

## APPENDIX A

# Overview of US Efforts to Control the Spread of Russian Nuclear Weapons, Materials, and Expertise

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The United States government currently conducts about twenty programs, costing upwards of half a billion dollars a year, that aim to control the spread of Russian nuclear weapons, materials, and expertise.<sup>58</sup> The first was the Cooperative Threat Reduction Program in the Department of Defense (DOD), which began in 1992 as the “Nunn-Lugar” program. As part of that program, DOD has taken the lead in efforts including the dismantlement of nuclear weapons delivery systems, construction of a secure storage facility for fissile materials from dismantled nuclear weapons, and cooperating with the Russian Ministry of Defense. The Department of State manages programs to address “brain drain” problems in Russia and other countries of the FSU. It also has the lead role in negotiating government-to-government agreements such as an agreement that governs joint activities for the disposition of plutonium. The Department of Energy (DOE) is the lead agency for efforts to secure, monitor and reduce nuclear material stockpiles in the FSU, reduce the size of the Russian weapons complex, and redirect weapons experts to civilian employment. Related programs are conducted by the US Customs Service, the Nuclear Regulatory Commission, and other agencies.

The results of these programs have been impressive. Hundreds of ICBMs (intercontinental ballistic missiles) and other delivery systems have been destroyed, and thousands of nuclear weapons have been dismantled. Nuclear warheads and delivery systems in Ukraine, Belarus, and Kazakhstan have all been returned to Russia or destroyed. Warheads at over 500 sites in the FSU have been consolidated to fewer than 80 sites,<sup>59</sup> all within Russia, and they are tightly guarded. All major sites with weapons-usable fissile material in the FSU, with the exception of four

nuclear warhead assembly and dismantlement plants in Russia, are cooperating with DOE’s Materials Protection, Control and Accounting (MPC&A) Program.<sup>60</sup> Under this program, DOE funds upgrades to security systems at sites holding stockpiles of fissile materials. Work on these security upgrades has begun at nearly every site and has been completed at many of them. In the brain drain area, several US and international programs have provided grants and assistance that engage in civilian endeavors more than 40,000 FSU scientists and engineers with weapons-of-mass-destruction-related expertise.

Much more remains to be done. In early 2000, experts at the Harvard Project on Managing the Atom estimated that only 20 percent of the work needed to achieve effective and sustainable security of nuclear weapons and materials in the FSU had been completed, and only 10 percent of the defense conversion work needed to achieve a smaller nuclear complex had been done.<sup>61</sup> The Department of Energy estimates that it will not complete installation of security systems at all sites under the MPC&A program until 2011.<sup>62</sup> Less than 30 percent of the weapons-origin HEU, which Russia has declared as excess, has been downblended into LEU, and disposition of the first gram of excess weapons-origin plutonium is still several years away.

US efforts must overcome several barriers to fully address the threat of diversion. The most fundamental obstacles involve differences between the priorities of the US and those of Russia. While the primary US interest in the Russian nuclear complex is nonproliferation, Russia’s primary interests are to maintain a functioning, albeit smaller, nuclear arsenal, develop its civil nuclear industry, and provide employment for the vast number of workers previously supported by the weapons program.

Additional barriers to cooperation include: secrecy and limited access to facilities; mistrust between the US and Russian governments; deeply ingrained differences regarding the value of separated plutonium as a nuclear fuel; continuing Soviet-style bureaucracy, poor coordination among new and changing government ministries and regional power centers in Russia; continuing US-style bureaucracy and interagency disagreements in the United States (including continuing bureaucratic wrangles over arrangements for travel of US experts to Russia to implement the programs); rampant corruption and inadequate legal and banking systems in Russia; and difficulties in redirecting the economics of formerly closed Russian nuclear cities in a stagnating economy, when defense conversion has

proven challenging even in a dynamic growing economy.

Despite all this, lack of sufficient funding for some programs is perhaps the most significant barrier that must be overcome. In January 2001, a bi-partisan task force headed by Howard Baker and Lloyd Cutler called for spending \$30 billion over the next 8–10 years (an average of more than \$3 billion per year) in order to properly execute the Russian nonproliferation programs funded by the Department of Energy.<sup>63</sup> However, even with a last minute addition from the \$40 billion anti-terrorism package passed by Congress in the wake of September 11, DOE expects to spend only \$495 million for Russian nonproliferation programs in 2002 and has requested only \$516 million for 2003.<sup>64</sup>