

NUCLEAR CONTROL AS A FACTOR OF NATIONAL SECURITY: THE CASE OF ECOLOGY AND TERRORISM

Oleksiy Poltorakov

*National Institute of International Security Problems,
National Security and Defense Council of Ukraine*

In 1991, for the first time ever, a nuclear-weapons state dissolved. Four new nuclear powers emerged on the territory of the Former Soviet Union (FSU). As a result, unique and unprecedented security and environmental problems appeared. Even though today Russia is the only nuclear weapon state on the territory of the FSU, the Soviet nuclear legacy retains a high priority on the European security agenda.

Politicians and military experts alike reiterate the threat of theft of nuclear weapons materials or even nuclear warheads. The migration of nuclear weapons experts to threshold countries and environmental problems are considered other substantial risks that result from the huge civil and military nuclear complexes on the territory of the FSU. Downsizing these complexes and safely handling their legacy, namely the immense amounts of nuclear waste, will remain of paramount importance.

The situation in the Ukrainian environmental complex for example is worsening so fast that in some cases there is even no time left for in-depth analyses of possible approaches to solve these matters. Matters are more complicated with regard to current trends in Ukrainian security policy.

The past two decades of arms control - whether nuclear, chemical, biological or conventional - have ingrained in most of us the understanding that the priority of arms control is to eliminate weapons, and to scale down offensive and defensive capabilities. There is little doubt that this is, and should continue to be, the priority of our efforts to advance arms control. But what does arms control mean beyond dismantling weapons systems and creating safeguards for fissile and B/C (WMD) material? The legacy of arms control is also a tremendous, yet little thought-of, global environmental security risk that is only now beginning to unfold.

Bi- and Multilateral efforts have only over the course of the past three years been initiated to retroactively address the environmental legacies of past arms control agreements. Unfortunately, the complexity of initiating and implementing such clean-up programs now, have brought about a host of complex obstacles and discouraging impediments that almost rival the complexity of negotiating arms control agreements themselves. Utilizing the example of ongoing multilateral arctic military nuclear waste clean-up programs, this short concept paper will:

- a) identify the operational obstacles to successful arms control related environmental security programs; and
- b) provide potential solutions to some of the more prevalent concerns.

Arms control related environmental clean-up efforts require coordination among the clean-up stakeholders to secure a cohesive and focused approach. Agreement to coordinate has to be created on the highest governmental levels of assistance-providing countries to maximize the impact and benefits of the efforts. Such coordination will significantly reduce costs by avoiding overlapping investments, duplication of research and organizational cost. It will also provide the political consistency and stability that is essential to successfully address such sensitive issue areas as nuclear submarine decommissioning and nuclear waste clean-up. Above described experiences apply to almost all post arms control, cooperative threat reduction related programs between the Western countries and Ukraine.

In the future, arms control negotiations will need to incorporate the above experience of the most recent years in order to structure arms reductions in a safe, economically efficient and environmentally more friendly fashion. Arms control can only then be called successful if the weapons-grade material is safely stored or disposed, the weapons platforms are decommissioned and remediated, former employees of the nuclear industrial complex have found new employment and the former weapons storage and production sites are cleaned up.

The possibility that a terrorist organization could detonate a nuclear explosive device lies at the nexus of two of the greatest threats to international security: nuclear proliferation and terrorism. This combination is considerably more dangerous than either threat alone. Throughout the nuclear age, we have depended on deterrence for security, but a terrorist organization may not be responsible for a defined geographic territory or a civilian population against which to level a deterrent threat. At the same time, a single, primitive nuclear explosive could give such an undeterrable group the power to cause hundreds of thousands of deaths. The civilized world has no higher security priority than preventing terrorists from acquiring nuclear weapons. The biggest obstacle to building a nuclear weapon is the acquisition of the necessary weapons-useable nuclear material. The process of making plutonium or enriching uranium to purity levels required to create a nuclear device is extraordinarily expensive, technically difficult, time-consuming, and likely to be detected. But if a terrorist organization could steal or buy the necessary fissile material, they would not necessarily have to replicate the Manhattan Project to produce a nuclear explosive. Theft or purchase of weapons-useable nuclear material could constitute a major short-cut on the road to developing a nuclear weapon. Therefore, controlling access to weapons-useable fissile material is essential to the prevention of nuclear terrorism.

The proliferation threat is exacerbated by the fact that it is possible to manufacture a nuclear weapon with a surprisingly small amount of nuclear material. Hypothetically, a mass of four kilograms of plutonium is sufficient for one nuclear explosive device; even a small theft of the right kind of nuclear material could radically promote efforts by a terrorist organization or criminal conspiracy to build a bomb.

Many now question whether or not a black market actually exists for fissile material, given recent revelations regarding the role law enforcement agencies played in certain publicized cases of fissile material smuggling. This is not a compelling reason to believe that, in the future, criminal organizations will not attempt to purchase weapons-useable nuclear material, or in fact that such a purchase has not already occurred. The reality we face is that both supply of and

demand for weapons-useable nuclear materials are now permanently in the realm of the possible; the actions we take can only make the supply and demand of weapons-useable fissile material more or less likely at the margin.