

Verification of Nuclear Warhead Dismantlement Under a Reductions Scenario

Overall Inspector Activities

- **Visually confirm baseline declaration** of treaty-accountable items (numbers, and locations) – inspect each declared site
- **Make radiation template** as basis for later “presence” determinations
- Following notifications, **observe removal** of nuclear warheads from delivery systems and/or storage – implement chain of custody measures (UIDs, tags and seals); observe on-site movement
- **Confirm presence** of containerized nuclear warheads in Central Storage (visually observe site; check UIDs, tags and seals; radiation measurement, with information barrier, to confirm presence of nuclear warhead by template comparison; closed-circuit TV and perimeter portal monitoring)
- Following notifications, **confirm dismantlement** of declared nuclear warheads in a dedicated dismantlement area

Key Assumptions

- Treaty establishes an annual quota of inspections – inspectorate must make choices and trade-offs
- Inspectorate goal: hold at risk any attempted violation
- Random element in what sites are inspected and how
- Inspections take place under “managed access” procedures
- Radiation measurement techniques suffice to confirm presence of nuclear material consistent with a nuclear warhead

Details of a Dismantlement Inspection

- **Prior to dismantlement** of nuclear warhead
 - **Confirm no undeclared means of access-egress** from dedicated dismantlement area (visual check, closed-circuit TV, perimeter monitoring equipment)
 - **Confirm no presence of special nuclear material** (simple radiation absence measurement)
 - **Confirm UIDs, tags and seals** on container with warhead to be dismantled)
- **During dismantlement** of nuclear warhead – no inspector presence inside dedicated dismantlement area (**perimeter monitoring** to detect undeclared access-egress)
- **After dismantlement** of nuclear warhead
 - **Confirm UIDs, tags and seals** on new containers with special nuclear material and high explosives from dismantled warhead
 - **Radiation and/or other measurement** to confirm presence of special nuclear material and high explosives from dismantled warhead
 - **Recheck dedicated dismantlement area** – absence of special nuclear material