

## **Protecting Nuclear Material and Facilities: Is a New Approach Needed?**

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The main reason why national physical protection (PP) systems for nuclear and other radioactive material need to be strengthened further is that, after the attacks on the US on 11 September 2001, the threat of dangerous, suicidal radiological and nuclear terrorism can no longer be excluded as a possibility. Existing PP systems were not designed to deal with the threat of suicidal terrorists having the numbers, skills, training, and resources available to the commandos attacking on 11 September. Moreover, there are no mandatory international standards for domestic PP systems for nuclear or radioactive material, and this has produced great variation in protection provided from country to country. IAEA recommended standards, while useful, were not designed with the new terrorist threat in mind. Moreover, they are often not followed in practice. The result is inadequate protection against the new form of terrorism in most countries.

The Director General of the IAEA expressed a similar view after 11 September, but achieving a consensus to amend the Convention on the Physical Protection of Nuclear Material (CPPNM) to require specific standards of protection for different amounts and kinds of nuclear material used or stored domestically (not in international transport) has been impossible in the year since 11 September. In the case of radiological materials, a new effort to provide required international standards for protection against the new form of terrorism has not begun.

In the summer of 2001, leaders of the G-8 countries agreed to a Global Partnership to prevent the new terrorists from acquiring nuclear and radiological as well as other materials related to weapons of mass destruction. Perhaps in part because of the failure to date to achieve agreement on an effective amendment to the CPPNM, the first principle of this partnership is to strengthen “multilateral treaties and other instruments whose aim is to prevent the proliferation or illicit acquisition” of nuclear, radiological and other materials relating to weapons of mass destruction. The third principle of the partnership is to “develop and maintain effective physical protection measures” and to “provide assistance to states lacking sufficient resources to protect their facilities.” Other principles relate to illicit trafficking, export and border controls and disposition of stocks no longer required for defense purposes. The initial G-8 focus will be on projects in Russia, but its principles are to be applied globally.

We propose a **Global Physical Protection Initiative** consisting of six elements in addition to what the IAEA is now doing to improve PP practices around the world:

- Establish a *Global List of Physical Protection Priorities* beyond those already agreed. The IAEA International Physical Protection Assistance Programme

(IPPAS) has collected information from many countries on needs for better protection and it could prepare an initial list of priorities in cooperation with IAEA safeguards inspectors, with the World Association of Nuclear Operators (WANO) and the Institute of Nuclear Plant Operators (INPO).

- Create a *Multilateral Security Cooperation System* calling for bilateral and multilateral cooperation among those responsible for implementing PP standards. This could start with a more detailed survey of national regulatory standards and practices than those issued by the OECD Nuclear Energy Agency, and with meetings of regulators from various countries to share experiences.
- Create an *International Nuclear Threat Protection Task Force* that would focus on improving cooperation between PP regulators and the police and intelligence agents expected to respond to alarms relating to sabotage or theft of nuclear and radiological materials. This collaboration could range from sharing intelligence on illicit trafficking to identifying links between organized crime and nuclear terrorism.
- Establish an *International Radioactive Material Tracking Centre* that would deploy a system of GPS-based location sensors for fissile material and strong radiation sources.
- Develop a *Nuclear Security Bonus System* to be negotiated by IAEA, WANO, IMPO, and insurance companies. The goal would be to establish that operator compliance with pre-determined PP minimum standards (in IAEA recommendations, etc.) would reduce insurance premiums for a given facility.
- Establish an *IAEA- G-8 Global Partnership Cooperation Committee*. This committee would be composed of experts on IAEA physical protection activities who would meet with G-8 Global Partnership experts to make recommendations to G-8 Global Partnership meetings relating to PP. The G-8 committed themselves to raise up to \$20 billion over the next 10 years to carry out the Global Partnership Initiative. The initiative is to be open to other interested states besides the G-8, and assistance is to be provided to other states besides Russia. Providing information to the G-8 experts on what the IAEA is doing, what needs to be done, and what financing is necessary would be a useful function of this Cooperation Committee.

This raises important questions about the future role of the IAEA in this topic area: If IAEA members cannot implement principles such as those relating to the CPPNM because of lack of agreement, will the G-8 take over in a future meeting? How can the IAEA show the G-8 leaders that it is doing what it needs to do to satisfy the G-8 principles? Should proposals for an amendment of the CPPNM that provides specific requirements and standards for domestic protection be on this list? Given the failure of the efforts to provide new, strong, domestic standards for the CPPNM, would it make sense to work instead on strengthening *recommended* standards for physical protection of nuclear material and providing such standards for strong radiation sources.