party to the other shall be stamped, marked, or designated by the releasing Party as protected in accordance with its national laws and regulations. The medium in electronic, paper, or another format, containing this information, if in English, must have the marking "Protected"; if in Russian, "КОФИДЕНЦИАЛЬНО" [Confidential].

   - Protected information transferred by one Party shall be protected by the recipient Party in accordance with its national laws and regulations in a manner at least equivalent to that afforded by the releasing Party. The recipient Party shall not use or permit the use of protected information for any purpose other than that for which it was transferred, and, to the extent permitted by its national laws and regulations, shall not disclose such information or transfer it to any third party not participating in the activities of the two Parties under this Agreement in connection with which the protected information was transferred, without the prior written consent of the transferring Party.
- In accordance with the laws and regulations of the United States of America, protected information transferred to the Government of the United States of America by the Government of the Russian Federation shall be treated as foreign government information transferred in confidence and shall be provided with appropriate protection from disclosure. In accordance with the legislation of the Russian Federation, protected information transferred by the Government of the United States of America to the Government of the Russian Federation shall be handled as official, restricted-distribution information and shall be provided with the appropriate protection from disclosure.

- Each Party shall limit access to protected information to persons who require access to perform a lawful and authorized government function.

ARTICLE 7

1. Nuclear material, moderator material, equipment (except for sensitive nuclear facilities, sensitive nuclear technology and major critical components) and components may be transferred for applications consistent with this Agreement.

2. Sensitive nuclear facilities, sensitive nuclear technology and major critical components may be transferred under this Agreement if provided for by an amendment to this Agreement.

3. Nuclear material may be transferred for use as fuel for reactors, in experiments, for irradiation in reactors, for enrichment to less than 20 percent in the isotope uranium-235, for conversion or fabrication, for temporary storage for purposes of further use, for use as samples, standards, detectors, targets, or for other purposes as agreed by the Parties that are consistent with
the provisions of this Agreement and with the laws and regulations of the United States of America and the legislation of the Russian Federation.

4. Nuclear material, moderator material, equipment or components transferred from the territory of the United States of America to the territory of the Russian Federation, or from the territory of the Russian Federation to the territory of the United States of America, whether directly or through a third country, shall be regarded as having been transferred pursuant to this Agreement only upon confirmation, by the relevant competent authority of the recipient Party to the relevant competent authority of the supplier Party, that such nuclear material, moderator material, equipment or components will be subject to this Agreement.

ARTICLE 8

1. Plutonium, uranium-233 and high enriched uranium, transferred pursuant to the provisions of this Agreement or used in or produced through the use of nuclear material, moderator material, or equipment transferred, shall only be stored in a facility agreed upon by the competent authorities of the Parties.

2. Nuclear material, moderator material, equipment, and components transferred pursuant to this Agreement and any special fissionable material produced through the use of any nuclear material, moderator material, or equipment transferred shall be transferred only to authorized persons, and shall not be transferred beyond the territorial jurisdiction of the recipient Party unless the Parties agree otherwise.
ARTICLE 9

Nuclear material transferred pursuant to this Agreement, and nuclear material used in or produced through the use of nuclear material, moderator material, or equipment transferred, may be altered in form or content only if the Parties agree. The Parties agree that conversion, enrichment to less than twenty percent in the isotope uranium-235, fabrication of low enriched uranium fuel, irradiation or further irradiation, post-irradiation examination, and blending or downblending of uranium to produce low enriched uranium, are permissible alterations in form or content for purposes of this Agreement.

ARTICLE 10

For the purposes of implementing the rights specified in Articles 8 and 9 of this Agreement with respect to special fissionable material produced through the use of nuclear material or moderator material transferred pursuant to this Agreement, and not used in or produced through the use of equipment transferred pursuant to this Agreement, such rights shall in practice be applied to that proportion of special fissionable material produced that represents the ratio of transferred nuclear material or moderator material used in the production of the special fissionable material to the total amount of nuclear material or moderator material so used, and similarly for subsequent generations. The exact procedure for establishing the aforementioned proportion shall be agreed upon by the competent authorities of the Parties.

ARTICLE 11

1. Adequate physical protection, as specified in paragraph 2 of this Article, shall be maintained with respect to nuclear material and equipment transferred pursuant to this Agreement and special fissionable material used in or produced through the use of nuclear material, moderator material, or equipment transferred.
2. With respect to the obligation in paragraph 1 of this Article, each Party shall apply physical protection measures in accordance with its national laws and regulations at levels at least equivalent to the recommendations published in IAEA document INFCIRC/225/Rev.4 entitled “The Physical Protection of Nuclear Material and Nuclear Facilities,” and in subsequent revisions of that document accepted by both of the Parties, and the provisions of the Convention on the Physical Protection of Nuclear Material of October 26, 1979 as well as amendments to that Convention in the event of their entry into force for both Parties.

3. The Parties shall consult at the request of either Party regarding the physical protection measures maintained pursuant to this Article.

4. The Parties shall keep each other informed through diplomatic channels of those organizations or authorities responsible for ensuring levels of physical protection for nuclear material and facilities in their territory or under their jurisdiction or under their control and responsible for coordinating response and recovery operations in the event of unauthorized use or handling of nuclear material subject to this Article. Each Party shall also keep the other Party informed through diplomatic channels of the designated points of contact within its national authorized organizations for purposes of cooperation on matters involving transportation of nuclear material from the territory of its country to the territories of other countries and other matters of mutual concern.

5. The provisions of this Article shall be applied in such a manner as to avoid undue interference in the Parties' activities in the field of peaceful use of nuclear energy and to be consistent with prudent management practices required for the safe and economically justified conduct of their nuclear programs.
ARTICLE 12

Nuclear material, moderator material, equipment and components transferred pursuant to this Agreement and nuclear material used in or produced through the use of any nuclear material, moderator material, equipment or components transferred shall not be used for any nuclear explosive devices, for research on or development of any nuclear explosive devices, or for any military purpose.

As specified in paragraph 9 of Article 1, military purposes shall not include provision of power for a military base drawn from any power network, production of radioisotopes to be used for medical purposes in a military hospital, and other similar purposes as may be agreed by the Parties.

ARTICLE 13

1. Nuclear material transferred to the Russian Federation pursuant to this Agreement and any other nuclear material used in or produced through the use of nuclear material, moderator material, equipment, or components transferred shall be subject, to the extent applicable, to the Agreement between the Union of Soviet Socialist Republics and the International Atomic Energy Agency for the Application of Safeguards in the Union of Soviet Socialist Republics of February 21, 1985, and the Additional Protocol that entered into force October 16, 2007 between the Russian Federation and the International Atomic Energy Agency to the Agreement between the Union of Soviet Socialist Republics and the International Atomic Energy Agency for the Application of Safeguards in the Union of Soviet Socialist Republics.

2. Nuclear material transferred to the United States of America pursuant to this Agreement and any other nuclear material used in or produced through the use of nuclear material, moderator material, equipment, or components transferred shall be subject, to the extent applicable, to the Agreement between
the United States of America and the IAEA for the Application of Safeguards in the United States of America of November 18, 1977, and an Additional Protocol thereto in the event of its entry into force.

3. The Parties understand that paragraphs 1 and 2 of this Article do not require that the nuclear material referred to in those paragraphs must be in a facility that appears on the recipient Party’s list of facilities that are eligible for IAEA safeguards.

4. In the event that the IAEA safeguards agreement referred to in paragraph 1 or in paragraph 2 of this Article is not being implemented, the Parties shall consult and establish a mutually acceptable alternative to that safeguards agreement consistent with their status as nuclear weapon States Parties to the NPT.

5. Each Party shall establish and maintain a system of accounting and control of nuclear material transferred pursuant to this Agreement and nuclear material used in or produced through the use of nuclear material, moderator material, equipment, or components transferred. The procedures for this system shall be those specified in the IAEA safeguards agreement referred to in paragraph 1 or 2 of this Article for the Party concerned, or, if the Parties agree, those specified in any revised version of the relevant safeguards agreement.

6. Upon the request of either Party, the other Party shall inform the requesting Party of the status of all inventories of nuclear material subject to this Agreement.
ARTICLE 14

If an agreement between either Party and another nation or group of nations provides such other nation or group of nations rights equivalent to any or all of those provided for under Article 8 or Article 9 of this Agreement with respect to nuclear material, moderator material, equipment or components subject to this Agreement, the Parties may, upon request of either of them, agree that the implementation of any such rights will be accomplished by such nation or group of nations.

ARTICLE 15

The Parties shall endeavor to avoid taking any actions that would negatively affect cooperation under this Agreement. If either Party does not comply with the provisions of this Agreement, the Parties shall promptly hold consultations on the problem, it being understood that the other Party shall have the right to temporarily suspend or to cease further cooperation under this Agreement.

ARTICLE 16

The Parties shall consult at the request of either Party regarding the implementation of this Agreement. The Parties also intend to consult regarding the development of further cooperation in the field of peaceful use of nuclear energy.

ARTICLE 17

The Parties shall consult, with regard to activities under this Agreement, to identify the world-wide environmental implications arising from such activities and shall cooperate in protecting the international environment from radioactive, chemical or thermal contamination arising from peaceful nuclear activities under this Agreement and in related matters of health and safety.
ARTICLE 18

Any dispute between the Parties concerning the interpretation or application of the provisions of this Agreement shall be promptly discussed by the Parties with a view to resolving that dispute through consultations or negotiations.

ARTICLE 19

The competent authorities of the Parties shall work out appropriate arrangements in order to effectively apply the provisions of this Agreement as they relate to nuclear material, moderator material, equipment and components subject to this Agreement. The principles of fungibility and equivalence shall apply to nuclear material subject to this Agreement. Detailed provisions for applying these principles shall be set forth in a relevant agreement.

ARTICLE 20

1. This Agreement shall enter into force on the date of the last written notification of completion by the Parties of their internal procedures necessary for its entry into force and shall remain in force for a period of 30 years. The term of this Agreement may be extended by mutual agreement of the Parties. This Agreement may be terminated by either Party by sending the relevant written notice to the other Party. In that case the Agreement shall terminate one year from the date of such notice.

2. Notwithstanding the suspension or termination, including by expiration, of this Agreement or of any cooperation hereunder, Articles 8, 9, 10, 11, 12 and 13 of this Agreement shall continue in effect so long as any nuclear material, moderator material, equipment or component subject to these Articles remains in the territory of the United States of America or the Russian Federation or under the jurisdiction or control of either Party anywhere, unless such item is no longer usable for any nuclear activity relevant from the point of
view of international safeguards or has become practicably irrecoverable, or unless otherwise agreed by the Parties.

DONE at Moscow, this 6th day of May, 2008, in duplicate, each in the English and Russian languages, both texts being equally authentic.

FOR THE GOVERNMENT OF THE UNITED STATES OF AMERICA:

[Signature]

FOR THE GOVERNMENT OF THE RUSSIAN FEDERATION:

[Signature]
JOINT STATEMENT BY PRESIDENT GEORGE W. BUSH & PRESIDENT VLADIMIR PUTIN

July 17, 2006

The United States and the Russian Federation believe that strengthening their cooperation in civil nuclear energy is in the strategic interests of both our countries. It will serve as an additional assurance of access for other nations to economical and environmentally safe peaceful nuclear energy.

The United States and the Russian Federation are working together to meet the challenges posed by the combination of proliferation of weapons of mass destruction and international terrorism. We recognize the devastation that could befall our peoples and the world community if nuclear weapons or materials or other weapons of mass destruction were to fall into the hands of terrorists. We are closely cooperating to lessen that unacceptable danger, including by strengthening the nonproliferation regime and ensuring the security of nuclear weapons and fissile materials.

Cooperation in the Peaceful Uses of Nuclear Energy

The United States and the Russian Federation are convinced that reliable and sufficient energy supplies are the cornerstone of sustainable economic development and prosperity for all nations, and a necessary condition for maintaining international stability. Today nuclear energy is a proven technology for providing reliable electric power without emissions of greenhouse gases, and is an essential part of any solution to meet growing energy demand.

We share the view that nuclear energy has an essential role in the promotion of energy security, which is an issue of special concern for the leaders of the G-8. Advancing nuclear energy will require further development of innovative technologies that reduce the risk of proliferation, provide for safe management of waste, are economically viable, and are environmentally safe.

Being consistent in our approach to assure access to the benefits of nuclear energy for all nations complying with their non-proliferation obligations, we have each proposed initiatives on the development of a global nuclear energy infrastructure, specifically the Russian proposal to establish a system of international centers to provide nuclear fuel services, including uranium enrichment, under International Atomic Energy Agency (IAEA) safeguards, and the U.S. proposal for the Global Nuclear Energy Partnership to develop innovative nuclear reactor and fuel cycle technologies.
Following up on these initiatives, the United States and the Russian Federation intend to work together, actively involving the IAEA, to allow all nations to enjoy the benefits of nuclear energy without pursuing uranium enrichment and spent fuel reprocessing capabilities.

The United States and the Russian Federation together with four other nuclear fuel supplier states have also proposed a concept for reliable access to nuclear fuel for consideration and development at the IAEA.

We call upon other countries to join us to facilitate the safe and secure expansion of nuclear energy worldwide. Proceeding from our national interests and common goals, and recognizing the benefits of civil commercial nuclear trade, we express our intent to develop bilateral cooperation in the peaceful use of nuclear energy.

We have directed our Governments to begin negotiations with the purpose of concluding an agreement between the United States and the Russian Federation on cooperation in the peaceful use of nuclear energy.

**Countering Nuclear Proliferation**

We recognize the vital role of the Treaty on the Non-proliferation of Nuclear Weapons (NPT) in the prevention of nuclear proliferation and the importance of the IAEA in implementing safeguards required by the NPT. We are working with our G-8 partners to make the Additional Protocol an essential norm for verifying compliance with nuclear safeguards obligations. We welcome the establishment of the IAEA Committee on Safeguards and Verification. We are actively fulfilling our obligations under Article VI of the NPT by substantially reducing nuclear forces as we implement the Moscow Treaty of May 24, 2002.

We reiterate our support for effective measures to prevent transfers of sensitive nuclear equipment, materials and technologies to states that may seek to use them for weapons purposes, or allow them to fall into terrorists’ hands, and will work together to this end.

We reiterate our commitments undertaken under the Bratislava Joint Statement on Nuclear Security Cooperation of February 24, 2005. We have made substantial progress in the implementation of those commitments and we reaffirm our goal of completing nuclear security upgrades by the end of 2008.

We welcome the continued cooperation and the recent extension of the Cooperative Threat Reduction Agreement to ensure full implementation of the ongoing projects launched earlier under this Agreement. In this context, we take note of the start of operations of the Mayak Fissile Materials Storage Facility. We continue discussions on how best to implement our commitments to the disposition by each side of 34 metric tons of weapons grade plutonium.

We applaud the extension of UN Security Council Resolution 1540, the adoption by the UN General Assembly of the International Convention for the Suppression of Acts of Nuclear
Terrorism, and the decision by the States Parties to strengthen the Convention on Physical Protection of Nuclear Material.

We will continue to advance the objectives of the Proliferation Security Initiative, which makes an important contribution to countering the trafficking in WMD, their delivery means, and related materials. We welcome increasing international endorsement for the initiative, as was demonstrated at the High Level Political Meeting in Warsaw. We take note of the discussion at that meeting on how PSI states can work cooperatively to prevent and disrupt proliferation finance, in furtherance of UNSCR 1540.

We look forward to reinforcing our partnership with India. We welcome the important nonproliferation commitments India has made, and India’s closer alignment with the nonproliferation regime mainstream. We look forward to working with India on civil nuclear cooperation to address its energy requirements, and on further enhancing the global nonproliferation regime. We will continue to work together to strengthen the global nonproliferation regime.

We are especially concerned by the failure of the Iranian government to engage seriously on the proposals made by the P-5 countries and Germany. In this context, we stand fully behind the decision by Foreign Ministers on July 12. We are seriously concerned by North Korea’s ballistic missile tests and urge it to return to a moratorium on such launches, to the Six-Party Talks, and to full implementation of the September 19, 2005, agreement. The United States and the Russian Federation are actively working for unity among the UN Security Council members on these sensitive issues. We will continue consultations with our G-8 partners to strengthen the global nonproliferation regime.

Through our cooperation in the field of nuclear nonproliferation we seek to improve the security of our own peoples and of all others in the world community. In doing so, we are building on the unique historic roles and responsibilities of the United States and the Russian Federation in nuclear science and technology, both military and civilian. We are united in our determination to help make the benefits of nuclear energy securely available to all for peaceful purposes.
JOINT U.S.-RUSSIAN DECLARATION ON NUCLEAR ENERGY & NONPROLIFERATION JOINT ACTIONS

July 3, 2007

We are determined to play an active role in making the advantages of the peaceful use of nuclear energy available to a wide range of interested States, in particular developing countries, provided the common goal of prevention of proliferation of nuclear weapons is achieved. To this end, we intend, together with others, to initiate a new format for enhanced cooperation.

Bearing this in mind, we acknowledge with satisfaction the initialing of the bilateral Agreement between the Government of the Russian Federation and the Government of the United States of America for cooperation in the field of peaceful use of nuclear energy. We share the view that this Agreement will provide an essential basis for the expansion of Russian-U.S. cooperation in the field of peaceful use of nuclear energy and expect this document to be signed and brought into force in accordance with existing legal requirements.

We share a common vision of growth in the use of nuclear energy, including in developing countries, to increase the supply of electricity, promote economic growth and development, and reduce reliance on fossil fuels, resulting in decreased pollution and greenhouse gases.

This expansion of nuclear energy should be conducted in a way that strengthens the nuclear nonproliferation regime. We strongly support the Treaty on the Non-Proliferation of Nuclear Weapons, and are committed to its further strengthening. We support universal adherence to the IAEA Additional Protocol, and call on those who have not yet done so to sign and ratify it. We support the activities of the IAEA with respect to both safeguards and promotion of peaceful nuclear energy, and fully understand the need for growth of its capabilities, including its financial resources, commensurate with the expanded use of nuclear energy worldwide.

We are prepared to support expansion of nuclear energy in the following ways, consistent with national law and international legal frameworks. These efforts build on, reinforce, and complement a range of existing activities, including the work at the IAEA for reliable access to nuclear fuel, the initiative of the Russian Federation on developing Global Nuclear Infrastructure, including the nuclear fuel center in the Russian Federation, the initiative of the United States to establish the Global Nuclear Energy Partnership, the IAEA International Project on Innovative Nuclear Reactors and Fuel Cycles, and the Generation IV International Forum.
Facilitating the supply of a range of modern, safe, and more proliferation resistant nuclear power reactors and research reactors appropriate to meet the varying energy needs of developing and developed countries.

Arranging for participation in national and multinational programs to develop requirements for nuclear reactors for participating countries.

Facilitating and supporting financing to aid construction of nuclear power plants through public and private national and multinational mechanisms, including international financial institutions.

Providing assistance to states to develop the necessary infrastructure to support nuclear energy, including development of appropriate regulatory frameworks, safety and security programs to assist states in meeting international standards, and training of personnel.

Developing solutions to deal with the management of spent fuel and radioactive waste, including options for leasing of fuel, storage of spent fuel, and over time development of technology for recycling spent fuel.

Ensuring that the IAEA has the resources it needs to meet its safeguards responsibilities as nuclear power expands worldwide.

Supporting expanded IAEA Technical Cooperation to help states build the necessary infrastructure for safe, secure, and reliable operations of nuclear power plants.

Assisting development and expansion of regional electricity grids, to permit states without nuclear reactors to share in the benefits of nuclear power.

Providing nuclear fuel services, including taking steps to ensure that the commercial nuclear fuel market remains stable and that states are assured of reliable access to nuclear fuel and fuel services for the lifetime of reactors, including through establishment of international nuclear fuel cycle centers, to provide nuclear fuel cycle services, including uranium enrichment, under IAEA safeguards.

Supporting negotiation of long-term contracts for power reactors and research reactors, including assured supply of fuel and arrangements for management of spent fuel.

We are prepared to enter into discussions jointly and bilaterally to develop mutually beneficial approaches with states considering nuclear energy or considering expansion of existing nuclear energy programs in conformity with their rights and obligations under the NPT. The development of economical and reliable access to nuclear energy is designed to permit states to gain the benefits of nuclear energy and to create a viable alternative to the acquisition of sensitive fuel cycle technologies.

The energy and nonproliferation challenges we face today are greater than ever before. We are convinced that this approach will permit substantial expansion of nuclear energy and at the same
time strengthen nonproliferation. We welcome the cooperation of states that share this common vision and are committed to jointly taking steps to make this vision a reality.
April 6, 2008

Sochi, Russia

The United States and the Russian Federation, Recalling our Joint Statement of November 13, 2001, on a New Relationship

Between the United States and Russia and our Joint Declaration of May 24, 2002, we reaffirm that the era in which the United States and Russia considered one another an enemy or strategic threat has ended. We reject the zero-sum thinking of the Cold War when “what was good for Russia was bad for America” and vice versa. Rather, we are dedicated to working together and with other nations to address the global challenges of the 21st century, moving the U.S.-Russia relationship from one of strategic competition to strategic partnership. We intend to cooperate as partners to promote security, and to jointly counter the threats to peace we face, including international terrorism and the proliferation of weapons of mass destruction. We are determined to build a lasting peace, both on a bilateral basis and in international fora, recognizing our shared responsibility to the people of our countries and the global community of nations to remain steadfast and united in pursuit of international security, and a peaceful, free world. Where we have differences, we will work to resolve them in a spirit of mutual respect.

Recognizing the importance of these issues, we affirm our commitment to respect the rule of law, international law, human rights, tolerance of diversity, political freedom, and a free market approach to economic policy and practices.

We agree that the foundation for the U.S. and Russian relationship should be based on the core principles of friendship, cooperation, openness, and predictability. The strength and stability of this foundation will rest on expanding the network of ties between our governments and our peoples and on the positive examples we set for our societies and for the world as we confront new and emerging threats to global security together as partners. We will strive to identify areas of positive cooperation where our interests coincide, and pursue joint projects and actions that will bring our countries closer together, while minimizing the strain on our partnership where our interests diverge. Going forward, we intend to deepen our cooperation wherever possible, while taking further, even more far-reaching steps, to demonstrate our joint leadership in addressing new challenges to global peace and security in accordance with the principles of international law, taking into consideration the role of the United Nations.

In pursuit of these goals, the United States and the Russian Federation will consult closely on the development of initiatives that will serve our common interests.
Promoting Security

We acknowledge that today’s security environment is fundamentally different than during the Cold War. We must move beyond past strategic principles, which focused on the prospect of mutual annihilation, and focus on the very real dangers that confront both our nations. These include especially the threat of proliferation of weapons of mass destruction and their means of delivery. Reflecting the changed nature of our strategic relationship, we will take steps together to counter these new and emerging challenges.

- **Post-START.** We have reiterated our intention to carry out strategic offensive reductions to the lowest possible level consistent with our national security requirements and alliance commitments.

  Substantial reductions of strategic offensive forces have been carried out under the START Treaty, which served as a key instrument in this context. The Moscow Treaty was an additional important step and remains in effect. We will continue development of a legally binding post-START arrangement.

  We are fully committed to the goals of the Treaty on the Non-Proliferation of Nuclear Weapons, and consider the arrangement we are pursuing to be a further step in implementing our commitments under Article VI of the Treaty.

- **Missile Defense.** We discussed the issue of missile defense. Both sides expressed their interest in creating a system for responding to potential missile threats in which Russia and the United States and Europe will participate as equal partners.

  The Russian side has made clear that it does not agree with the decision to establish sites in Poland and the Czech Republic and reiterated its proposed alternative. Yet, it appreciates the measures that the U.S. has proposed and declared that if agreed and implemented such measures will be important and useful in assuaging Russian concerns.

  We agreed to intensify our dialogue after Sochi on issues concerning MD cooperation both bilaterally and multilaterally.

- **INF Treaty.** Taking note of our Joint Statement on the INF Treaty at the sixty-second session of the UN General Assembly, we will engage in a high-level dialogue to analyze current and future intermediate-range and shorter-range ballistic and cruise missile threats and inventory options for dealing with them.

- **Arms Sales.** We are fully committed to preventing the illicit trafficking or destabilizing accumulations of conventional arms in order to contribute to regional and international security and stability. The U.S. and Russia will cooperate to ensure that transfers of such weapons do not contribute to the development and enhancement of military capabilities which undermine these goals, as well as to deny conventional arms to terrorists.
Defense Technology Cooperation. We will finalize agreement on the Defense Technology Cooperation Agreement. This agreement will facilitate U.S. and Russian technical cooperation by providing a legal framework for a broad range of cooperative projects, including counter-IED measures, and cooperation on other critical military technologies to counter emerging threats to global security.

We are determined to work closely together on all the major global international issues that confront us, including the pursuit of peace in the Middle East, security and stability in North East Asia through the Six-Party process, Afghanistan, Iran, Iraq and elsewhere around the world, working with other nations through the United Nations, as well as other international and regional mechanisms, including the NATO-Russia Council and the G-8, to strengthen our cooperation wherever possible.

We will work together to address serious differences in areas where our policies do not coincide, including NATO expansion; development of a package solution that helps restore the viability of the CFE regime and prompt ratification of the Adapted CFE Treaty by all the States Parties; and certain military activities in space.

Preventing the Spread of Weapons of Mass Destruction

We recognize the profound importance of preventing the spread of weapons of mass destruction and their means of delivery. We must prevent such weapons from falling into the hands of terrorists and those who support them. To this end, our two countries will provide global leadership on a wide range of cooperative efforts that will advance our common nonproliferation goals. These will include new approaches focused on environmentally-friendly technologies that will support economic growth, promote the expansion of nuclear energy, and create a viable alternative to the spread of sensitive nuclear fuel cycle technologies.

NPT. We confirm our continuing support for the Treaty on the Non-Proliferation of Nuclear Weapons, and are committed to its strengthening. We will cooperate in preparing and ensuring a successful outcome of the 2010 NPT Review Conference.

Declaration on Nuclear Energy and Nonproliferation. On July 3, 2007, we issued a declaration on joint actions to strengthen the nuclear nonproliferation regime and to promote the expansion of nuclear energy worldwide. We are working together and with other nations to develop mutually beneficial approaches for economical and reliable access to nuclear energy designed to permit states to gain the benefits of nuclear energy and to create a viable alternative to their acquisition of sensitive fuel cycle technologies. As nations with secure, advanced nuclear capabilities, we will provide assistance to countries considering nuclear energy in the development of the necessary infrastructure (including nuclear reactors), consider ways for facilitating financing, and will ensure, inter alia, provision of fresh fuel and spent fuel management.
International Uranium Enrichment Center. The Russian Federation has announced, and the U.S. has expressed support for, an initiative to create a global nuclear energy infrastructure that would provide for effective access to the benefits of nuclear energy. As the first step, Russia and Kazakhstan have established on the territory of Russia the International Uranium Enrichment Center.

Global Nuclear Energy Partnership. We are working with a wide range of other states to develop the next generation of civil nuclear capability that will be safe and secure, improve the environment, and reduce the risk of nuclear proliferation. GNEP is aimed at accelerating the development and deployment of advanced fuel cycle technologies including recycling that do not involve separating plutonium. Such advanced technologies, when available, would substantially reduce nuclear waste, simplify its disposition, and draw down existing inventories of civilian spent fuel in a safe, secure and proliferation resistant manner.

INPRO. The Russian Federation and the U.S. support the IAEA Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) that has brought together both the states with developed nuclear technology and states running small-scale nuclear programs or just developing plans for peaceful use of nuclear energy.

Reliable Access to Nuclear Fuel. Recognizing the need for an assured fuel supply, both the U.S. and Russia have committed to creating reliable access to nuclear fuel.

- Reserve of Low Enriched Uranium. The Russian Federation is working on the establishment of a stockpile of low enriched uranium to be available to the IAEA for ensuring reliable nuclear fuel supply.

- Blending Down Highly Enriched Uranium (HEU). The U.S. is downblending 17.4 MT of excess HEU from its defense programs and is pledging $50 million to support establishment of an IAEA international fuel bank to ensure reliable supplies of nuclear fuel.

Iran. We remain committed to political and diplomatic efforts to find a negotiated solution guaranteeing that Iran’s nuclear program is exclusively for peaceful purposes. We reiterate the necessity for Iran to comply with the requirements of the IAEA Board of Governors and United Nations Security Council Resolutions 1737, 1747, and 1803, including full and verifiable suspension of enrichment-related and reprocessing activities. We affirm our commitment on the way forward as expressed in the March 3, 2008, statement by the P5+1 Foreign Ministers. Russia’s agreement to deliver nuclear fuel and take back spent fuel from Iran’s nuclear reactor at Bushehr is a welcome step that provides Iran a civil nuclear power capability without the need for the indigenous enrichment of uranium or reprocessing of spent nuclear fuel.

North Korea. We reaffirm our full support for the Six-Party Talks and will continue our cooperation in accordance with the agreements reached at the Six-Party Talks and the
provisions of UNSC Resolution 1718 on the nuclear weapons and nuclear programs of North Korea in order to achieve the ultimate goals of the denuclearization of the Korean Peninsula.

- **Agreement for Cooperation in Peaceful Use of Nuclear Energy.** We will sign in the near future and work to bring into force the bilateral agreement between the Russian Federation and the United States that was initialed on June 29, 2007. This agreement will create the necessary legal basis for our cooperation in the peaceful use of nuclear energy and will permit the expansion of such cooperation. It will allow U.S. and Russian companies to partner in joint ventures, and transfer nuclear materials, reactors and major reactor components between our two countries. It is critical to facilitating U.S.-Russian further cooperation under bilateral programs and initiatives in the field of peaceful use of nuclear energy, including the Declaration on Nuclear Energy and Nonproliferation of July 3, 2007, and the Global Nuclear Energy Partnership.

- **Global Initiative to Combat Nuclear Terrorism.** The Global Initiative we launched in July 2006 has grown to include 67 participating countries plus the European Union and the IAEA as observers. Participating states are cooperating in strengthening their individual and collective capabilities to prevent terrorists from acquiring nuclear materials, to deny them safe haven and financial and other support, to share information on terrorist activities, to cooperate on law enforcement matters, and to deal with the consequences of an attack. We will continue to expand and strengthen this initiative and fully implement the agreed program of work.

- **Nuclear Security.** We will complete our agreed-to nuclear security upgrades under the Bratislava Nuclear Security Initiative by the end of 2008. We look forward to these upgraded systems continuing to reliably serve their purpose for the years to come. The Senior Interagency Group will report back annually on implementation of the agreed actions under the Bratislava Initiative on emergency response, best practices, security culture, research reactors, and nuclear security upgrades. We will work together to share our nuclear security best practices with other nations, including through international fora.

- **Proliferation Security Initiative.** We reaffirm our commitment to the Proliferation Security Initiative, which constitutes an important means to deter and prevent trafficking in WMD, their delivery means and related materials. We will work cooperatively to prevent and disrupt proliferation finance, in furtherance of the objectives of UNSCR 1540.

### Combating Global Terrorism

Terrorism represents a grave danger to global security and stability, rule of law, human rights, and democratic values. The combination of international terrorism and the danger of proliferation of weapons of mass destruction and their means of delivery represents a profound threat to the security of the United States, Russia, and other countries. We will work together to counter the terrorist threat both bilaterally and within the framework of international institutions.
- **Bilateral Cooperation.** We are partners in the global struggle against terrorism. We will intensify our bilateral cooperation to include greater exchange of information on terrorist groups and specific terrorist threats to the security and prosperity of both countries. We will invigorate the U.S.-Russia Counterterrorism Working Group in all areas, including efforts to dismantle terrorist organizations and the networks that provide financial and material support to them. We will also work together to disrupt the full range of terrorist activities from recruitment, training, financing, and communications to the plotting of specific attacks. We will work more closely to combat money laundering and, in particular, the use of this practice by terrorists and criminal organizations to circumvent sanctions and undermine the financial system.

- **Multilateral Initiatives.** We will expand our cooperative efforts through continued partnership in the United Nations and in other multilateral fora to include the OSCE, NATO-Russia Council, and the G-8, and in expanding the Global Initiative to Combat Nuclear Terrorism. We will advance our counterterrorism goals at the United Nations, including through strengthening the Counterterrorism Committee and the 1267 sanctions regime.

We will work together to achieve critical objectives, including blocking terrorist groups from access to the financial resources they need to carry out their terrible acts, building counterterrorism will and capacity among countries around the world, promoting and strengthening international institutions that can combat terror, preventing the free transit and movement of known or suspected terrorists around the world, enhancing international law enforcement tools and cooperation to counter terrorist groups, creating a global consensus that rejects the use of terror for any reason, and actively engaging civil society and the business community in anti-terrorist efforts.

### Strategic Economic Cooperation

We acknowledge the great potential for expanding bilateral trade and investment and the significant benefits this would bring to both of our economies. We recognize that to realize this potential, both nations must follow the fundamental principle of open market economies based on respect for the rule of law both domestically and internationally. We endorse the growing dynamism between our business communities and the profound importance of deepening economic engagement through both private sector and government channels to improve understanding and transparency, eliminate obstacles to trade and investment, and strengthen the institutions that will build confidence, certainty and predictability in our respective markets.

- **WTO.** The United States and Russia are committed to achieving WTO accession for Russia as soon as possible and on commercially meaningful terms. We believe that with a major effort, especially between now and June of this year, and with the cooperation of other parties, and by meeting the terms for WTO accession, Russia can qualify for membership and thus accession to the WTO can be achieved this year. The United States is committed to working with Congress to achieve legislation on Jackson-Vanik and Permanent Normal Trade
Relations with Russia. In conjunction with WTO negotiations, the U.S. Administration looks forward to working with the U.S. Congress and the business community to enact this legislation this year. In recognition of Russia’s growing role as a major economy, the United States is also committed to helping Russia accede to the Organization for Economic Cooperation and Development and other global economic institutions.

- **Economic Dialogue.** We will strengthen American-Russian economic and business interaction, including through the creation within the next few months of new business-to-business and government-to-government dialogues. These steps will help create conditions that will enhance our trade and investment relations, improve contacts between our business communities, and increase prosperity. Our economic dialogue will aim to identify areas where our laws and regulations impede trade and investment, improve the transparency of the business and investment environment, and strengthen the rule of law, all critical to the needs of a free-market economy and attracting new entrants to commerce between our two countries.

- **Bilateral Investment Treaty.** The United States and Russia will advance our efforts on a new Bilateral Investment Treaty to provide a stable and predictable framework for investment to strengthen investor confidence, thereby benefiting the business communities in both our countries.

- **U.S.-Russia Energy Dialogue.** Cooperation on energy remains an area of significant potential for both our nations. We task the existing U.S.-Russia Energy Working Group to find ways to enhance energy security and diversity of energy supplies through economically viable routes and means of transport, consistent with G-8 St. Petersburg principles. We will intensify U.S.-Russia energy collaboration through a new, more structured energy dialogue that would bring together the best Russian and American minds to focus on expanding energy supplies in an environmentally-friendly manner while developing new lower-carbon emission energy sources. We will take actions on collaboration in energy efficiency initiatives, development of clean coal technologies, fuel cells initiatives, within the framework of other R&D initiatives to compensate for declining traditional hydrocarbon reserves.

We will work together with other producing, consuming, and transit countries to strengthen the partnership among all interested parties and to enhance global energy security on an open, transparent, and commercially-viable basis.

**Combating Climate Change**

In the area of combating climate change we will work together with all major economies to advance key elements of the negotiations under the United Nations Framework Convention on Climate Change in order to achieve a comprehensive post-2012 framework that includes greenhouse gas limitation or reduction commitments by all major emitting economies consistent with their national circumstances and to address emissions in key sectors.
ABOUT THE AUTHORS

Robert Einhorn is a senior adviser in the CSIS International Security Program, where he works on a broad range of nonproliferation, arms control, and other national security issues. Before joining CSIS, he served in the U.S. government for 29 years. From November 1999 to August 2001, he was assistant secretary for nonproliferation at the Department of State, where he was responsible for nonproliferation of nuclear, chemical, and biological weapons, missile delivery systems, and advanced conventional arms. Mr. Einhorn was deputy assistant secretary for nonproliferation in the State Department’s Political-Military Bureau from 1992 to 1999 and a senior adviser on the department’s Policy Planning Staff from 1986 to 1992. He served at the U.S. Arms Control and Disarmament Agency (ACDA) from 1972 to 1984, where he dealt with strategic arms issues, nuclear testing limits, chemical and biological weapons constraints, nonproliferation, and other security issues. From 1982 to 1986, he represented ACDA in the START talks.

Rose Gottemoeller is director of Carnegie Moscow Center. Formerly, she was a senior associate at the Carnegie Endowment for International Peace, where she held a joint appointment with the Russian and Eurasian Program and the Global Policy Program. Before joining the Endowment in October 2000, she was deputy undersecretary for defense nuclear nonproliferation in the U.S. Department of Energy. Previously, she served as the department’s assistant secretary for nonproliferation and national security, with responsibility for all nonproliferation cooperation with Russia and the Newly Independent States. She first joined the department in November 1997 as director of the Office of Nonproliferation and National Security. Prior to the Energy Department, Ms. Gottemoeller served for three years as deputy director of the International Institute for Strategic Studies in London. From 1993 to 1994, she served on the National Security Council in the White House as director for Russia, Ukraine, and Eurasia Affairs, with responsibility for denuclearization in Ukraine, Kazakhstan, and Belarus.

Fred McGoldrick has been involved in the field of nuclear nonproliferation and international nuclear cooperation for over 25 years. He has served in the U.S. mission to the International Atomic Energy Agency, the U.S. Department of State, and the U.S. Department of Energy. He retired from the State Department in 1998. Mr. McGoldrick is currently a principal and manager at Bengelsdorf, McGoldrick and Associates, an international consulting firm.

Daniel Poneman is a principal of the Scowcroft Group, where he provides strategic advice to clients in the energy, aerospace, information technology, and manufacturing, security, financial services, and other industries. For nine years, he practiced law in Washington, D.C., assisting clients in a wide variety of transactional, regulatory and policy matters, including commercial real
estate, arbitration, export controls, trade policy, and sanctions issues. From 1993 through 1996, he served as special assistant to the president and senior director for nonproliferation and export controls at the National Security Council, with responsibilities for the development and implementation of U.S. policy in such areas as peaceful nuclear cooperation, missile technology and space-launch activities, sanctions determinations, chemical and biological arms control efforts, and conventional arms transfer policy.

Jon Wolfsthal is a senior fellow with the CSIS International Security Program. He is an expert on the proliferation of weapons of mass destruction, with particular emphasis on nuclear weapons. He has studied current and past nuclear security and proliferation problems and works on issues concerning North Korea and Iran (and has visited nuclear facilities in both countries), as well as on the global challenge of nuclear materials/weapons insecurity and nuclear terrorism. He has done extensive work on U.S. nuclear policy, including nuclear strategy and international nonproliferation policy. He teaches nuclear weapons policy at Georgetown University and has taught previously at the Johns Hopkins School of Advanced International Studies. Prior to his position at CSIS, Mr. Wolfsthal served for six years as the deputy director for nonproliferation at the Carnegie Endowment for International Peace and, before that, worked at the U.S. Department of Energy in a variety of positions. During his five years at Energy Department, he served as the government’s onsite monitor at North Korea’s nuclear complex at Yongbyon, worked to improve security at Russian nuclear facilities, and oversaw several programs to eliminate trade in weapons-usable nuclear materials. He last served as the special assistant to the assistant secretary for nonproliferation and national security.