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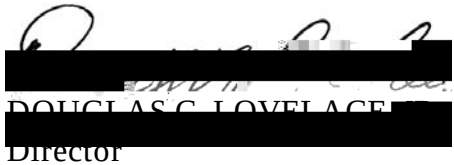
The

FOREWORD

President Vladimir Putin's recent speech at the Munich Security Conference, in which he accused the United States of pursuing an American-dominated world order without regard for international law and morality, vividly demonstrated the extent to which political relations between Russia and the United States have frayed in recent years. For their part, American observers criticize the Putin administration for weakening Russia's opposition parties, restricting broadcast media, and impeding nongovernmental organizations (NGOs). They also fault Russia's military and nuclear cooperation with Iran and its overbearing energy policies towards other countries. Many people in the United States and elsewhere called on President George W. Bush to boycott the July 2006 G-8 summit in St. Petersburg to protest these developments.

In some respects, however, considerable progress has been achieved during President Putin's tenure in the areas of Russian-American security cooperation. This monograph assesses the opportunities for further security cooperation between Russia and the United States, offering detailed policy suggestions in certain areas. It is part of a series of publications on aspects of Russian foreign policy that derived from a conference entitled "The U.S. and Russia: Regional Security Issues and Interests." It was conducted by the Strategic Studies Institute in partnership with the Ellison Center for Russian, East European, and Central Asian Studies at the Jackson School of International Studies at the University of Washington; and the Pacifc Northwest National Laboratory's Pacifc Northwest Center for Global Studies. The conference and this series represent

a part of SSI's efforts to provide expert analysis of some of the most urgent challenges to security in today's world.



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SUMMARY

This monograph assesses the opportunities for further security cooperation between Russia and the United States. It argues that, until a change of government occurs in both countries in 2008, the prospects for additional bilateral agreements to reduce strategic nuclear weapons, limit destabilizing military operations, jointly develop ballistic missile defenses, and enhance transparency regarding tactical nuclear weapons are unlikely. Near-term opportunities for collaboration in the areas of cooperative threat reduction, third-party proliferation, and bilateral military engagement appear greater. Accordingly, this monograph offers some suggestions for accelerating progress in these areas.

Ironically, the substantial improvement in Russian-

Bilateral arms control reduction agreements might reemerge as an issue after a new U.S. administration

or personnel to help dismantle excessive WMD stocks in the United States, and supplying additional data concerning U.S.-funded threat reduction projects in Russia in return for more detailed information about Russia's WMD-related facilities and employees, especially those involved in Soviet-era biological and chemical weapons activities.

Opportunities for additional progress in curbing third-party WMD proliferation also exist. Chances for Russian-American collaboration on joint or multilateral threat reduction projects outside the former Soviet Union increased substantially in June 2003, when the G-8 governments agreed that the "Global Partnership Against the Spread of Weapons and Materials of Mass Destruction" could in principle support threat reduction activities in countries besides Russia. Another opportunity for Russian-American collaboration on threat reduction projects beyond Russia arose in May 2004, when U.S. Secretary of Energy Spencer Abraham announced a Global Threat Reduction Initiative (GTRI) to identify, secure, and dispose of stockpiles of vulnerable civilian nuclear and radiological materials and related equipment throughout the world. The GTRI involves close cooperation between the United States and Russia in securing these high-risk sources. At the July 2006 G-8 summit in St. Petersburg, Presidents Bush and Putin launched a Global Initiative to Combat Nuclear Terrorism and opened formal negotiations on a bilateral civil nuclear energy cooperation agreement.

Bilateral military engagement constitutes an important area for possible future initiatives. Although the Russian military often remains more impervious to outside contacts and influence than many other Russian institutions, this condition makes U.S. attempts to engage the Russian defense community all the more

essential. The armed forces invariably will play a decisive role in shaping Russia's future domestic and foreign policies. The Pentagon enjoys certain unique advantages in trying to affect the Russian military's evolution. For historical and other reasons, Russian defense leaders seem most comfortable working with their U.S. counterparts rather than with the armed forces of non-superpowers. Curtailing bilateral military contacts to protest Moscow's undemocratic practices or other policies will only keep the Russian armed forces a hostile institution.

RUSSIAN-AMERICAN SECURITY COOPERATION AFTER ST. PETERSBURG: CHALLENGES AND OPPORTUNITIES

Political relations between Russia and the United States have frayed in recent years. Russian government policies that have weakened opposition parties, restricted broadcast media, and impeded nongovernmental organizations (NGOs) have alarmed foreign observers and led Freedom House to downgrade Russia's status from "partly free" to "nonfree."[1] Many people in the United States and elsewhere called on U.S. President George W. Bush to boycott the July 2006 G-8 summit in St. Petersburg to protest these developments. In some respects, however, considerable progress has been achieved during President Vladimir Putin's tenure in the areas of Russian-American security cooperation. In April 2005, Secretary of State Condoleezza Rice hopefully told a Russian radio audience, "I believe that our military-to-military cooperation is perhaps the best that it has ever been."[2]

This monograph assesses the opportunities for further security cooperation between Russia and the United States. It argues that, until a change of government occurs in both countries in 2008, the prospects for additional bilateral agreements to reduce strategic nuclear weapons, limit destabilizing military operations, jointly develop ballistic missile defenses, and enhance transparency regarding tactical nuclear weapons are unlikely. Near-term opportunities for collaboration in the areas of cooperative threat reduction, third-party proliferation, and bilateral military engagement appear greater. Accordingly, the text offers some suggestions for making more rapid progress in these areas.

STALEMATED SUBJECTS

Strategic Nuclear Arms Control.

Ironically, the substantial improvement in Russian-American security relations in the last decade has decreased the prospects for further formal comprehensive bilateral agreements to reduce both countries' strategic nuclear weapons. Decrying what he termed the "stagnation" in Russian-American arms control, Putin in late June 2006 called for renewed bilateral dialogue with priority given to replacing the 1991 Strategic Arms Reductions Treaty (START) before it expires at the end of 2009.[3] A few weeks earlier, the so-called Blix Commission had recommended that Russia and the United States commence negotiations on a legally binding arms control agreement that would reduce their strategic forces considerably below planned levels (to approximately 1,000 nuclear warheads in each arsenal) and include detailed stipulations for compli-

in today's world, where threats from transnational terrorists and states of proliferation concern have become far more important than fears of a Russian-American confrontation. U.S. officials argue that implementation of the May 2002 Russian-American Strategic Offensive Reductions Treaty (SORT) should suffice to place the bilateral strategic relationship on a stable basis since the treaty provides for major reductions in both sides' current nuclear arsenals—to between 1,700 and 2,200 "operationally deployed strategic warheads" by December 31, 2012. In 2004, then National Security Advisor Rice said, "We believe that [SORT] is a transitional measure to a day when arms control will play a very minor role in U.S.-Russian relations, if a role at all."[8] Similarly, the head of the U.S. National Nuclear Security Administration, Linton Brooks, said in January 2006, "very detailed technical arms control agreements are not the future of our relationship with the Russian Federation."[9]

The administration also has rebuffed Russian efforts to extend operational arms control agreements and take other steps to restrict the deployment of nuclear forces. In his May 2006 speech to the Russian Federal Assembly, Putin observed:

> The arms race has entered a new spiral today with the achievement of new levels of technology that raise the danger of the emergence of a whole arsenal of so-called destabilizing weapons. There are still no clear guarantees that weapons, including nuclear weapons, will not be deployed in outer space. There is the potential threat of the creation and proliferation of small capacity nuclear charges. Furthermore, the media and expert circles are already discussing plans to use intercontinental ballistic missiles to carry non-nuclear warheads. The launch of such a missile could provoke an inappropriate response from one of the nuclear powers, could provoke a full-scale counterattack using strategic nuclear forces.[10]

Despite Moscow's entreaties, Washington has refused to ratify the Comprehensive Test Ban Treaty (CTBT) and opposes efforts by Russia and others to broaden restrictions on military activities in space.[11] The administration also continues to examine options for developing very low-yield nuclear weapons ("mini-nukes") and long-range ballistic missiles armed with conventional warheads despite continuing Russian protests.[12] Proposals for more operational arms control—such as lowering the readiness of strategic forces, restricting ballistic-missile-launching submarines (SSBNs) on patrol, and separating nuclear warheads from their means of delivery—also have not gained much support within the administration.

A statement by an unnamed official in the Russian Ministry of Defense (MOD) in late August 2006, just one month after the St. Petersburg summit, suggests these differences continue to impede progress. The MOD representative said neither Russia nor the United States is genuinely interested in achieving a new agreement limiting their strategic offensive weapons: "I doubt that either the Americans or we are ready for this or need it," quoted the official as saying.[13]

Bilateral arms control reduction agreements might reemerge as an issue after a new U.S. administration assumes office in 2009. Primarily for financial reasons, Russian officials want to reduce their offensive nuclear weapons below the level set by SORT.[14] Nevertheless, they are unlikely to proceed unilaterally given the importance of Russia's nuclear arsenal in its foreign and defense policies. Although pledging to fulfill Russia's arms commitments, Defense Minister Sergey Ivanov cautioned Americans that, "Russia does not intend to give up its nuclear capability as it is still a key deter-

rent and crucial instrument in protecting our national interests and achieving certain political objectives."[15] When asked at his January 31, 2006, press conference why Russia deserved to be in the G-8, Putin told the

versary initiate use of nuclear weapons in a battle. In a January 12, 2006 article, "Military Doctrine: Russia Must Be Strong," published in the Russian newspaper, Ivanov said Russia's first defense priority for the 2006-10 period is "to sustain and develop strategic deterrent forces at the minimum level needed to guarantee that present and future military threats are deterred."[22] In an article entitled, "The General Staff and the Objectives of Military Development," which appeared in on January 25, 2006, General Yuriy Baluyevskiy, Chief of the Russian General Staff and First Deputy Defense Minister, likewise wrote that "Russia's nuclear forces must retain sufficient potential to ensure strategic and regional deterrence."

Russia possesses substantial forces in all three categories of the traditional offensive nuclear triad. The country's arsenal includes almost 100 strategic bombers (capable of carrying nuclear-armed long-range cruise missiles, nuclear-armed short-range attack missiles, and nuclear gravity bombs), a dozen nuclear submarines equipped with multiple independent reentry vehicled (MIRV-ed) ballistic missiles, and hundreds of land-based intercontinental ballistic missiles (ICBMs), which remain the strongest leg.[23] Many of the latter still have multiple warheads because the Russian government declared itself no longer bound by the second Strategic Arms Reduction Treaty (START II), which prohibited MIRV-ed ICBMs, after the United States withdrew from the Anti-Ballistic Missile (ABM) Treaty in June 2002.[24] Russia's ability to retain its large MIRV-ed missiles in effect solved the problem of how to sustain an extensive nuclear force within fiscal limits. Had the START II prohibition come into force, Russia would have had to reconstruct its entire strategic arsenal.[25] In January 2005, Ivanov said that Russia would

only destroy the ballistic missiles it is required to decommission under the Russian-American Strategic Offensive Reductions Treaty (SORT), signed by both governments in Moscow in May 2002, if the United States did likewise.[26] Russian officials and analysts, including President Putin at his January 31, 2006, press conference, have repeatedly asserted that Russia has been developing advanced missiles and warheads that can circumvent any U.S. ballistic missile defenses.[27] In April 2006, one of Russia's chief missile designers insisted that Russia could retain approximately 2,000 strategic nuclear warheads through 2020.[28]

The need to verify SORT will probably induce a modicum of near-term Russian-American cooperation in the area of strategic weapons. The treaty lacks its own verification provisions, and both governments have been relying on START I in their absence. This accord—with its extensive data exchange requirements, on-site inspection, and other compliance measures—expires in December 2009. Without a new agreement,

fed in SORT during the next 2-3 years, the two governments will probably initiate discussions on whether to augment the START I verification provisions or merely to extend the existing provisions beyond 2009.

Reducing Tactical Nuclear Weapons.

For years Western officials, legislators, and analysts have called for additional arms control measures for American and Russian TNW, also described as "theater" or, in some Russian texts, as "operational" nuclear weapons. Two recent examples include a November 2005 report by the NATO Parliamentary Assembly and a February 2006 report by a Council of Foreign Relations task force.[31] In accordance with the reciprocal Presidential Nuclear Initiatives (PNI) of 1991-92, Russia and the United States have eliminated many TNW and removed other systems from operational deployment, transferring the warheads to separate secure storage.

Nevertheless, some analysts consider this informal regulatory regime insufficient, and call for formal agreements designed to promote greater transparency ca q

> from us, the United States distance from them requires more intercontinental systems possibly than theater systems. This could have resulted in a mind-numbing debate over how many non-strategic systems . . . should equal an intercontinental system, or open the door to a discussion of whether an agreement should include all nuclear warheads regardless of whether they're strategic or tactical.[32]

Several observers have advocated eliminating all TNW on the grounds that their small size, scattered location, relative mobility, and weaker security and safety features make them more at risk for terrorist seizure than strategic warheads.[33] A RAND assessment concludes that many Russian operational commanders can launch ground-based TNW without further central government approval after the initial deployment decision.[34]

Neither Russia nor the United States has allowed monitors from the other country to conduct technical inspections at its TNW storage sites. In early June 2005, Assistant Secretary of State for Arms Control Stephen Rademaker said Russian officials continued to evince "very little interest in talking to us" on this subject. A few days later, the DoS complained that Moscow had failed to provide adequate information regarding its PNI-related reductions.[35] Rademaker repeated this complaint during a Moscow press conference on April 12, 2006.[36] Russian officials will likely continue to resist extending threat reduction activities to their TNW because they believe this opacity could help deter a preemptive NATO attack.[37] Uncertainties regarding the number and location of Russia's TNW mean potential adversaries cannot be assured of destroying them in a first strike. The Russian government is unlikely to eliminate its TNW as long as Russian conventional forces suffer from persistent weaknesses and NATO retains

comparable weapons. In addition, Russia's extensive TNW arsenal helps compensate for concerns about the viability of its strategic offensive nuclear systems. Although the precise number of Russian TNW remains in dispute, most assessments place the number in the thousands, meaning that TNW represents one of the few armaments categories where Russia enjoys military superiority over NATO.[38] These considerations weigh against proposals to consolidate Russia's TNW, even if dispersal makes them more vulnerable to terrorists.[39] The Russian media has reported that the military has developed a decade-long program to upgrade thousands of Russia's existing TNW with a smaller number of next-generation systems.[40]

Securing Moscow's agreement to consolidate and better secure TNW would probably require concessions regarding U.S. TNW still based in Europe. Their presence visibly irritates Russian leaders, who point out that all their TNW now lie solely within Russian Federation territory. Although Russian concerns about a NATO military attack have declined, General Baluyevskiy observed in late 2003 that the hundreds of air-deliverable U.S. TNW deployed in Europe "are for Russia acquiring a strategic nature since theoretically they could be used on our command centers and strategic nuclear centers."[41] In early June 2005, Ivanov said that Russia was "prepared to start talks about tactical nuclear weapons only when all countries possessing them keep these weapons on their own territory."[42]

American officials counter that their own TNW play an essential role in sustaining NATO's nuclear deterrence. Even without a formal change in the alliance's nuclear doctrine, however, European governments may decide to stop purchasing warplanes or other technologies required to deliver U.S. B-61 nuclear bombs,

effectively undermining the viability of NATO's principle of nuclear sharing. Not only would such a move save funds, but opinion surveys currently indicate that most European publics do not support the continued deployment of U.S. TNW on their territories.[43] Yet, even an American offer to redeploy all U.S. TNW to North America might prove insufficient to convince Moscow to agree to bilateral TNW arms control. Russian officials note Washington could return U.S. TNW to Europe in a few hours unless NATO irreversibly destroyed its storage sites and related infrastructure.[44] In addition, it would prove difficult to verify any agreement since TNW delivery systems (i.e., attack aircraft) are typically dual-use systems that also can launch conventional strikes. At present, the issue appears in abeyance. In June 2006, quoted a senior MOD

also has announced plans to stop relying on the early warning radars located in other former Soviet republics and instead construct new complexes that would "provide an earlier warning on launches of all missiles, including intercontinental ballistic missiles as well as tactical and cruise missiles."[48] Of the eight Soviet early-warning radars, only three are located in Russia.[49]

Since the early 1990s, Russian and American officials have discussed possible bilateral BMD cooperation. Russian aerospace, defense, and other firms have evinced a long-standing interest in such collaboration—and have persistently overestimated U.S. interest in their potential contributions.[50] Russian analysts likewise argue that Russia's location and defense technologies should give it a central role in any global NMD framework. For example, a 2005 report observes that the "ground-based radars of the Russian strategic early warning system possess unique capabilities to survey and control the missile threat directions in the vast area from the Middle East to the Korean peninsula—the main source of the threat for mankind today."[51]

Although generally unenthusiastic about American BMD programs, Russian officials have perennially hoped that NATO countries will purchase Russian TMD technologies and weapons systems. In 2003, Deputy Foreign Minister Sergey Kislyak said that Russians "have our own anti-missile systems that might be useful, and they are among the world's best . . . we are very serious partners."[52] In 2005, Ivanov offered to contribute the S-300 and forthcoming S-400 air defense systems to a future European TMD system, including one directed against the growing threat of cruise missiles.[53] In late March 2006, Russian Air Force Com-

military attaches that the S-400 will enter combat duty sometime in 2006. Designated by NATO as the SA-20 , the S-400 is an advanced surface-to-air mis-

planned establishment of a Joint Data Exchange Center in Moscow.[57] The complex would allow Russian and American military personnel to monitor global missile launches around the clock and notify each other about their own defense missile and space rocket launches. It also could encourage bilateral discussions on missile defense issues between the two countries with the most advanced BMD and missile launch detection systems.

In the area of TMD, Russia and NATO have developed air and missile defense systems that employ different technical standards, command-and-control procedures, and operational doctrines. They have only recently undertaken initiatives to overcome these interoperability problems. NATO governments had been

[RVSN]), has said: "The projected scale of the missile defense system being deployed by the United States is so substantial that concerns about its negative impact on Russia's nuclear deterrence potential are entirely well-founded: this could disrupt strategic stability."[58] In May 2006, General Baluyevskiy said that someone had to be ignorant of geography to not see that the only logical target of the American BMD systems proposed for deployment in Poland and its neighbors would be ICBMs from Russia rather than Iran.[59] Baluyevskiy and other Russians have claimed that the United States could covertly convert missile interceptor launchers based in Eastern Europe to launch offensive ballistic missiles against Russia without the approval of the host governments. Partly because of Russian complaints and threats, East European publics and their governments remain uncomfortable with

range missiles: “When we signed the treaty, nobody besides the US and USSR possessed these missiles. I don’t think anyone even in their worst dreams could imagine missile technology could spread so quickly. . . . I think you may see all countries have them except

said that exercises conducted in February of that year had confirmed the effectiveness of Russia's new BMD penetration technologies.[66] Nevertheless, the capabilities and affordability of these systems remains uncertain.

In May 2006, the U.S. House of Representatives passed an amendment to the FY2007 National Defense Authorization Act endorsing greater Russian-American BMD cooperation. It specifically called for innovative forms of collaboration, including the possible use of Russian missiles as exercise targets for U.S. BMD systems and American use of launch data from Russia's early warning radars.[67] The lack of Russian interest in the proposal became evident in late July 2006, when General Baluyevskiy published under his own name a comprehensive critique of U.S. BMD plans in Russia's leading defense weekly, .
Among other points, Baluyevskiy accused American officials of seeking to negate the nuclear deterrents of both Russia and China in a quest for strategic superiority.[68]

Despite Russian objections, the United States and other NATO members plan to continue their BMD programs. In May 2006, a 4-year "NATO Missile Defense Feasibility Study" concluded that the alliance could construct a BMD system capable of defending against the growing missile threat from Iran, Syria, and North Korea.[69] American officials also cite the need to help defend non-European allies such as Israel

chitecture, a more attainable goal would be enhanced systems interoperability and a better understanding of each party's BMD development plans and operational concepts. Joint tracking of space objects appears to be

tion about each other's WMD-related capabilities and policies than they acquire through formal arms control accords.[71] In short, cooperative threat reduction has advanced both parties' interests and, more generally, made the world safer.

Although no public evidence exists that Russia has ever lost control over any of its nuclear, chemical, or biological weapons, concerns persist that terrorists, rogue states, or other malign actors could gain access to them. For example, the U.S. intelligence community, while acknowledging Russian improvements

after June 2006, however, the two parties agreed to negotiate more restrictive liability provisions.[74]

Although this long-awaited extension is welcome, American access to Russian WMD sites still remains a key area of contention. The February 2005 summit between Bush and Putin at Bratislava resolved some problems. A subsequent analysis concluded that Russian-American teams installed more security and accounting upgrades at buildings containing nuclear material in FY2005 than in any previous fscal year.[75] Nevertheless, Russians still complain that, in the process of helping to store, move, and dismantle their excessive WMD stockpiles, Americans gain unreciprocated insights into Russian military practices. Formal arms control agreements typically include verifcation measures that guarantee parties roughly equivalent access for inspection and monitoring. The current bilateral threat reduction framework does not give Russian personnel the same level of access to American weapons elimination programs and facilities because the Russian government does not pay for these U.S.-based activities.

These feared intelligence asymmetries have led Russian offcials to impose substantial limitations on U.S. access to certain Russian WMD sites, including facilities suspected of continuing research and development of biological and chemical weapons (CW) in violation of international agreements.[76] For example, DoS representatives could not gain access to certain sensitive biological facilities when they tried to involve

of American and European threat reduction spending allocated to biological weapons projects in Russia.

The current government's improving fscal situation would allow it to spend even more on these projects. As of April 2006, the government held approximately $200 billion of gold and hard currency reserves.[82] In

determine the roles, methods of interaction, and procedures for resolving disputes and sharing information for the various agencies involved in threat reduction projects. Reviving an institution like the Gore-Chernomyrdin Commission also could enhance nonproliferation efforts. Finally, joint or parallel program oversight by both national legislatures could minimize divergent perceptions and misunderstandings.

At their February 2005 summit in Bratislava, Presidents Bush and Putin announced the establishment of a bilateral Senior Interagency Working Group for Cooperation on Nuclear Security, chaired by the U.S. Secretary of Energy and the Director of Russia's Federal Atomic Energy Agency (Rosatom), to oversee implementation of the summit initiatives on nuclear secu-

despite occasionally acute disagreements on specifc cases.[87] The Joint Statement on Nuclear Security Cooperation issued at the Bratislava summit rightly affrmed that both governments "bear a special responsibility for the security of nuclear weapons and fssile material." In May 2004, the Russian government reaffrmed its support for U.S.-led efforts to curb illicit traffcking in WMD, ballistic missiles, and related items by joining the Proliferation Security Initiative (PSI). Since then, Russian representatives have participated in several PSI exercises and workshops. They also have cooperated on WMD interdiction activities under the auspices of the NATO-Russia Council.[88] On the diplomatic and technical plane, Russia and the United States regularly work through the United Nations (UN), the International Atomic Energy Agency (IAEA), and other international institutions to counter the spread of WMD and their related technologies. One barrier to greater Russian-American collaboration against WMD proliferation has been the need to share intelligence data. It remains too early to determine if the February 2006 agreement between Russia and NATO, in which they pledged to exchange classifed information in their joint naval patrols of the Mediterranean under the auspices of Operation ACTIVE ENDEAVOR, marks a breakthrough in this area.[89]

Opportunities for Russian-American collaboration on joint or multilateral threat reduction projects outside the former Soviet Union increased substantially in June 2003, when the G-8 governments decided to expand the scope of their "Global Partnership Against the Spread of Weapons and Materials of Mass Destruction." Launched at the June 2002 G-8 summit in Kananaskis, Canada, the Global Partnership provides for enhanced coordination of national programs relat-

ing to WMD nonproliferation, counterterrorism, and nuclear safety. The Bush administration has pledged $10 billion to the initiative over a 10-year period, and the other G-8 members have promised a comparable amount ("10+10 over 10"). As part of its own Global Partnership contribution, the Russian government has pledged to spend $2 billion on threat reduction activities during the 10-year period. Since 2002, Russia has increased its spending on chemical disarmament substantially, decommissioning nuclear-powered submarines, and increasing security at the country's nuclear facilities.[90]

At first, Russian representatives expressed concerns that including additional countries would dilute the funds available for use within Russia. More recently, they have endorsed expanding threat reduction activities in other countries, provided that projects addressing primarily Russian concerns remained a priority.[91] With Moscow's acquiescence, the G-8 governments in September 2004 decided to allocate funds to Ukraine, which is now negotiating legal frameworks and specific projects with potential donors.[92] At their July 2005 summit in Gleneagles, the Global Partners made clear "the Partnership's openness in principle to further expansion in accordance with the Kananaskis documents, and in the context of the ongoing focus on projects in Russia."[93] The near-term priority for the Global Partnership, however, is to secure additional contributions to reach the $20 billion floor and, most importantly, to turn more of these pledges into actual projects.

Another opportunity for Russian-American collaboration on threat reduction projects beyt Sincesg / mm3na[(labo

cal materials and related equipment throughout the world. The GTRI has four core elements. The first two elements consist of U.S. Department of Energy-funded efforts to repatriate Soviet/Russian- and U.S.-origin HEU from foreign countries. In accord with a Russian-American intergovernmental agreement signed in late May 2004, Russia has already retrieved over 100 kilo-

research reactors worldwide, many of which are Soviet-built, to use low-enriched uranium (LEU) rather than HEU fuel.[98] The fourth element, the International Radiological Threat Reduction program, involves identifying and securing nuclear materials and related equipment not addressed by pre-GTRI activities (referred to as “gap” material). According to the IAEA, millions of radioactive sources exist throughout the world, including thousands of potentially dangerous

tiate security 'best practices' consultations with other countries that have advanced nuclear programs." The two governments already have begun to share insights with other states and the IAEA itself.[101]

The Russian government recently has launched plans to restructure its civilian nuclear enterprises into a large state-owned vertically integrated holding company, variously referred to as "Rosatomprom" or merely "Atomprom." The idea is to create something along the lines of France's Areva, Germany's Urenco, or, for natural gas, Russia's Gazprom, except that the nuclear conglomerate would remain wholly state-owned given its crucial role in sustaining Russia's strategic forces. Analysts expect that consolidating all uranium mining, reactor design and construction, and related civilian nuclear power assets—amounting to about 200 enterprises and over 300,000 people—into a single one-stop company will reduce costs, streamline administration, and strengthen Russia's position in international markets.[102] Russian frms already occupy leading positions in the sale of uranium fuel and the construction of nuclear power plants. To generate the additional revenue needed to fulfll the government's ambitious plans to revitalize Russia's nuclear industry, the country's nuclear establishment plans to offer an even broader range of nuclear fuel services to foreign customers.[103] In his May 2006 speech to the Federal Assembly, Putin observed: "We need to consolidate Russia's position on the world markets for nuclear energy sector technology and equipment and make full use here of our knowledge, experience, advanced technology, and of course, international cooperation. Restructuring in the nuclear energy industry itself also aims at enabling us to achieve these goals."[104]

For several years, Russian offcials have sought to establish their country as a core participant in a new

ited capacity of Russia's storage and reprocessing facilities—stalled plans to import and store third-party

ritory. They made clear that they wanted to establish a complete indigenous nuclear fuel cycle, which also would provide the basis for manufacturing nuclear explosives. Nevertheless, the negotiations convinced members of the Bush administration to endorse Russia's offer to provide civil uranium enrichment and radioactive waste disposal services to countries besides Iran. At the July 2006 G-8 summit in St. Petersburg, Presidents Bush and Putin announced plans to deepen bilateral cooperation on nuclear energy and security. In particular, they launched a Global Initiative to Combat Nuclear Terrorism and opened formal negotiations on a bilateral civil nuclear energy cooperation agreement.[111] Experts anticipate that negotiations on the latter accord, a prerequisite on the American side for the sharing of civilian nuclear technology between the two countries, will take approximately 1 year to complete.[112]

Russia's nuclear industry has surplus capacity for enriching uranium.[113] The Russian government has introduced legislation in the Duma to establish the first international uranium enrichment center at Angarsk in southeast Siberia. The law would allow the facility to produce and reprocess nuclear fuel under IAEA supervision.[114] Before Russia could actually import foreign spent nuclear fuel on a large scale, Russian officials would have to address a range of technical, political, and other issues.[115] Nevertheless, they continue to offer to host a joint Russian-Iranian venture for enriching uranium with safeguards to prevent Iranian access to proliferation-sensitive technologies.[116]

Requiring the return of spent nuclear fuel to its original suppliers would advance global nuclear nonproliferation goals by depriving recipient countries of opportunities to reprocess it and extract plutonium.

Guaranteeing developing states the right to purchase and store fuel internationally at modest cost would make it unnecessary for them to develop national uranium enrichment and reprocessing capabilities. Without such sensitive technologies, Iran and other

neutron reactors. This process would help consume the extensive global stockpile of already separated plutonium, which would reduce the need for long-term spent fuel storage and minimize proliferation risks. More importantly, the envisaged UREX-Plus and Pyroprocessing technologies would make the recycling process more proliferation-resistant than existing procedures because they would not separate the plutonium from other long-lived radioactive elements.[118]

The GNEP hopes to discourage the spread of plutonium reprocessing technologies to additional countries through a fuel leasing arrangement. Under the scheme, which resembles the fuel arrangement Russia offered Iran, nuclear supplier nations would provide fresh fuel for civilian nuclear power plants located in user nations that agree to refrain from enrichment and reprocessing. The resulting spent fuel would be returned to the fuel supplier and recycled using a process that does not produce purely separated plutonium. GNEP members also would seek to develop a new type of nuclear reactor for countries with rudimentary nuclear power programs. The reactors would have improved safeguards to counter the theft of nuclear materials and technologies.

Washington and Moscow have established several interdepartmental groups to discuss Russia's possible involvement in the GNEP, and how best to reconcile the two governments' slightly different proposals for internationalizing the nuclear fuel cycle.[119] Russian nuclear experts have more experience with reprocessing technologies than their American counterparts, who for decades have opposed reprocessing because of its costs and proliferation risks. Instead, since the Carter administration, the U.S. nuclear power program has stored spent nuclear fuel rather than attempting to re-

cycle it. Potential Russian contributions to the GNEP include sharing its existing technologies and facilities (including the fast breeder reactor under construction at Beloyarsk), collaborating on developing more advanced recycling techniques and thermonuclear energy, and sharing the costs of pursuing GNEP initiatives. Russia's participation also could help overcome differences over the implementation of the 2000 plutonium disposition agreement. Whereas the United States wants to concert the 34 metric tons of weapons-grade plutonium that each side pledged to eliminate into mixed-oxide fuel for use in commercial nuclear power reactors, Russian authorities have indicated their intention to burn the excess plutonium in their existing fast-neutron reactor. In July 2006, the United States also helped Russia enter into the Generation IV International Forum. Since 2001, this multinational initiative has involved Japan, European Union (EU) countries, and other states with advanced civilian nuclear power programs collaborating in research and development of fourth-generation nuclear reactors with superior safety and security safeguards.

One problem with GNEP concerns timing. The Bush administration does not anticipate the development of a global commercial reprocessing system with proven technologies before 2025. Other analysts expect this timeline to extend far longer, perhaps 50 years from today. Given the need to address pressing proliferation problems, the administration should consider implementing as soon as possible Russian proposals to establish a global network of uranium

prices and derive significant political leverage from such monopoly status. Although some countries (e.g., Iran, North Korea) would cooperate more readily with Moscow in this area than with Western governments, other states would probably prove unwilling to rely solely on Russia for such an important energy source. These proliferation problems became evident when, following Russia's cut-off of Ukraine's natural gas supplies in early January 2006, Ukrainian President Victor Yushchenko announced that his government wanted to develop its own capacity to produce uranium fuel for its nuclear power plants rather than remaining dependent on Russian-supplied fuel.[120]

Deepening Bilateral Military-to-Military Engagement.

Members of the U.S. defense community have shown an intense interest in cultivating military-to-military contacts with their Soviet/Russian counterparts for at least two decades.[121] Despite expressing concerns about American "double standards" on security issues and the impulsive character of bilateral military engagement—with surges in activity whenever a new problem faces the United States, followed by declining collaboration as the issue becomes less urgent for the Americans—General Baluyevskiy said that the Russian military had become more satisfied with the contacts after the events of 9/11 resulted in more concrete cooperation and fewer seminar discussions.[122]

Although Americans often find that the Russian military remains more impervious to outside contacts and influence than many other Russian institutions, this condition makes U.S. attempts to engage the Russian defense community all the more essen-

Enhanced engagement could prove especially useful in the volatile Central Asian region, where the two militaries operate independently but in close proximity. In Kyrgyzstan, Russian and U.S. forces have little formal communication despite their occupying nearby military bases. In a revealing comment, Ivanov said in April 2005, "Russian and U.S. military bases in Kyrgyzstan are not bothering each other."[127]

These contingents should consider institutionalizing regular consultations among base commanders, exchanging liaison officers to ensure the timely exchange of information and communications, and conducting joint exercises on force protection, humanitarian relief and counterterrorism to explore how they might interact in a crisis. The two parties should encourage the host country military and perhaps the armed forces of other states that could deploy on its territory (including those from China and the members of NATO and the Collective Security Treaty Organization) to participate in these confidence-building activities. These preparatory steps would facilitate joint or multilateral military operations in Central Asia should they become necessary. Perhaps more importantly, all these measures could help avoid friendly fire incidents and other disasters in a future emergency or colored revolution.

In addition, staff members from U.S. Central Command (CENTCOM), the Joint Staff and the Office of the Secretary of Defense could regularly brief their Russian counterparts on U.S. military activities in Central Asia. Although ideally the information exchanges would proceed on a reciprocal basis, U.S. European Command staff offer such consultations unilaterally regarding some U.S. defense initiatives in the Caucasus, given Russian sensitivities about American military activities in former Soviet territories.[128] A more

ambitious level of defense cooperation would involve establishing a permanent link (such as a coordination cell) between CENTCOM and the Russian General Staff, and between CENTCOM and the Collective Security Treaty Organization's Central Asian group of forces, to deepen mutual understanding and counter misperceptions about their military operations in Central Asia.[129]

CONCLUDING OBSERVATIONS

President Vladimir Putin's authoritarian tendencies have made sustaining support for Russian-American security cooperation harder but not impossible. In particular, opportunities exist for near-term further bilateral collaboration in the areas of cooperative threat reduction, third-party proliferation, and bilateral military engagement. With new leaders due to assume power in both countries in 2008, we also could see renewed efforts to negotiate new strategic arms control agreements, including those limiting military operations and reducing the number of both countries' strategic nuclear weapons below SORT limits.

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