- states seek to acquire nuclear weapons in response to their own perceived national security concerns, not in response to the development of new nuclear weapons by the existing nuclear powers; and
- nuclear test explosions are not a minimum essential requirement for obtaining a rudimentary fission weapon, for which high confidence in a highly destructive nuclear yield can be acquired without conducting full-scale nuclear test explosions.

Innovation of Inspection Technology

The basic verification measure used by the IAEA is nuclear material accountancy, with containment and surveillance as important complementary measures. If nuclear material accountancy is to be effective, inspectors have to make independent measurements so as to verify the figures presented in a state's accounts. The equipment available to them for this purpose is mainly designed to measure the gamma rays and neutrons emitted by various nuclear materials, and the techniques used are grouped together under the title of non-destructive analysis, such as the following:³⁶

- Low resolution spectrometry,
- High resolution spectrometry,
- Neutron emission and detection,
- Gross neutron counting,
- Cerenkov glow observation,
- Measurement of radiation from spent fuel,
- Calorimetry, and
- Weighting.

Containment and surveillance techniques are applied in order to economize on the safeguards inspection effort and also to give assurance that nuclear material follows predetermined routes, that the integrity of its containment remains unimpaired, and that the material is accounted for at the correct measurement points. A variety of techniques is used, such as the following:

- Photographic surveillance,
- Television surveillance,
- Sealing systems,
- Reactor power monitors,
- Underwater surveillance instruments,
- Radiation dosimeters,
- Bundle counter, and
- RECOVER system.

The analytical schemes applied to the non-nuclear material samples were especially developed to suit the need of the inspectors for rapid and selective measurements, without demanding the optimum performance in terms of precision.