

Generating New Revenue for Nuclear Security

To date, essentially all of the funding for nuclear security in the former Soviet Union has come from government budgets—either the governments of the former Soviet states or foreign governments (mainly the United States) providing assistance. This is likely to continue to be the dominant source of funding for these activities in the future as well. But given the substantial cost of many of the nonproliferation and arms reduction tasks that are urgently needed, the desperate budget situation facing many of the former Soviet states, and the increasing “donor fatigue” among the states providing assistance, it is critically important to find new sources of revenue that could help pay for key programs in the near term, and help the former Soviet states afford the cost of maintaining effective security for all their nuclear material over the long haul. Such additional revenue sources could also help pay for other critical problems posed by the former Soviet Union’s Cold War nuclear legacies, such as the huge cost of cleaning up the deadly radioactive contamination at Russia’s nuclear sites (a job that is costing \$6 billion a year in the United States’ smaller and less contaminated nuclear complex).

Spent Fuel Storage. A variety of approaches have been proposed in which Russia would establish an international storage facility for spent nuclear fuel from a variety of countries, and some portion of the profit would be set aside for purposes ranging from security for nuclear material to disposition of excess plutonium to defense conversion in the nuclear cities, to nuclear cleanup. (This differs substantially from MINATOM’s proposed approach, in which the profit would be set aside to build and operate a large reprocessing plant.) One of these concepts, put forward by a U.S. entity known as the Nonproliferation Trust, involving a large-scale spent fuel storage facility with over \$10 billion in projected revenue to be devoted to various nuclear security and cleanup projects, has reached the point of detailed discussions of actual contracts.¹ The U.S. and Russian governments have established a joint panel chaired by Undersecretary of Energy Ernest Moniz and First Deputy Minister of Atomic Energy Valentin Ivanov to explore such approaches. The income from spent fuel storage should be sufficient to ensure that the storage would be safe and effectively safeguarded, so that the stored spent fuel itself would not contribute significantly to the proliferation or safety hazards posed by nuclear material in Russia. While concepts of this kind have significant support from some sectors of both the U.S. and Russian governments, implementing them would require (a) modifying Russian environmental laws to allow importing spent fuel for storage or disposal in Russia, (b) a U.S.-Russian agreement to permit spent fuel over which the United States has consent rights (the majority of the world’s spent fuel, even outside the United States) to be shipped to Russia, an agreement that is likely to be difficult to reach because of the U.S.-Russian disagreement over Russian nuclear cooperation with Iran; (c) convincing the Russian public to accept such a scheme and allow it to be implemented; and (d) convincing the foreign utilities whose spent fuel would be stored of the credibility and legitimacy of the enterprise. As an alternative, part of the revenues from an international storage site or repository somewhere else might be directed to nuclear security in Russia, as has been suggested by the Pangea group, which is hoping to develop such facilities in Australia and possibly other countries as well.²

Additional HEU Sales. As suggested in the text, the United States should seek to buy additional quantities of excess Russian HEU, above and beyond the 500 tons it is currently purchasing. As part of such an additional purchase, the United States should require that a substantial fraction of the

¹ Non-Proliferation Trust, Inc., *Long-Term Fissile Materials Safeguards and Security Project: Agreement*, Draft, May 5, 1999. For a somewhat similar concept limited to funding disposition of excess weapons plutonium, see Matthew Bunn, Neil J. Numark, and Tatsujiro Suzuki, *A Japanese-Russian Agreement to Establish a Nuclear Facility for MOX Fabrication and Spent Fuel Storage in the Russian Far East*, BCSIA Discussion Paper 98-25, Cambridge, MA: Kennedy School of Government, November 1998.

² For a discussion of the benefits, risks, and obstacles to such proposals, see Atsuyuki Suzuki (chair), “An International Spent Fuel Facility and the Russian Nuclear Complex,” in Nunn, *Managing the Global Nuclear Materials Threat*, op. cit.

proceeds be spent on specified nuclear security purposes—ensuring nuclear guards and workers are paid, operating and maintaining security and accounting systems, and the like. (If the idea is presented carefully, MINATOM may be favorably disposed to agree to such a requirement, as it would help MINATOM ensure that the funds stay within MINATOM, rather than going to the rest of the Russian government.) While confirming that the funds were spent as agreed would be an issue, there are past precedents of U.S.-Russian agreements with similar requirements. Conceivably, such revenue could even be deposited in a separate fund with auditable accounts. If Russia agreed to spend half the proceeds from the purchase of an additional 50 tons of HEU on nuclear security, this would make available some \$500 million for these purposes.

A “Debt for Security” Swap. Russia is heavily burdened with foreign debt. Some restructuring of that debt is likely to be essential to economic recovery. In many less developed countries, foreign governments or organizations have negotiated “debt-for-nature” or “debt-for-environment” swaps, in which either a specified area of land is set aside as protected area, or a certain quantity of money is set aside in a fund for environmental purposes, in return for forgiveness of a certain quantity of debt. Some of these have already been successful in the former Communist states. For example, in 1991 the creditor nations of the Club of Paris agreed to a substantial debt-for-environment swap with Poland, in which a portion of Poland’s debt was cancelled, and in return, Poland made contributions to a newly established independent foundation, the Ecofund, so that the expenditure of the money on the agreed environmental purposes could be easily verified. Under current debt swap agreements with the United States, France, Switzerland, Italy, and Sweden, the Ecofund is managing \$545 million in funds to be spent over the 1992-2010 period.³ A similar approach could be taken for nuclear security, with a certain portion of Russian debt being forgiven in return for Russia agreeing to set aside funds for nuclear security into a similar independent fund. As with past debt-for-environment swaps, the amount of money to be placed into the fund each year would be less than the payments due on the forgiven debt, and would be paid in local currency rather than hard currency, increasing Russia’s ability to pay. If Western governments were willing to forgive a substantial quantity of Russian debt, this could potentially provide a large enough revenue stream to support the hundreds of millions of dollars per year that it will ultimately cost Russia to ensure high levels of security and accounting for all of its nuclear weapons and fissile material. Such an initiative should be included in the current international discussions of Russia’s foreign debt.

Nuclear Exports Within Proliferation Constraints. Much of the revenue the Russian Ministry of Atomic Energy now receives comes from exports of nuclear material, services, and technology, with MINATOM officials estimating that their total exports now amount to over \$2 billion per year. (The division of this revenue between MINATOM and the Russian central government is not well understood outside Russia.) At the moment, however, because the United States and other Western countries have imposed stringent trade restraints on Russian exports to their markets, and Western firms dominate many of the markets in states with sound nonproliferation credentials, the growth of MINATOM’s export income is sharply constrained, and much of the current income derives from exports to nations of proliferation concern that have been shunned by Western suppliers, such as Iran and India. It would be highly desirable for Western countries to take a number of steps to reduce the barriers to expanded Russian exports to markets with good nonproliferation credentials, in return for specific commitments from MINATOM to apply particular fractions of the resulting revenue to identified nuclear security endeavors. These steps would include: (a) easing trade restrictions on Russian uranium and enrichment exports, (b) encouraging an expansion of Russian fuel fabrication service exports, and (c) eventual joint design of a new generation of safer, more proliferation-resistant reactors (such as the current Russian-Japanese-French-U.S. cooperation to develop a new high-temperature gas-cooled reactor). All of these would be sensitive, as every piece of market share Russia gains would presumably be lost by a Western supplier. Given the limited nuclear market and the stiff competition for it, MINATOM’s vision of exporting a new generation of simple, cheap reactors to countries all over the world is not likely to be realized. But there remain promising opportunities for action to unlock additional export revenues that could be applied to strengthening nuclear security.

³ See, for example, the Ecofund’s web page, at <http://www.ekofundsz.org.pl/eng/index-us.htm>