

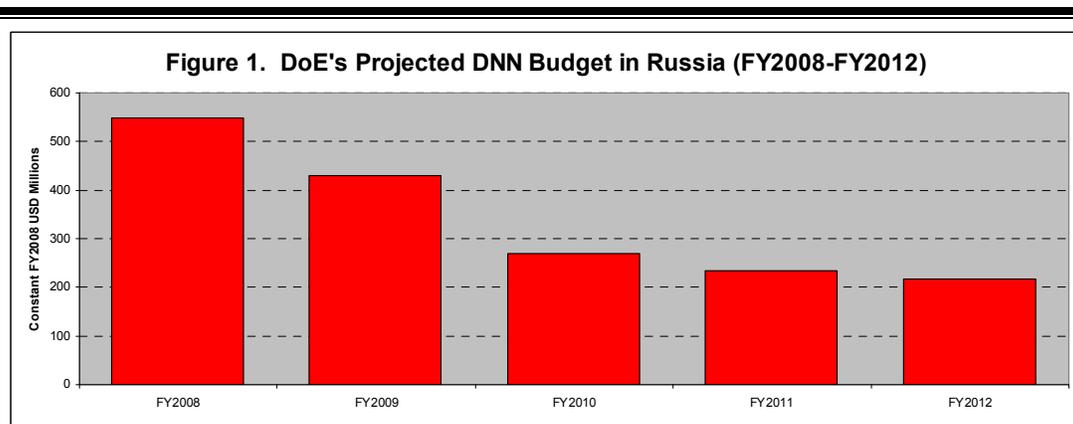
## How Should the United States and Russia Collaborate to Reduce Future Nuclear Threats and Proliferation Dangers?

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Nuclear threat reduction and nonproliferation—hereinafter “NTR/N”—refers to the range of government-to-government programs by which the United States has assisted the Russian Federation in securing, stabilizing, and shrinking the vast Soviet-built nuclear weapons complex left over after the Cold War. Since 1992, the U.S. has invested some \$15 billion in constant FY 2008 dollars on NTR/N projects in the former Soviet Union.<sup>1</sup>

NTR/N initially focused on preventing the misuse or theft of former Soviet nuclear weapons, materials and equipment. In the late 1990s and after 9/11, though, the rationale of U.S.-Russian nuclear collaboration expanded to include—and even emphasize—the prevention of nuclear terrorism. In general, these programs have enjoyed no small amount of success. But in the coming years, the current approach to U.S.-Russian nuclear collaboration may not be sustainable for at least three reasons:

**(1) U.S.-Russian NTR/N programs in the former Soviet Union have much more work behind them than they have ahead of them.** In large part *because* of these programs, the nuclear threats and proliferation risks posed by the Soviet-era nuclear weapons complex are nowhere near as grave as they were after the U.S.S.R.’s collapse. Unless the U.S. and Russia find new and useful long-term goals for NTR/N, the budgets for these programs will decline. As Figure 1 shows, the Department of Energy (DoE)—which spent \$548.9 million on Defense Nuclear Nonproliferation (DNN) projects in Russia in FY 2008—anticipates spending only \$216.4 million in FY 2012.

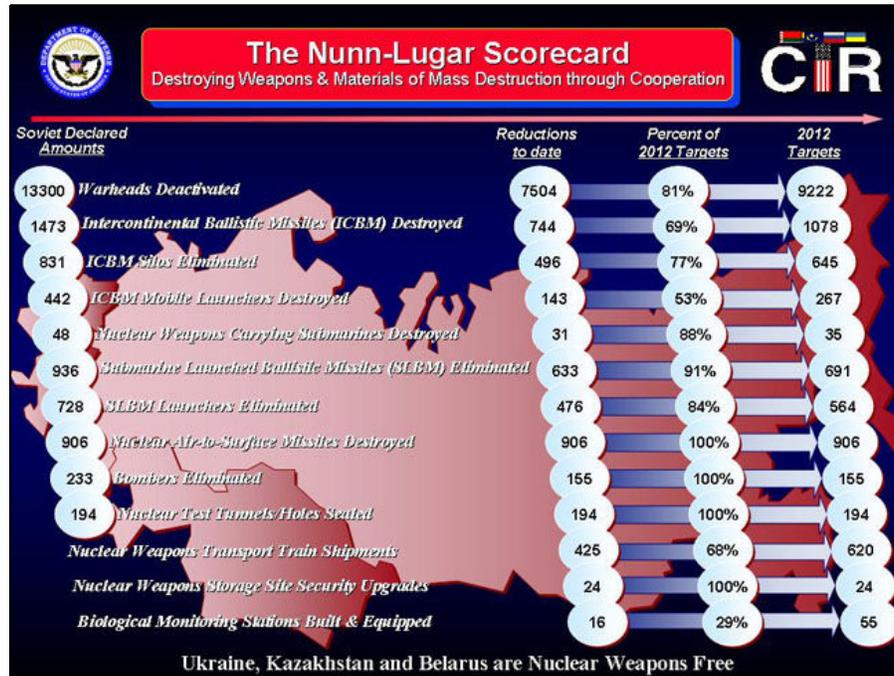


**Source:** U.S. Department of Energy, *FY 2009 Congressional Budget Request*, Vol. 1: “National Nuclear Security Administration,” DOE/CF-024, February 2008, p. 460, at <http://www.cfo.doe.gov/budget/09budget/Content/Volumes/Volume1a.pdf>.

<sup>1</sup> Figure in current FY 2008 dollars estimated using historical data in current (nominal) dollars from the Congressional Research Service, and crude deflators inferred from historical budget datasets from the DoD’s Office of the Comptroller.

As Figure 2 shows, the U.S. Department of Defense (DoD) reports that Cooperative Threat Reduction (CTR)—the NTR/N program by which the DoD has helped the Russian military to eliminate excess Soviet-built nuclear warheads and delivery vehicles—has already accomplished

Figure 2.



Source: “The Nunn-Lugar Scorecard,” updated January 2009, at <http://lugar.senate.gov/nunnlugar/scorecard.html>.

much of the work that the program set out to do by 2012. But some nuclear assistance programs, in need of new objectives and activities, have raised Congressional objections for going beyond their legislative mandates. A report by the Government Accountability Office (GAO) in late 2007 identified serious problems in the DoE’s implementation of certain Defense Nuclear Nonproliferation projects in Russia. GAO found that funds for the DoE’s Initiatives for Proliferation Prevention (IPP) were being used to train a new generation of Russian nuclear scientists, even though Congress had authorized funds to help provide jobs only for former Soviet nuclear scientists.<sup>2</sup> A key issue is whether the U.S. and Russia can identify new large-scale, long-term and capital-intensive NTR/N projects in the former Soviet Union that would be useful.

- (2) **To the extent that there still is NTR/N work in the former Soviet Union, Moscow wants to end the current “donor-recipient” approach to nuclear collaboration.** The U.S. began these programs after the Cold War because, at the time, Russia and other former Soviet republics could not afford by themselves to secure, stabilize and shrink the Soviet-era nuclear weapons complex. Indeed, Moscow wanted America’s nuclear assistance.

<sup>2</sup> Government Accountability Office, *Nuclear Nonproliferation: DoE’s Program to Assist Weapons Scientists in Russia and Other Countries Needs to Be Reassessed*, report to the Chairman of the House Committee on Homeland Security, GAO-08-189, December 12, 2007, at <http://www.gao.gov/new.items/d08189.pdf>.

Circumstances have changed. First, the Russian government earned hundreds of billions from oil and gas exports over the last few years—wealth that now erodes one key justification for the current approach to nuclear collaboration. Second, the notion of “donor-recipient” assistance does not accord with Russia’s renewed image of itself as a geopolitical co-equal to the U.S.<sup>3</sup> Indeed, Russian government officials privately say that Russia is now more than capable of taking care of nuclear arsenal security and stability issues by itself.<sup>4</sup> Russia has also long objected to aspects of NTR/N’s current approach—in particular, to the nuclear accident liability regime of the DoD’s Cooperative Threat Reduction program. Much to Moscow’s dismay, CTR’s liability provisions give absolute immunity to the U.S. government and its nuclear contractors in the event of any CTR-related nuclear accidents.<sup>5</sup> Yet Russia does not seem eager to set up a replacement nuclear liability regime that would satisfy the concerns of U.S. nuclear contractors.<sup>6</sup> Although the Russian Duma recently ratified a protocol to extend the CTR program’s implementing agreement until the end of 2012, the Duma’s conditions for ratification expressly forbid any new CTR projects using the program’s current nuclear liability regime.<sup>7</sup>

**(3) Russia’s longstanding relations with Iran and other states of proliferation concern may create obstacles to continuing the current approach to U.S.-Russian NTR/N.** For example, the House Energy and Commerce Committee found in 2008 that the DoE’s Initiatives for Proliferation Prevention had funded projects at Russian nuclear institutes, and that these institutes had assisted Iran’s nuclear program—a program that remains in noncompliance with resolutions from the U.N. Security Council and the Board of Governors of the International Atomic Energy Agency (IAEA).<sup>8</sup>

Moreover, when President George W. Bush submitted for Congressional approval a framework agreement to allow broad U.S.-Russian civil nuclear cooperation—a pact that President Obama is now deciding whether to resubmit—lawmakers raised loud objections, citing Russia’s ongoing nuclear, ballistic missile, and advanced conventional military assistance to Iran.<sup>9</sup> Indeed, the Office of the Director of National Intelligence (ODNI) publicly assessed that “individual Russian

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<sup>3</sup> Prior to the Russo-Georgian conflict of August 2008, Russia and the United States had attempted to recast their bilateral relationship as a “strategic partnership.” See *U.S.-Russia Strategic Framework Declaration*, Office of the Press Secretary, White House, April 6, 2008, at <http://georgewbush-whitehouse.archives.gov/news/releases/2008/04/20080406-4.html>.

<sup>4</sup> Author’s interview with Russian government officials.

<sup>5</sup> For a discussion of Russia’s position, see Alexander Alexandrovich Matveev, “The Russian Approach to Nuclear Liability,” *International Journal of Nuclear Law*, Vol. 1, No. 3 (August 21, 2006), pp. 270-286, esp. pp. 273-274. Matveev works in the Russian foreign ministry’s legal department.

<sup>6</sup> See Omer F. Brown, II, Letter *re: Nuclear Liability—Russian Federation* on behalf of Contractors International Group on Nuclear Liability (CIGNL) to the Departments of State, Energy and Defense, December 18, 2003, at <http://is.gd/oXja>.

<sup>7</sup> Author’s interview and correspondence with a Russian government official.

<sup>8</sup> See Letter from House Committee on Energy and Commerce chair John Dingell (D-MI) and House Subcommittee on Oversight and Investigations Bart Stupak (D-MI) to Secretary of Energy Samuel Bodman requesting answers to questions on the Department of Energy’s Initiatives for Proliferation Prevention, February 6, 2008. For a relevant critique, see Henry Sokolski, “Brains Drained: U.S. Policy Towards Iran’s Rockets, Reactors, and Russia,” *National Review Online*, February 19, 2008, at <http://is.gd/ksbQ>.

<sup>9</sup> For detail on Congressional actions in 2008 pertaining to the U.S.-Russian civil nuclear cooperative agreement, see Robert Zarate and Henry Sokolski, “Overview of *The Next Phase of U.S.-Russian Civil Nuclear Relations: Opportunities Risks and Choices*,” background essay submitted for the record by Mr. Sokolski during testimony before a hearing of the House Committee on Foreign Affairs (Washington, D.C.: Nonproliferation Policy Education Center, June 12, 2008 [revised August 2008]), esp. pp. 4-7, at <http://is.gd/otC1>.

entities continue to provide assistance to Iran’s ballistic missile programs” and that “Russia-entity assistance ... has helped Iran move toward self-sufficiency in the production of ballistic missiles.”<sup>10</sup> Moreover, because President Bush could not issue a determination pursuant to Section 6(b) of the Iran, North Korea and Syria Nonproliferation Act (INKSNA) with respect to Russian proliferation activities to Iran, North Korea or Syria,<sup>11</sup> Congress was forced to pass, and President Bush to sign, a new law to sustain U.S.-Russian space cooperation.<sup>12</sup> More recently, *The New York Times* reported the IAEA is investigating whether a Russian scientist had helped Iran to conduct experiments related to detonating nuclear bombs.<sup>13</sup> Concern thus persists in Congress over Russia-Iranian assistance—concern that casts clouds over U.S.-Russian nuclear collaboration’s future.

## **Recommendations**

As U.S. President Barack Obama and Russian President Dmitriy Medvedev try to “reset” bilateral relations, this may offer an opportunity to reinvigorate and redirect U.S.-Russian NTR/N programs. To that end, this paper makes three suggestions:

- **The U.S. government—whether at the National Security Council (NSC) level, through the interagency process, or by means of a special commission—should conduct a careful and comprehensive review of the current approach to nuclear collaboration with Russia.** Although Congress tasked the 2008 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism to do such an assessment, the Commission’s final report only briefly addressed the issue in an appendix.
- **The review of U.S.-Russian nuclear assistance should evaluate which current NTR/N programs should continue as planned or with minor changes, and which should simply be allowed to sunset.** The review should also consider the extent to which, if at all, existing NTR/N capabilities could be usefully refocused towards new goals—for instance, consider the wisdom of trying to expand nuclear assistance geographically to include states of proliferation concern outside of the former Soviet Union, such as nuclear-armed North Korea and U.S.-allied Pakistan and India. The Obama Administration has indicated that it would support such an expansion.<sup>14</sup> Yet it far from clear how much, if anything, can be usefully done in such non-cooperative states.

<sup>10</sup> See Kathleen Turner, ODNI Director of Legislative Affairs, Letter on Russian-entity assistance to Iran’s ballistic missile program to Jeffrey T. Bergner, Assistant Secretary of State for Legislative Affairs, March 1, 2007, at <http://is.gd/o4eA>.

<sup>11</sup> See Iran Nonproliferation Act of 2000 (P.L. 106-178); Iran Nonproliferation Amendments Act of 2005 (P.L. 109-112); and Iran, North Korea, and Syria Nonproliferation Act of 2006 (P.L. 109-353).

<sup>12</sup> See Consolidated Security, Disaster Assistance, and Continuing Appropriations Act of 2009 (P.L. 110-329), which extended until July 1, 2016, the President’s waiver authority to sustain cooperation between NASA and the Russian Federal Space Agency (RFSA). For background, see Carl Behrens and Mary Beth Nikitin, *Extending NASA’s Exemption from the Iran, North Korea, and Syria Nonproliferation Act*, RL34477 (Washington, D.C.: Congressional Research Service, updated October 1, 2008), at [http://assets.opencrs.com/rpts/RL34477\\_20081001.pdf](http://assets.opencrs.com/rpts/RL34477_20081001.pdf); and Anthony H. Cordesman, with Adam C. Seitz, *Iranian Weapons of Mass Destruction: Capabilities, Developments, and Strategic Uncertainties*, working draft, Center for Strategic and International Studies, October 14, 2008, at [http://www.csis.org/media/csis/pubs/081015\\_iran\\_wmd.pdf](http://www.csis.org/media/csis/pubs/081015_iran_wmd.pdf).

<sup>13</sup> Elaine Sciolino, “Nuclear Aid by Russian to Iranians Suspected,” *The New York Times*, October 9, 2008, at <http://www.nytimes.com/2008/10/10/world/10nuke.html>.

<sup>14</sup> For one example of the sort of expansion that the Obama Administration might undertake with respect to Cooperative Threat Reduction, see Committee on Strengthening and Expanding the Department of Defense Cooperative Threat Program,

- **One new NTR/N objective that the U.S. and Russia should pursue is to reach agreement on how they can collaborate to limit the military threats that the spread of civilian nuclear energy might pose in war-prone regions like the Middle East.** In this regard, President Obama should implement the long-ignored Title V of the Nuclear Nonproliferation Act of 1978 (P.L. 95-242) by working with Russia and others to promote—as more sustainable alternatives to civil nuclear energy’s military potential—the market-driven use of energy efficiency and non-nuclear renewable energy choices in the Middle East, East Asia and other war-prone regions.<sup>15</sup> Indeed, in April 2009, Congressmen Brad Sherman (D-CA), Ileana Ros-Lehtinen (R-FL) and Ed Markey (D-MA) sent a letter asking President Obama to do just that.<sup>16</sup> Here, the Kremlin’s January 2009 executive directive authorizing the increased use of energy efficiency and renewable energy in Russia’s electrical sector may provide an unprecedented chance for the U.S. and Russia to build consensus on and collaborate in a novel approach to NTR/N.<sup>17</sup>

The remainder of this paper proceeds in two sections. The first looks at the status of U.S.-Russian nuclear threat reduction and nonproliferation programs. The second and final section considers new ways in which the U.S. and Russia could refocus NTR/N efforts.

## I. Current Status of U.S.-Russian NTR/N Programs

U.S.-Russian nuclear threat reduction and nonproliferation consists of programs implemented on the American side by the Departments of Defense, Energy, and State. NTR/N activities first began soon after the Cold War, with the aim of preventing the misuse of or theft from the Soviet-built nuclear weapons complex. The rationale for these activities, however, expanded in the late 1990s and after 9/11 to include, and even to emphasize, efforts to deny nuclear terrorists access to former Soviet nuclear weapons, materials and equipment. Although some NTR/N programs still have work of substance to complete in the former Soviet Union, it appears that many of these programs have attained, or are close to attaining, their planned objectives.

### DoD’s Cooperative Threat Reduction

Cooperative Threat Reduction—known also as the “Nunn-Lugar” program after the Senators who helped to create it in the early 1990s—describes the set of NTR/N activities that the Pentagon’s Defense Threat Reduction Agency (DTRA) leads in implementing. The Congressional Research Service (CRS) reports that Congress authorized roughly \$426 million for CTR activities in FY 2008.

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*Global Security Engagement: A New Model for Cooperative Threat Reduction* (Washington, D.C.: National Academies Press, 2009), at [http://www.nap.edu/catalog.php?record\\_id=12583](http://www.nap.edu/catalog.php?record_id=12583).

<sup>15</sup> NPEC executive director Henry Sokolski has long called for the Executive Branch to implement Title V of the Nuclear Nonproliferation Act of 1978 (NNPA)—most recently in “Nuclear Dealing: A Proposed Agreement with a crucial Middle East State Deserves Close Scrutiny,” *National Review Online*, March 25, 2009, at <http://is.gd/tshZ>.

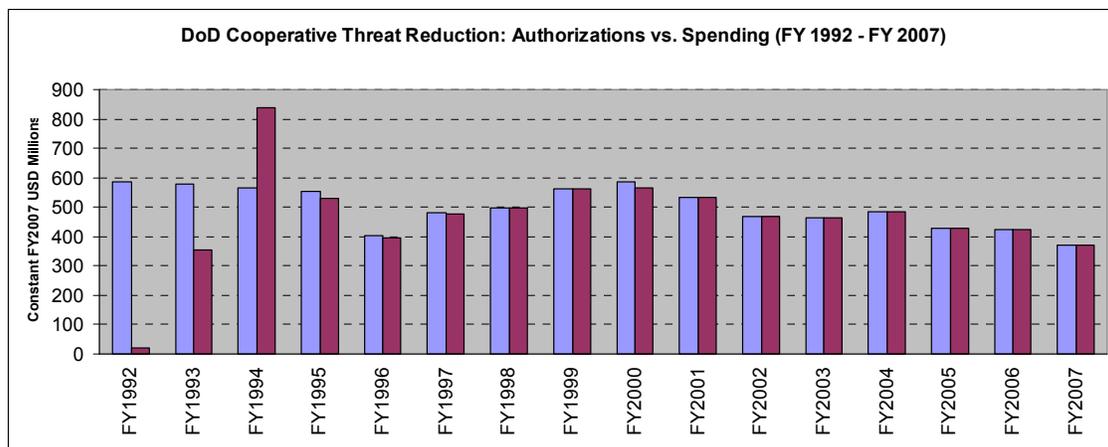
<sup>16</sup> See “Key Members of Congress call on President Obama to Conduct Nuclear Trade Policy Review: Ask President to Withhold a Nuclear Cooperation Agreement with the U.A.E.,” Office of Congressman Brad Sherman, April 7, 2009, at [http://www.house.gov/list/press/ca27\\_sherman/morenews/40709UAELetter.html](http://www.house.gov/list/press/ca27_sherman/morenews/40709UAELetter.html). The text of the April 6, 2009, letter by Sherman *et al.* is available at <http://bradsherman.house.gov/pdf/NuclearCooperationPresObama040609.pdf>.

<sup>17</sup> The Russian Government’s announcement of this January 2009 directive is available at <http://is.gd/oASz>. A crude English translation of this page, generated by Google’s online translation service, is available at: <http://www.is.gd/oqXg>.

The number, scope, composition and objectives of CTR project have changed over the years, sometimes dramatically. Although CTR now also deals with dangers posed by biological and chemical weapons, it still largely focuses on limiting and managing nuclear weapons-related risks in the former Soviet Union. In particular, CTR activities have aimed to—

- *Dismantle and destroy* Soviet-era nuclear weapons and delivery vehicles, partly in support of the 1991 Strategic Arms Reduction Treaty (START), but also at the initiative of the U.S. and Russia;
- *Protect* the security, safety and chain-of-custody of nuclear weapons, materials and equipment in the former Soviet Union; and
- *Demilitarize* parts of the Soviet-era nuclear weapons complex in Russia and other former Soviet republics.

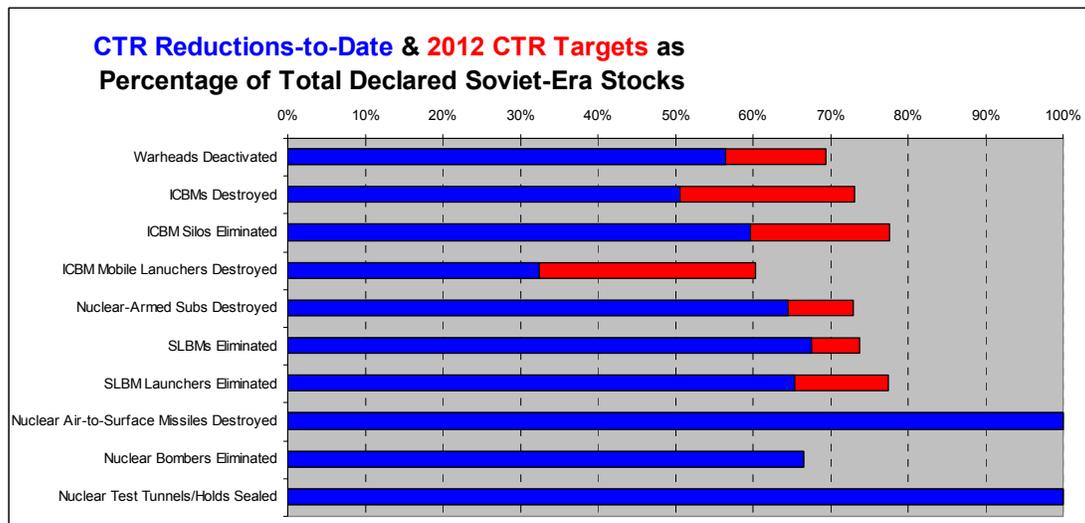
Congress first authorized the transfer of DoD funds to activities that would come to be known as CTR in December 1991, just as the U.S.S.R. was in the process of dissolving.<sup>18</sup> As the chart below shows, Congress subsequently supported CTR with annual authorizations generally falling between \$350 million to \$500 million in constant FY 2007 dollars.



In turn, CTR activities have helped to eliminate thousands of Soviet-era nuclear warheads and delivery vehicles. The chart below, derived from data from DTRA and the office of Senator Richard Lugar (R-IN), provides an overview of what DTRA sees as CTR’s major accomplishments. To be sure, the chart shows that CTR still has a modest amount of work in nuclear weapons-related reductions to complete, though nowhere near the staggering amount of work it faced in the early 1990s. But the chart also

<sup>18</sup> With the Soviet Nuclear Threat Reduction Act (Title II of P.L. 102-228), Congress initially authorized in mid-December 1991 the transfer of up to \$400 million (~\$621 million in FY 2008 dollars) of FY 1992 Defense Department funds to U.S. nuclear threat reduction activities in Soviet Union. Congress also passed the Dire Emergency Supplemental Appropriations Act (P.L. 102-229), Section 108 of which actually appropriated transferred funds to implement these activities. However, to actually implement these nuclear threat reduction activities, the Bush Administration first needed to negotiate and conclude “umbrella agreements” with Russia and other newly-independent former Soviet republics, and then hammer out subsidiary pacts for specific projects. See *Agreement between the United States and the Russian Federation Concerning the Safe and Secure Transportation, Storage, and Destruction of Weapons and the Prevention of Weapons Proliferation*, June 17, 1992. The US concluded similar “umbrella agreements” with Belarus in October 1992, with the Ukraine in October 1993, and with Kazakhstan in December 1993.

suggests that, in the absence of an affirmative Russian decision to collaborate with the U.S. on further nuclear arms reductions, the demand for currently programmed CTR activities in the former Soviet Union is likely to wane in the coming years. U.S.-Russian CTR activities may expand if Washington and Moscow are able to conclude a sequel to the 1991 START treaty, and agree to further cuts in their respective nuclear arsenals. Yet whereas the magnitude of post-Cold War cuts numbered in the many thousands, the magnitude of post-START cuts would likely number in the few hundreds. If CTR ends up playing a role in implementing such cuts, its growth in activities will likely be modest.



Sources: "The Nunn-Lugar Scorecard," updated January 2009, at <http://lugar.senate.gov/nunnlugar/scorecard.html>, and DTRA.

Given these trends, some have proposed expanding CTR to help limit the nuclear dangers posed by North Korea, Pakistan and India.<sup>19</sup> However, it remains unclear whether these nuclear-armed governments would ever open their nuclear complexes to U.S. and Russian assistance. A seismic geopolitical shift—that is, the collapse of the U.S.S.R.—made possible CTR and other NTR/N programs. It may be that any U.S. nuclear collaboration in North Korea, Pakistan or India would require a similar game-changing geopolitical shift, such as political reconciliation or drastic change in governance.

### DoE's Defense Nuclear Nonproliferation

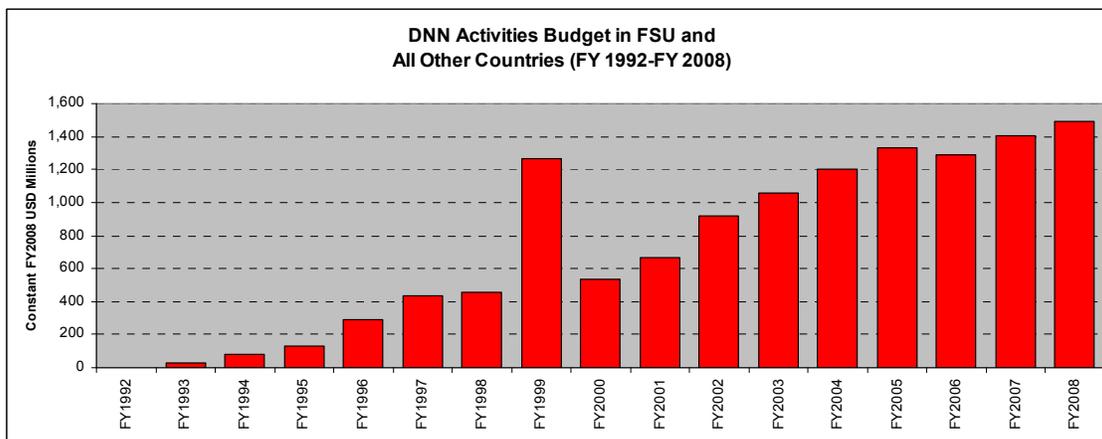
Defense Nuclear Nonproliferation refers to the set of NTR/N activities that the DoE's National Nuclear Security Administration (NNSA) leads in implementing. DNN activities, however, have also expanded modestly to some countries outside of the former Soviet Union. CRS reports that Congress authorized roughly \$800 million for DNN in the former Soviet Union in FY 2008. The DoE reports that it budgeted \$548.9 million of this for DNN in Russia.

As with the DoD's CTR projects, the number, scope, composition and objectives of DoE's U.S.-Russian DNN activities have changed over the years. Key activities include:

<sup>19</sup> For a discussion of such proposals, see Sharon Squassoni, *Globalizing Cooperative Threat Reduction: A Survey of Options*, RL32359 (Washington, D.C.: Congressional Research Service, Updated October 5, 2006).

- *Materials, Protection, Control and Accounting (MPC&A)*, which aims to upgrade the security at Russian facilities that store nuclear weapons and fissile materials.
- *Second Line of Defense (SLD)*, which seeks to consolidate nuclear materials in protected sites, and now also includes the *Megaports* program to improve capabilities to detect nuclear smuggling and trans-shipment at borders.
- *Initiative for Proliferation Prevention (IPP)*, which Congress authorized to grant funds to projects that help to employ former-Soviet nuclear scientists. IPP now falls under Global Initiatives for Proliferation Prevention (GIPP).
- *Global Threat Reduction Initiative (GTRI)*, which works to convert reactors fueled by high enriched uranium (HEU) into ones fueled by low enriched uranium (LEU), or to shut them down; and to help remove nuclear and radiological material from former Soviet republics and other countries.
- *Fissile Materials Disposition*, which is attempting to establish a project to dispose of 34 metric tons of Russia’s surplus weapons-grade plutonium. This project, announced by the DoE and Rosatom in November 2007, would use Russia’s current and future set of fast reactors to dispose of this plutonium, starting in 2012.
- *HEU Transparency Implementation*, which helps to provide assurances that the LEU purchased under the 1993 nuclear “Megatons-to-Megawatts” pact actually comes from the HEU of dismantled nuclear weapons that Russia has blended down. DoE describes imports of Russian downblended LEU as now accounting for “almost half” of the nuclear fuel consumed by America’s power reactors.<sup>20</sup>

As the chart below shows, the budget for the DoE’s NTR/N activities in former Soviet republics and other countries has risen dramatically since the early 1990s. Although U.S.-Russian spending

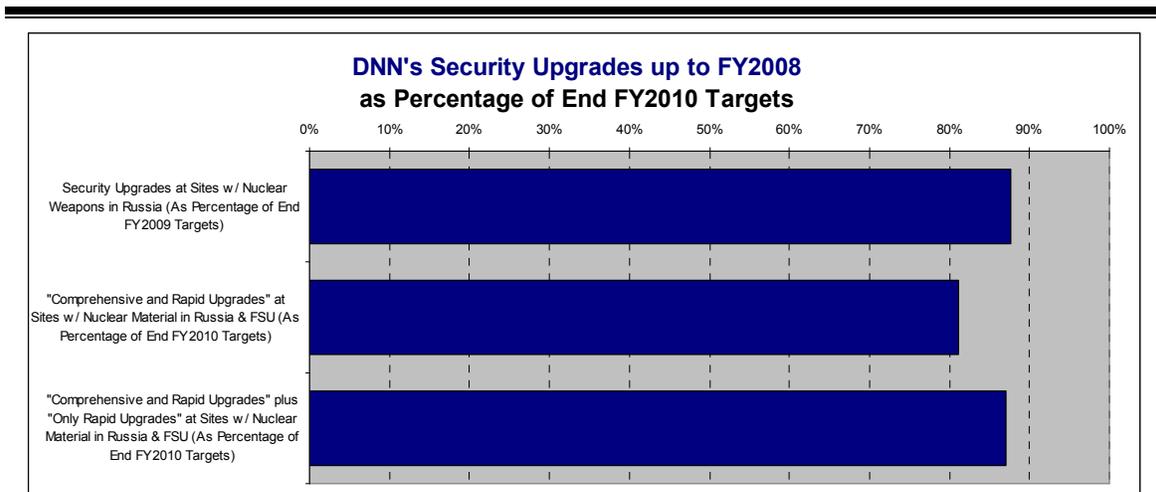


comprised most of the DNN budget in the 1990s, it subsequently has decreased, amounting to under 60 percent of the DoE’s total NTR/N budget in FY 2008. Moreover, the DoE reported in its FY 2009

<sup>20</sup> See “NNSA Announces Nearly 13,000 Nuclear Weapons-Worth of Russian Uranium Converted to Peaceful Use,” National Nuclear Security Agency, U.S. Department of Energy, February 20, 2008, at <http://nnsa.energy.gov/news/1789.htm>.

budget submission to Congress that it expects the portion of its budget dedicated to NTR/N assistance in Russia to decrease by more than half by FY 2012.

As with CTR, a reason for the projected decline in anticipated Russian-specific NTR/N spending is that U.S.-Russian DNN programs have accomplished much of what they had set out to do. For instance, the chart below illustrates the dramatic progress that U.S.-Russian Materials, Protection, Control and Accounting efforts have made in upgrading the security of facilities that store nuclear weapons and fissile materials in the former Soviet Union. In *Securing the Bomb 2008*, Matthew Bunn



**Source:** Percentages calculated using data from Matthew Bunn, *Securing the Bomb 2008*, Nuclear Threat Initiative, November 2008, at [http://www.nti.org/e\\_research/Securing\\_the\\_bomb08.pdf](http://www.nti.org/e_research/Securing_the_bomb08.pdf), pp. 89-96. Bunn states that he is using NNSA-provided data.

writes: “Conservatively there are probably at least 20 buildings with weapons-usable material in Russia that are not included in current upgrade plans.”<sup>21</sup> Although Russian officials acknowledged the existence of such facilities, they privately suggest that the Russian government is quite capable of securing—and may even prefer to secure—these nuclear facilities by itself.<sup>22</sup>

The extent to which some of DoE’s NTR/N programs have met or are nearing their goals is illustrated further by the Government Accountability Office’s 2007 report on Initiative for Proliferation Prevention activities in Russia. As mentioned above, Congress had authorized DoE funds for IPP to help provide jobs exclusively for former-Soviet nuclear scientists, but GAO found that IPP funds were going beyond their legislative mandates, and being used also to train a new generation of Russian nuclear scientists who had never worked for the U.S.S.R. GAO thus recommended that the DoE develop metrics to “graduate” Russian institutes from IPP funding.<sup>23</sup>

<sup>21</sup> Matthew Bunn, *Securing the Bomb 2008*, Project on Managing the Atom, Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University, commissioned by the Nuclear Threat Initiative, November 2008, pp. 90-91.

<sup>22</sup> Author’s conversation with Russian government officials.

<sup>23</sup> Government Accountability Office, *Nuclear Nonproliferation: DoE’s Program to Assist Weapons Scientists in Russia and Other Countries Needs to Be Reassessed*, op. cit..

## State Department's NTR/N Activities

Finally, the State Department also runs a handful programs that are directly related to U.S.-Russian NTR/N activities. CRS reports that Congress authorized roughly \$92 million for the State Department's NTR/N activities in FY 2008. Key activities include:

- *Science and Technology Centers*, which aim to ensure the nonproliferation of WMD expertise. In particular, the U.S., Japan, the European Union and Russia established the International Science and Technology Center (ISTC) in Moscow in 1992. Norway, South Korea and others now also provide financial support to ISTC.
- *Export Control and Related Border Security Assistance (EXBS)*, which helps Russia and other former Soviet republics to improve their capabilities to interdict nuclear smuggling and stop illicit nuclear and dual-use trafficking. For FY 2009, the budget request is for \$42.1 million. But of this, only \$4 million is intended for use in the former Soviet Union.

As with the NTR/N activities of the DoD and DoE, the rationale of the State Department's activities have shifted from nuclear assistance in the former Soviet Union to efforts to prevent nuclear terrorism.

## II. Looking Ahead: Using U.S.-Russian NTR/N to Limit and Manage Civil Nuclear Energy's Military Potential in War-Prone Regions

Although U.S.-Russian nuclear threat reduction and nonproliferation initially focused on preventing the misuse or theft of former-Soviet nuclear weapons, materials and equipment, its rationale expanded in the late 1990s and after 9/11 to emphasize the prevention of nuclear terrorism. With many (though not all) of these nuclear collaboration programs' objectives completed or to close to being completed, decision-makers in Washington and Moscow are now contemplating how the U.S. and Russia should collaborate in the future.

Indeed, it remains uncertain which NTR/N programs should continue as planned or with minor changes, which should expand geographically to include states of proliferation concern outside of the former Soviet Union, and which should simply be allowed to sunset. Given the current focus of bilateral nuclear collaboration, answers will depend, in part, on the outcomes of the following issues:

- (1) **Will the U.S. and Russia conclude a sequel to the 1991 Strategic Arms Reduction Treaty that is set to expire soon?** The Defense Department's Cooperative Threat Reduction has helped to implement the START treaty's nuclear arms reductions. In an April 2009 joint statement, U.S. President Barack Obama and Russian President Dmitriy Medvedev said their governments would work to conclude a "new, comprehensive, legally binding agreement on reducing and limiting strategic offensive arms" with "effective verification measures drawn from the experience of the Parties in implementing the START Treaty."<sup>24</sup> The conventional wisdom in Washington is that the U.S. will seek a post-START cap of 1300-to-1500 operationally-deployed strategic nuclear warheads, though an unidentified Administration figure has floated to the press a number as low

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<sup>24</sup> See "Joint Statement by Dmitriy A. Medvedev, President of the Russian Federation, and Barack Obama, President of the United States of America, Regarding Negotiations on Further Reductions in Strategic Offensive Arms," Office of the Press Secretary, White House, April 1, 2009, at [http://www.whitehouse.gov/the\\_press\\_office/Joint-Statement-by-Dmitriy-A-Medvedev-and-Barack-Obama/](http://www.whitehouse.gov/the_press_office/Joint-Statement-by-Dmitriy-A-Medvedev-and-Barack-Obama/).

as 1000.<sup>25</sup> Although the Russian Duma has forbidden any new CTR projects unless the implementing agreement's current nuclear liability provisions—which grant absolute immunity to the U.S. government and contractors in the event of any accident—are amended, a sequel to START could help the U.S. and Russia to find a way to renew and sustain CTR projects.<sup>26</sup>

Russian diplomats, though, have proposed to broaden the scope of post-START talks. They have called for new caps on nuclear-armed delivery vehicles and non-deployed nuclear warheads, as well as for an end to U.S. efforts to build ballistic missile defense in Europe and to arm U.S. intercontinental ballistic missiles (ICBMs) with conventional warheads; at the same time, Moscow have made it clear their lack of enthusiasm on restrictions to their tactical nuclear weapons—of which they have thousands.<sup>27</sup> As such, it is far from clear what sort of sequel to START the U.S. and Russia might actually agree to—or even what role, if any, bilateral NTR/N programs might play in implementing it. Finally, it is not certain how much of a role that Congress will play in conditioning such an agreement, either through Senate review or the House and Senate appropriations process.

**(2) Can U.S.-Russian NTR/N programs be globalized?** Although the DoD's Cooperative Threat Reduction still has work to do to meet 2012 targets, it has helped so far to deactivate 7,504 former-Soviet nuclear warheads, 744 intercontinental ballistic missiles (ICBMs), 496 ICBM silos, 119 mobile ICBM launchers, and 31 nuclear-armed submarines. Such success has led some to call for the U.S. to expand NTR/N efforts to help reduce the nuclear dangers in countries outside of the former Soviet Union.<sup>28</sup> A key problem, though, is that the very countries posing the gravest potential nuclear dangers—e.g., North Korea and U.S.-allied Pakistan and India—seem also to be the least open to direct such collaboration. Indeed, it is not clear whether such nuclear-armed governments, even friends like India, would tolerate having Americans or Russians assessing their nuclear weapons complexes.

Also, some forms of possible NTR/N assistance to *de facto* nuclear-armed countries—e.g., sharing permissive action links (PALs) to secure nuclear warheads against accidental or unauthorized use, or intensifying technical collaboration with U.S. nuclear weapons labs—would raise compliance issues for the U.S. and Russia with regard to the Nuclear Nonproliferation Treaty (NPT).

**(3) Can the U.S. and Russia identify long-term, large-scale, and capital-intensive NTR/N projects that would be useful?** Some argue that one project might be an international nuclear fuel bank to discourage new countries from getting uranium enrichment and plutonium reprocessing (ENR) capabilities. To jump-start the effort, Russia offered in 2007 to donate two reactor-loads of uranium, and the U.S., European Union, Norway and United Arab Emirates more

<sup>25</sup> See Tim Reid, "President Obama Seeks Russia Deal to Slash Nuclear Weapons," *Times of London*, February 4, 2009, at [http://www.timesonline.co.uk/tol/news/world/us\\_and\\_americas/article5654836.ece](http://www.timesonline.co.uk/tol/news/world/us_and_americas/article5654836.ece).

<sup>26</sup> Author's correspondence with a Russian government official.

<sup>27</sup> See "Russia Sets Tough Tone for Arms Talks with U.S.," *Associated Press*, February 19, 2009, at <http://msnbc.msn.com/id/29285599/>; and Daryl G. Kimball and Miles A. Pomper, "A Fresh Start? Interview with Russian Ambassador Sergey Kislyak," *Arms Control Today*, December 2008, at [http://www.armscontrol.org/act/2008\\_12/KislyakInterview](http://www.armscontrol.org/act/2008_12/KislyakInterview).

<sup>28</sup> For an overview of such proposals, see Squassoni, *op. cit.*

recently pledged a total of \$100 million.<sup>29</sup> Some in the nuclear industry, though, question the need for a fuel bank. Noting that the fuel bank may be a “solution looking for a problem,” the World Nuclear Association’s Steve Kidd observes in a recent essay that “[t]he commercial nuclear fuel market arguably works very well in securing regular supplies for any potential customer” that complies with global nonproliferation rules.<sup>30</sup> Moreover, some skeptics worry that a nuclear fuel bank might raise a “moral hazard” problem for ENR. To take a salient counterfactual, it is uncertain whether a nuclear fuel bank would have dissuaded, had no effect, or further encouraged, Iran’s noncompliant pursuit of enrichment capability. Current nuclear fuel bank proposals ignore the heated debates over the limits of the “inalienable right” to nuclear energy for peaceful purposes that the NPT’s Article IV affirms—suppressed debates that lay at the heart of the dispute over Iran’s nuclear noncompliance.<sup>31</sup> Indeed, Iranian President Mahmoud Ahmadinejad, while recently affirming his country’s purported “inalienable right” to enrich uranium even while in noncompliance with the IAEA Board of Governors and U.N. Security Council resolutions, publicly *praised* Kazakhstan’s offer to host a nuclear fuel bank.<sup>32</sup>

Even if these issues are all resolved favorably, there still may not be enough work to maintain existing budget levels for today’s current set of U.S.-Russian NTR/N activities. If Washington wishes to sustain current budget levels, the NTR/N may have to find new missions.

Given the uncertainties that attend the above issues, U.S.-Russian NTR/N may thus benefit both from a careful review of existing activities and refocus in mission. In particular—

- **The U.S. should carefully evaluate the need to extend or immediately expand current nuclear threat reduction and nonproliferation activities in Russia and the former Soviet Union.** Congress tasked the 2008 Commission on the Prevention of Weapons of Mass Destruction Proliferation and Terrorism to provide such an evaluation as a follow-up to the 2001 Baker-Cutler Task Force’s *Report Card on the Department of Energy’s Nonproliferation Programs with Russia*. The 2008 WMD Commission, however, only included a short evaluation—in the form of an appendix to its final report—that recommended that a more thorough review be done by the incoming Administration. Greater clarity both about what U.S.-Russian NTR/N programs have accomplished, and about what work is left to do, is needed if the U.S. is to maximize its returns on its future investments in NTR/N activities.

<sup>29</sup> See Miles A. Pomper, “Russia Offers to Jump-Start IAEA Fuel Bank,” *Arms Control Today*, October 2007, at [http://www.armscontrol.org/act/2007\\_10/RussiaOffer](http://www.armscontrol.org/act/2007_10/RussiaOffer), and IAEA, “Multinational Fuel Bank Proposal Reaches Key Milestone,” press release, March 6, 2009, at <http://www.iaea.org/NewsCenter/News/2009/fbankmilestone.html>.

<sup>30</sup> See Steve Kidd, “Nuclear Fuel: Myths and Realities,” draft essay for NPEC, March 2009, at <http://is.gd/otHH>.

<sup>31</sup> On these Article IV debates, see Eldon V. C. Greenberg, “NPT and Plutonium: Application of NPT Prohibitions to ‘Civilian’ Nuclear Equipment, Technology, and Materials Associated with Reprocessing and Plutonium Use,” Washington, DC: Nuclear Control Institute, 1984 (Revised May 1993); Henry Sokolski, prepared testimony, in *Assessing ‘Rights’ Under the Nuclear Nonproliferation Treaty*, hearing before the Subcommittee on International Terrorism and Nonproliferation, House Committee on International Relations, 109th Congress, Second Session, Serial No. 109-148 (Washington, DC: U.S. Government Printing Office, March 2, 2006), at <http://www.foreignaffairs.house.gov/archives/109/26333.pdf>; and Robert Zarate, “NPT, IAEA Safeguards and Peaceful Nuclear Energy: An ‘Inalienable Right,’ but Precisely to What?” in Henry Sokolski, ed., *Falling Behind: International Scrutiny of the Peaceful Atom* (Carlisle, PA: Strategic Studies Institute, March 2008), pp. 221-290, at <http://is.gd/otM5>.

<sup>32</sup> See “Iranian Leader Backs Kazakh Proposal For Nuclear Fuel Bank,” *Radio Free Europe/Radio Liberty* April 7, 2009, at [http://www.rferl.org/content/Iranian\\_Leader\\_Back\\_Kazakh\\_Proposal\\_For\\_Nuclear\\_Fuel\\_Bank/1604048.html](http://www.rferl.org/content/Iranian_Leader_Back_Kazakh_Proposal_For_Nuclear_Fuel_Bank/1604048.html).

- Given that tomorrow’s nuclear threats are likely to arise in war-prone regions roiled by today’s nonproliferation failures, the U.S. should work with Russia, France, Japan, Germany and other key nuclear suppliers to build consensus on what should be the new “model” for civil nuclear cooperation in the Middle East, East Asia, and elsewhere.** As NPEC executive director Henry Sokolski has argued, the proposed U.S.-UAE civil nuclear cooperative agreement provides an opportunity for creating greater consensus on these issues.<sup>33</sup> In the version of the agreement that is publicly available, the UAE says it will voluntarily forgo enrichment and reprocessing activities (ENR), and the U.S. says it reserves the right to terminate the nuclear cooperation if the UAE does pursue ENR.<sup>34</sup> Secretary of State Condoleezza Rice described the agreement in January 2009 as “a powerful and timely model for the world and the region.”<sup>35</sup> But if this agreement is to be the new “model” for war-prone regions, then the U.S. should make the ENR disavowal unambiguously legally binding and completely verifiable, and its termination of nuclear cooperation in the event of an ENR violation more automatic. And—as Congressman Brad Sherman (D-CA), Congresswoman Ileana Ros-Lehtinen (R-FL) and Congressman Ed Markey (D-MA) write in an April 2009 letter to President Obama—the U.S. should ensure that France, Japan, Russia and other nuclear suppliers are willing to fully support this tougher model.<sup>36</sup>
- The U.S. should use Title V of the 1978 Nuclear Nonproliferation Act (NNPA) to work with Russia and other governments to promote energy efficiency and non-nuclear renewable energy choices globally.** Title V requires the Executive Branch (1) to work with other countries to promote non-nuclear energy, especially with an eye towards renewables and efficiency; (2) to establish what we might call today a “green energy” peace corps; and (3) to regularly file assessments on these activities with the Congress. As the Nonproliferation Policy Education Center—and now the 2008 WMD Commission—have pointed out, no Administration so far has implemented Title V’s far-sighted provisions. Given that Prime Minister Putin signed in January 2009 an executive directive to increase Russia’s use of energy efficiency and renewable energy, the U.S. may have an underappreciated opportunity to pursue Title V cooperation with Moscow.<sup>37</sup> Cooperation between the U.S. and Russia to promote cleaner and more cost-competitive alternatives to nuclear energy may help to strengthen national security and global energy diversity, but also to balance Russia’s petro-heavy energy export and use portfolio.

Over the last 17 years, the U.S. and Russia have made considerable accomplishments, as bilateral nuclear threat reduction and nonproliferation have evolved from a model based on nuclear arsenal security to one also encompassing the prevention of nuclear terrorism. With the real possibility that Iran and follow-on nuclear proliferators may encourage neighbors to look to civil nuclear energy’s military

<sup>33</sup> See Henry Sokolski, “Nuclear Dealing: A Proposed Agreement with a crucial Middle East State Deserves Close Scrutiny,” *National Review Online*, March 25, 2009, at <http://is.gd/tshZ>.

<sup>34</sup> For the text of this version of this agreement and other resources on the U.S.-U.A.E. civil nuclear cooperation agreement, see <http://www.npec-web.org/us-uae>.

<sup>35</sup> Secretary of State Condoleezza Rice, “Remarks at Signing Ceremony for U.S.-U.A.E. Agreement on Peaceful Uses of Nuclear Energy,” Benjamin Franklin Room, U.S. Department of State, Washington, D.C., January 15, 2009, at <http://2001-2009.state.gov/secretary/rm/2009/01/114651.htm>.

<sup>36</sup> The text of the April 6, 2009, letter by Sherman *et al.* is available at <http://bradsherman.house.gov/pdf/NuclearCooperationPresObama040609.pdf>. For more on this letter, see above, footnote 16.

<sup>37</sup> The Kremlin’s announcement of this January 2009 executive directive is available at <http://is.gd/oASz>. For information on an English translation of this directive, see above, footnote 17.

potential as a security hedge, U.S.-Russian NTR/N may have opportunities to prevent the emergence of tomorrow's nuclear threats by limiting and managing the consequences of today's nonproliferation failures.<sup>38</sup> But to capitalize on such opportunities, the U.S. Government will need to conduct sober assessments of the future of U.S.-Russian NTR/N.

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<sup>38</sup> Senators Richard Lugar (R-IN), Evan Bayh (D-IN) and Chuck Hagel (R-NE) expressly recognized the opportunity for the Executive Branch to implement the NNPA's Title V in Sec. 102 (a) (3) of at S. 1138 (110<sup>th</sup> Congress), at <http://thomas.loc.gov/cgi-bin/bdquery/z?d110:s.01138:>