

- Technical developments in the nuclear industry, and
- Efficiency improvements and efforts to reduce the costs of safeguards implementation.

Specially, recently a number of new instruments have been approved for use or have entered the final stage of development. They include:⁴²

- Core discharge monitor (CDM),
- Miniaturized gamma detector probes (CdTe),
- Spent fuel attribute tester (SFAT),
- High count-rate gamma spectroscopy system (HCRS),
- Multi-camera optical surveillance system (MOS),
- Generic review station (GRS), and
- In-situ verifiable seals (COBRA, ARC).

IX. CONCLUSION: ONLY VERIFICATION OF NUCLEAR NON-PROLIFERATION CAN SECURE THE FUTURE

Over the past 30 years, efforts toward preventing the proliferation of nuclear weapons to further countries have been rather successful, a fact frequently overlooked. The number of States having overt nuclear-weapons programs has stayed at five. A few others are thought to have the capability of assembling nuclear weapons in a short time, if they do not already have them.

Historically less successful have been attempts to halt vertical proliferation — to reduce the number of nuclear weapons among the five declared nuclear-weapon States. Of late, the situation is changing. The United States and Russian Federation are moving to make very substantial cuts to their tremendous nuclear stockpiles, which no longer are menacingly targeted at each other. One can even hope that the prevailing climate will lead all nuclear weapon states to more deeply question the need for the costly nuclear tests they have conducted at the rate of one every nine days since 1945.

On various fronts, international efforts to fortify the nuclear non-proliferation regime are responding to challenging conditions. A combination of factors are at play, and solutions must address a range of interests. But the global climate is right for sowing seeds of constructive change. Ultimately, international efforts to make the nuclear non-proliferation regime more effective show signs of bearing fruit.

The international climate should enable us radically to strengthen safety in the relations between States and reap the benefits from it. Effectively verified nuclear disarmament and non-proliferation are essential parts of that safety. As a matter of course, the IAEA can play a significant role in the new international safety regime.

⁴² IAEA *Safeguards Guidelines for States' Systems of Accounting for and Control of Nuclear Materials*, IAEA, Vienna, 1985. pp. 9-12.