

(Opening)

Instrument Development for Meeting Future Safeguards Goals

N. Khlebnikov
International Atomic Energy Agency
Wagramer Strasse 5, A1400, Vienna, Austria

ABSTRACT

Since the establishment of the IAEA in 1957, instruments supporting safeguards implementation have played an increasingly important role in the IAEA's ability to meet its objectives. The introduction of installed equipment systems has further increased the IAEA's effectiveness and efficiency by reducing on-site inspection effort, while providing continuity of knowledge between less-frequent inspection visits.

Safeguards equipment requirements have reflected the evolutionary changes that have followed from changes to inspection approaches, new nuclear fuel cycle (NFC) processes, and challenges to the international verification regime, including those resulting from the 1991 Gulf War and more recent attempts by a few State's to acquire the technology, through indigenous sources or clandestine supply networks, necessary for a nuclear weapons capability.

However, with continuing development of alternative processes within the NFC and the acceleration of States' plans to install nuclear power programmes, the IAEA faces a widening gap between increasing numbers and types of safeguarded facilities and the resources available to it to carry out its mandate. As a consequence, further efficiencies, new and novel approaches and increased effectiveness will be required "to stay ahead of the game".

This paper will briefly review the history of safeguards equipment development and the evolutionary changes that have been implemented to meet the challenges the organization has faced over the past few decades. It will then explore possible future safeguards equipment developments based on various foreseen scenarios.