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U.S. Efforts to Help Newly
Independent States Improve
Their Nuclear Material
Controls

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Mr. Chairman and Members of the Committee:

I am pleased to be here today to discuss our report on the controls over direct-use nuclear material in the newly independent states of the former Soviet Union.¹ Keeping direct-use nuclear material, such as highly enriched uranium (HEU) and plutonium, from terrorists or other countries seeking nuclear explosives has become a primary national security concern for the United States and the newly independent states.

Our report addresses (1) the nature and extent of problems with controlling direct-use nuclear materials in Russia, Ukraine, Kazakstan, and Belarus; (2) the status and future prospects of U.S. efforts to help strengthen controls in these states; and (3) the consolidation of U.S. efforts in the Department of Energy (DOE). Our review focused on the control of direct-use material handled by civilian authorities and direct-use material used for naval nuclear propulsion purposes. We did not review controls for nuclear weapons in the possession of the Ministry of Defense in Russia.

Results in Brief

In summary, social and economic changes in the newly independent states have increased the threat of theft and diversion of nuclear material, and with the breakdown of Soviet-era control systems, the newly independent states may not be as able to counter the increased threat. While there is no direct evidence that a black market for stolen or diverted nuclear material exists in the newly independent states, seizures of direct-use material in Russia and Europe have increased concerns about the adequacy of controls at nuclear facilities.

Nature and Extent of the Problem

Let me cite a few facts to illustrate the nature and extent of the problem:

- According to the International Atomic Energy Agency, it takes only 25 kilograms of HEU or 8 kilograms of plutonium, both direct-use materials, to build a bomb (although DOE suggests the amounts may actually be less).
- Russia and six other newly independent states have hundreds of tons of such material—not contained in weapons—located in 80 to 100 facilities, but an exact inventory and the location of the material is not known.

¹Nuclear Nonproliferation: Status of U.S. Efforts to Improve Nuclear Material Controls in Newly Independent States (GAO/NSIAD/RCED-96-89 Mar.7, 1996).

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- Direct-use materials (such as HEU and plutonium) are attractive to theft because the materials are not highly radioactive, and in some instances can be transported by one or two people.
 - Material protection, control, and accountability systems in Russia and the other newly independent states have serious weaknesses, lacking such things as automated material tracking systems, portal monitors, adequate perimeter barriers, and adequate seals on containers to detect losses.

The U.S. Response

In response, the United States has pursued two different, but complementary, programs to help the newly independent states improve their nuclear material protection, control, and accounting systems. The first is a direct government-to-government program to help the governments of Russia, Ukraine, Kazakstan, and Belarus develop national control systems and improve existing controls over civilian nuclear material. The second is a direct lab-to-lab program to improve controls at Russian nuclear facilities that handle direct-use material. The government-to-government program was initially sponsored and funded by the Department of Defense (DOD) under the Cooperative Threat Reduction (CTR) program, but implemented by DOE. The lab-to-lab program is sponsored by DOE and jointly funded by DOE and DOD.

U.S. efforts, which began in 1993 with the government-to-government program, got off to a slow start. The Russian Ministry of Atomic Energy (MINATOM) initially refused U.S. officials access to Russian direct-use facilities, and projects at facilities with direct-use materials in Ukraine, Kazakstan, and Belarus are just getting underway. According to DOD officials, the program was also slowed by requirements for using U.S. goods and services and for audits and examinations. The government-to-government program began to gain momentum in January 1995 when U.S. and Russian officials agreed to upgrade nuclear material controls at five high-priority facilities handling direct-use material.² DOE and Russia's nuclear regulatory agency have also agreed to cooperate on the development of a national material protection control and accounting regulatory infrastructure.

DOE's lab-to-lab program, which started in 1994 as an extension of other lab-to-lab relationships, had a quicker start. It has already improved controls at two research reactors, and begun providing nuclear material monitors to several MINATOM defense facilities to help them detect

²After our fieldwork, DOE and Russia's Ministry of Atomic Energy agreed to add four sites to the government-to-government program, and two sites to the lab-to-lab program.

unauthorized attempts to remove direct-use material. The program is now implementing projects in the Russians' nuclear defense complex.

Future Plans

For fiscal year 1996, the United States expanded its assistance program to include all known facilities in the newly independent states with direct-use material outside of weapons. Management and funding for the expanded program were consolidated in DOE. DOE plans to ask Congress for about \$400 million over a 7-year period for the program.

DOE faces several uncertainties in managing an expanded assistance program. For example, DOE does not know exactly how many facilities will require upgrades and how much upgrades at each facility will cost. The number of facilities to be upgraded could be as high as 135, and the cost estimate per facility ranges from \$5 million to \$10 million. Because of these uncertainties, program costs could total over \$1 billion. In addition, DOE may be limited in its ability to directly assess program progress and confirm that U.S. assistance is used for its intended purposes because the Russians may limit the measures that can be used for these purposes at highly sensitive facilities.

To respond to such uncertainties, DOE told us that it has initiated the following steps:

- DOE is developing a long-term plan for the expanded program that consolidates the program plans for the government-to-government and lab-to-lab programs. The plan is to establish objectives, priorities, and timetables for implementing projects at facilities in the newly independent states. However the plan had not been released when we concluded our review in January 1996.
- DOE is developing a consolidated centralized cost-reporting system to provide current financial status for government-to-government and lab-to-lab projects.
- DOE is implementing a flexible audit and program evaluation approach to provide some assurances that assistance is used for its intended purposes. Under DOE's approach, the United States will pay Russian laboratories for services and equipment upon completion of clearly defined delivered products and will use a series of direct and indirect measures to evaluate program progress and effectiveness.

Before I conclude my statement, I would like to add that this is just one of a series of reports we have issued concerning nuclear safety and security

in the newly independent states. Last November, we issued a report that addressed the safety of nuclear facilities in the newly independent states, and we have issued several reports on the status of the CTR Program.³ We are currently reviewing the CTR programs' multiyear plan, and we are continuing to examine programs intended to help promote the safety of nuclear facilities in the newly independent states.

I will be happy to respond to any questions you may have.

³See Nuclear Safety: Concerns With Nuclear Facilities and Other Sources of Radiation in the Former Soviet Union (GAO/RCED-96-4, Nov. 7, 1995); Weapons of Mass Destruction: DOD Reporting On Cooperative Threat Reduction Assistance Can Be Improved (GAO/NSIAD-95-191, Sept. 29, 1995); Weapons of Mass Destruction: Helping the Former Soviet Union Reduce the Threat: An Update (GAO/NSIAD-95-165, June 9, 1995); and Weapons of Mass Destruction: Helping the Former Soviet Union Reduce the Threat (GAO/NSIAD-95-7, Oct. 6, 1994).

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