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B R I E F

# The IAEA safeguards function

John Carlson and Andreas Persbo

“The inspected state has responsibilities towards the other parties to the NPT as well as to the IAEA.”

## Introduction

IAEA safeguards fulfil a critically important role in maintaining international peace and security. For a non-nuclear-weapon state party to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT), submitting to safeguards is a sovereign decision reflecting a desire to demonstrate that none of a state’s nuclear activities are used for nuclear weapon purposes.

The safeguards system has evolved over time. It began with item-specific safeguards applicable to small reactors, and has since transformed into a complex system monitoring all nuclear activities in the state. Over the last two decades the safeguards regime has evolved faster and more significantly than ever before. The reform program was started in 1993 and achieved its first major milestone in 1997, with the adoption of the Additional Protocol (AP). Since then, work to optimize the safeguards system has progressed steadily.<sup>1</sup>

It is sometimes said that there is not one safeguards system in play, but several. For instance, there are four different variants open for use in non-nuclear-weapon states party to the NPT: the basic Comprehensive Safeguards Agreement (CSA); CSA+Small Quantities Protocol (SQP); CSA+AP; and integrated safeguards.<sup>2</sup> For states not party to the NPT there are item-specific safeguards agreements. Finally, there are the Voluntary Offer Agreements between the IAEA and nuclear-weapon states party to the NPT.

Over the past decade, difficulties in implementation of the safeguards agreement between the IAEA and Iran have led to some commentary on the rights and obligations of the IAEA and the inspected state (in this case Iran, but the issues are generic). As this brief will discuss, the performance of a safeguards agreement cannot be considered narrowly as a bilateral matter between the two parties to the agreement. Both the IAEA and the inspected state also have responsibilities towards other states, and often towards other international institutions.

IAEA safeguards operate at the intersection of a number of relationships:

- the relationship between the IAEA and the inspected state;
- the relationship between the IAEA and other states;
- the relationship between the inspected state and other states;
- the relationship between the IAEA and the inspected state, respectively, and other international institutions such as the UN Security Council.

These relationships, and the respective rights and obligations of the various parties, are set out in a number of instruments, the principal ones being the NPT, the safeguards agreement between the IAEA and each state, and the IAEA Statute—and also, where applicable, resolutions of the Security Council. This gives rise to a complex set of legal relationships. For example, in the case of a comprehensive safeguards agreement the inspected state has responsibilities towards the other parties to the NPT as well as to the IAEA. The IAEA has responsibilities under the NPT, responsibilities to IAEA Member States under its Statute, and also responsibilities to the Security Council.

## Non-Proliferation Treaty and comprehensive safeguards

Under the NPT each non-nuclear-weapon state (NNWS) undertakes not to manufacture or otherwise acquire nuclear weapons, and to accept IAEA safeguards on all its nuclear material in all peaceful activities for the purpose of verifying the fulfilment of its NPT obligations. These safeguards are set forth in an agreement to be concluded with the IAEA in accordance with its Statute and the Agency’s safeguards system—agreements that have come to be known as comprehensive safeguards agreements.<sup>3</sup> Such agreements should enter into force no later than two years after the NPT enters into force for the state concerned.<sup>4</sup>

Each NNWS has made these obligations, not to the IAEA and its 150 or so

member states, but to the 190-odd other NPT parties. Each party is accountable to the other parties for the fulfilment of these obligations—IAEA safeguards provide the main accountability mechanism.

The NPT states that the purpose of safeguards is to verify fulfilment of obligations assumed under the Treaty, ‘... with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons ...’<sup>5</sup>

Each NPT party has agreed this language—accordingly, each party has agreed that the IAEA has the responsibility of preventing the use of nuclear material and nuclear energy for proscribed purposes. Safeguards should be performed in such a way as to give effect to the common purpose of the parties expressed in the NPT. Some aspects of what this might mean in practice are discussed in the next section.

### Implications of ‘prevention’

IAEA safeguards as such cannot prevent diversion, except through the deterrent effect of the risk of detection. The safeguards system can hence be likened to a burglar alarm. It will detect an attempt to divert materials, but cannot respond in any other way than to raise the alarm. The effective prevention of misuse of nuclear material will in all instances require the intervention of the international community. Moreover, effective intervention will depend on timely warning. To use the analogy above, an alarm is of no use if the intruder has already left the building. The IAEA’s responsibility to the international community is therefore, where possible, to provide warning before, not after, a nuclear weapon program has proceeded beyond the point where intervention can be effective. It follows that the IAEA’s responsibility is not just detection, but early detection.

This is reflected in the ‘objective of safeguards’ set out in comprehensive safeguards agreements, namely ‘... the timely detection of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or of other

nuclear explosive devices or for purposes unknown ...’<sup>6</sup>

The language of the NPT on prevention has a number of implications for the way safeguards are performed, e.g.:

#### (a) on the authority to investigate apparent nuclear weaponisation activities

‘Weaponisation’ refers to a range of activities, in addition to the acquisition of fissile material, necessary for the manufacture of a nuclear weapon. The manufacture of nuclear weapons obviously requires nuclear material, but many preparatory activities do not. Some of these activities are ‘dual-use’, i.e. taken in isolation they do not necessarily indicate an intention to manufacture a nuclear weapon. While such activities may be ambiguous, however, they may be less so in the context of the totality of information known about the state.

The previous IAEA Director General suggested at some point that absent some nexus to nuclear material its authority to investigate possible nuclear weapons related activity is limited.<sup>7</sup> This formulation is problematic, vague and not very illuminative. For instance, what is a sufficient nexus? Could one argue that any activity that does not involve nuclear materials cannot lawfully be investigated by the IAEA? Such an interpretation would, arguably, run counter to the Agency’s task to provide timely detection, and appears overly legalistic.

Clearly, development of nuclear weapons must at some stage involve nuclear material. The conduct of certain activities by a state should instead be viewed as a clear indication of intent to misuse nuclear material. In other words, the nexus is the intention to apply the results of the weaponisation activity to the use of nuclear material.

In any case, the presence of weapons-related studies or R&D in a state would raise question marks as to whether all materials have been declared by the state. It becomes important, consequently, to investigate such activities simply to be able to judge that a state’s declaration

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is complete. If the IAEA is not able to investigate, or its investigations are inconclusive (e.g. the situation is ambiguous), it should at least inform the international community of its concerns, so that other states are aware of the problem. This could be a case for use of Article III.B.4 of the Statute, discussed in (c) below.

*(b) On the standard of proof*

It is unrealistic to require the IAEA to ‘prove’ the existence of a nuclear weapon program. It is most unlikely IAEA inspectors will catch a state red-handed, e.g. by finding a nuclear weapon or nuclear material in the form of nuclear weapon components. It is more likely a state facing exposure in such an obvious way would deny access, preferring to argue whether lack of cooperation constitutes non-compliance, and to be able to maintain some ambiguity about its actions. For this reason, comprehensive safeguards agreements refer to diversion for ‘purposes unknown’.<sup>8</sup> The drafters understood that the standard of proof should not be set impracticably high.

As a further example of a realistic standard of proof, comprehensive safeguards agreements provide that the IAEA Board may make a report of non-compliance to the Security Council if the Agency is not able to verify that there has been no diversion to nuclear weapons.<sup>8</sup> Broadly speaking there are two possible scenarios here (in addition to denial of access, mentioned above):

1. inspectors find that nuclear material is unaccountably missing (and self-evidently, the purpose for which the nuclear material may be being used is not known); or
2. inspectors find undeclared nuclear material, without satisfactory explanation—i.e. the reason (purpose) for the failure to declare is not known.

The effect of these provisions is that the standard of proof for safeguards is the balance of probabilities. Depending on the circumstances, the discovery of undeclared

nuclear material/activities should raise a presumption of diversion to nuclear weapons or ‘purposes unknown’—especially if direct-use material is involved. The more additional information the IAEA can gather the better – this will help to make the judgement whether a weapon purpose is plausible in the circumstances. While detection and investigation of apparent weaponisation activities need to be part of the IAEA’s remit, these activities may be difficult to detect and if detected their purpose may be ambiguous—detection of such activities is not essential to support a finding of diversion/non-compliance, or to raise the alarm.

*(c) On the responsibility to provide early warning*

The IAEA Statute and comprehensive safeguards agreements set out the circumstances in which a non-compliance finding should be reached and reported to the Security Council. The IAEA has the responsibility of ensuring this is done in a timely way. It is important to keep in mind that there are other circumstances in which the IAEA should report to the Security Council—the Statute provides that:

‘... if in connexion with the activities of the Agency there should arise questions that are within the competence of the Security Council, the Agency shall notify the Security Council, as the organ bearing the main responsibility for the maintenance of international peace and security’<sup>10</sup>

The main rationale for including this language in the Statute appears to be to avoid having the Agency membership pass judgement on issues that fall under the purview of the Security Council (which is responsible for the maintenance of international peace and security).<sup>11</sup> Since a well founded suspicion of a nuclear weapons program would constitute a potential threat to international peace and security (if nothing else since it elevates the risk of pre-emptive action), such indications should be reported in a timely fashion. Proof does not appear to be required.<sup>12</sup>

Hence, if the IAEA finds indicators of a possible intention to acquire nuclear weapons, but the evidence is not strong enough to support a non-compliance finding, the responsibility to prevent diversion, and to provide timely warning of this, requires the IAEA to seriously consider whether to report under this provision of the Statute.

## Conclusions

No state can afford to lose sight of an essential function of safeguards, to provide assurance to other states about its observance of its NPT peaceful use commitment. Safeguards are not an adversarial system, a zero sum game where either the state or the IAEA ‘wins’ and the other loses. Rather, for the overwhelming majority of states that have made a non-proliferation commitment, cooperation with the IAEA helps the state to demonstrate that it is meeting this commitment.

Safeguards thereby have an essential confidence-building function, benefitting both the international community and the cooperating state. Whether governments have confidence that a state’s nuclear program is exclusively peaceful is a matter of judgement made, not on the basis of certainty but on the balance of probabilities. The situation is more likely to be one of ambiguity, rather than conclusive evidence—but full cooperation with the IAEA gives the state the opportunity to dispel suspicions.

If safeguards are construed too narrowly and legalistically they will fail in their confidence-building and assurance function—with potential repercussions for all parties. Lack of full cooperation with the IAEA will, at the least, result in a ‘confidence deficit,’ which will be counter-productive to the inspected state’s own interests. Recourse to legalistic arguments in place of cooperation, far from building confidence, will have the opposite effect. Nuclear proliferation threatens international peace and security, and may present an existential threat to those most directly affected. If unresolved, suspicions about proliferation will lead to increased inter-

national tensions and even pre-emptive action. Safeguards provide an objective mechanism for resolving suspicions—cooperation with the IAEA is clearly in the interest of a state that has nothing to hide.

It is essential to all parties that the safeguards system is able to provide confidence about a state’s performance of its peaceful use commitments—or to provide timely warning if there are grounds for concern. Just as cooperation is essential for the state, timeliness is essential for the IAEA. Failure to provide timely warning will undermine confidence in the safeguards system—with negative consequences for all parties.

## Endnotes

1. For a good overview, see Sonia Drobysz and Bernard Sitt, ‘Optimising the IAEA safeguards system’, Centre d’Études de Sécurité Internationale et de Maîtrise des armements, September 2011, <[http://www.cesim.fr/documents/publications/Optimizing\\_the\\_IAEA\\_Safeguards\\_System\\_rapport\\_CESIM.pdf](http://www.cesim.fr/documents/publications/Optimizing_the_IAEA_Safeguards_System_rapport_CESIM.pdf)>
2. The basic system is contained in a state’s Comprehensive Safeguards Agreement (INFCIRC/153). This can be supplemented by an Additional Protocol (INFCIRC/540). The agreement can also be supplemented with a ‘Small Quantities Protocol’. Finally, states which have a Comprehensive Safeguards Agreement, an Additional Protocol, and which have received a ‘broader conclusion’ will be able to implement ‘integrated safeguards’.
3. Comprehensive safeguards agreements are based on the IAEA model agreement INFCIRC/153.
4. NPT, Article III.4.
5. NPT Article III.1 (underlining added).
6. INFCIRC/153 paragraph 28 (underlining added).
7. See GOV/2006/15, paragraph 52.
8. INFCIRC/153 paragraph 28.
9. INFCIRC/153 paragraph 19.
10. IAEA Statute Article III.B.4.
11. See Article 24 of the UN Charter.
12. After all, if a state resorts to armed force to pre-empt the nuclear program of a strategic rival, it is the potential use of force itself that concerns the Council, and gives the basis for it to act to attempt to eliminate the threat. The Council is not a court of law, and was never intended to operate as such.

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