Key Nuclear Verification Priorities: Safeguards and Beyond

John Carlson
Consultant

IAEA Safeguards Symposium 2010
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1. Current verification objectives and priorities

- Effective safeguards underpin non-proliferation regime - essential for disarmament.

- Principal strategic objective for safeguards:
  Support non-proliferation regime through:
  - credible assurance that states honouring commitments
  - early detection of misuse of nuclear material, technology.

- Policy-level objectives:
  - confidence-building
  - detection capability
  - deterrence.

- These apply to both safeguards and future missions.
Do current safeguards priorities reflect these policy objectives?

- Traditional focus is detection capability - greatest priority is detection of undeclared.
- Another key priority is efficiency.
- Both closely linked to information-driven safeguards.
- In addition to these ‘technical’ objectives, also essential to address broader issues of confidence and deterrence
  - failures will impact on future missions
  - confidence and deterrence as specific priorities?
2. Verification commonalities

- Progress with disarmament will be stepwise:
  - fissile material cut-off
  - fissile material disposition
  - nuclear weapon limitations
  - nuclear weapon dismantlement
  - nuclear inventory baselines.

- Features in common with safeguards:
  - treaty commitments
  - inspection mechanism
  - declarations
  - inspections – including against undeclared
  - compliance and enforcement mechanisms.
Novel situations will require innovative solutions

- Safeguards experience will make significant contribution to the new verification missions.
- New approaches may include:
  - mutual/regional inspections
  - data monitoring/sharing
  - wide area environmental sampling
  - transparency measures
  - societal verification.
- Priorities identified for safeguards likely to be priorities for the new missions.
3. Confidence

• Key safeguards objective is to provide **credible assurance** - supporting **confidence** in the regime
  - credible assurance, **detection capability**, confidence, all closely linked.

• Safeguards not the only source of confidence
  - state’s **behaviour** is the principal factor
  - establishing confidence is up to the state itself.

• Safeguards an important tool
  - acceptance of CSA and AP
  - full cooperation.
4. Detection capability

• The core of the safeguards mission
  - without effective detection capability, confidence not possible
  - but technical capability not enough – must ensure technical findings result in appropriate outcomes
  - legal, institutional, process issues.

• Under NPT, safeguards purpose is to prevent diversion
  - this requires timely warning - early detection
  - 153 para 28.
Diversion from declared material and activities

- The traditional safeguards focus
  - many safeguards innovations over the years
  - challenges of complexity, workload.

- Emphasis on integrated safeguards, information-driven safeguards, state-level approach
  - important to safeguards effectiveness for both declared and undeclared material/activities.
Detection of undeclared material and activities

- Greatest single safeguards priority
  - confidence in safeguards depends on this
  - IAEA needs substantial assistance from states.

- IAEA’s methods based on detection techniques and information analysis
  - central place of AP
  - on technical side, more development needed.

- IAEA cannot detect undeclared activities unaided
  - states must contribute – active partnership.
Determining non-compliance

- Depends on technical capability and appropriate handling by BOG.

- Standard of proof
  - confusion about evidence and proof damaging to IAEA credibility - bar must not be set too high
  - 153 recognises realities - allows non-compliance finding if IAEA unable to verify no diversion
  - international practice - balance of probabilities
  - divergence between IAEA practice and international expectations will destroy confidence.
5. Deterrence

- Deterrence depends on assessment of risks:
  - whether violation will be detected
  - whether non-compliance finding will be reached
  - whether enforcement action will be taken.

- **Timeliness** a critical part of the equation.

- Effective deterrence requires sufficient risk at all stages – high risk of detection no deterrent if risk of timely intervention low.

- International community must be prepared to take compliance action.
6. Verification priorities

- Key safeguards priorities generally considered as:
  - detection capability
  - cost-efficiency
  - adequate resourcing.

- These also important for future missions.

- To these should be added:
  - ensuring clarity of mission
  - building political support for the mission
  - preparedness to enforce compliance.
Clarity of mission

• Shared understanding of objectives, processes and standards, and how decisions are made.

• Understanding of detection capabilities, vulnerabilities and how to address these
  - avoiding over-expectation
  - reinforcing need to share information.
Building political support

- Essential at number of levels:
  - states see cooperation with safeguards serves their national interest
  - states will provide necessary resources
  - states will share information
  - states will back IAEA against non-compliance.

- Essential to de-politicise attitudes to safeguards.

- Clear articulation of safeguards benefits
  - demonstrated performance and outcomes
  - effective use of authority.
Preparedness to enforce compliance

• Vital part of confidence-building and deterrence.

• Enforcement largely in the hands of states
  - but states rely on IAEA to carry out responsibilities effectively
  - and to identify and report on non-compliance.
7. Conclusions

- For any verification mission, ability to detect treaty violations essential
  - attention to how other ‘traditional’ priorities, eg cost-efficiency and resourcing, impact on detection capability.

- Other priorities also essential:
  - clarity of mission, political support, compliance enforcement.

- Need for holistic approach, addressing policy as well as technical concerns.

- Multi-disciplinary approach – verification philosophy.