# Ensuring Safeguards Sustainability: Principles and Recommendations

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#### Introduction

he safeguards system implemented by the International Atomic Energy Agency (IAEA) is the principal international verification mechanism of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT)<sup>1</sup>. It operates pursuant to the authority given in the IAEA Statute<sup>2</sup> and in the NPT. It should be noted that the IAEA safeguards system also serves as the verification instrument in so-called item-specific safeguards agreements concluded in connection with specific projects

in non-NPT states. However, the number of such agreements—as well as the amount of IAEA activity required—is significantly lower that of those related to the NPT.

In order to perform its mission effectively and efficiently, the IAEA must sustain its authority, competence, and credibility in the face of external challenges (budgetary and political pressures) and internal challenges (suboptimal management of the safeguards mission).

This paper discusses ways sustainability of the IAEA safeguards system can be ensured by the agency, its Member States, and the international community.

#### Evolution of the IAEA Safeguards System

Starting in 1961, when the IAEA Board of Governors approved its safeguards system, the system has constantly evolved in response to external and internal challenges. The 1970 entry into force of the NPT was the first external challenge. It introduced a major change from the previous, item-specific safeguards system—which applied only to specified nuclear materials, facilities, or items, recognizing the legitimate rights of a state to possess other nuclear material outside of safeguards—to full-scope safeguards, which cover all peaceful nuclear material and activities in a state having a safeguards agreement with the IAEA in connection with NPT. This change did not influence the basic safeguards approaches very much, and the transition to full-scope safeguards, or comprehensive safeguards, occurred quite successfully.

The second big challenge occurred in 1991, when, following the First Gulf War, it was discovered that Iraq was pursuing a clandestine nuclear weapons program. Iraq was an NPT party with a comprehensive safeguards agreement (CSA) in force with the IAEA. However, IAEA safeguards implementation in Iraq prior to the war had not detected

<sup>2</sup> See <u>https://www.iaea.org/about/overview/statute</u>.

<sup>&</sup>lt;sup>1</sup> IAEA safeguards are also applied for other objectives. For limited-scope applications, safeguards provide assurance that specified nuclear materials, other materials, equipment, or facilities are not used in such a manner as to further any military purpose. IAEA safeguards are also applied in nuclear-weapon States Parties to the NPT on a voluntary basis in part to enable the IAEA to gain experience in states where proliferation is not relevant.

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undeclared nuclear materials or activities, because at that time the IAEA did not have procedures for detection of a nuclear program that had no obvious links to declared facilities. Because of this challenge, it was recognized that the IAEA needed to improve its safeguards system for detecting undeclared nuclear material and activities in states with CSAs. In 1992, several proposals were put to the IAEA Board of Governors for consideration, resulting in the realization of Program 93+2 in 1992 and, in 1997, the approval by the board of the Model Additional Protocol.<sup>3</sup> An additional protocol (AP) enables the IAEA to obtain a much fuller picture of a state's current and planned nuclear activities, nuclear material holdings, and nuclear-related manufacture and trade. The AP increases the IAEA's ability to provide greater assurance of the absence of undeclared nuclear material and activities in a state.

Unlike the transition to comprehensive safeguards in the 1970s, the introduction of APs required the IAEA to institute substantial changes in safeguards implementation practice and to integrate existing CSA-based procedures with procedures described in AP. It resulted in a new concept of IAEA safeguards implementation called the state-level concept (SLC). The IAEA started to put this concept into practice in 2004.

In 2012, several Member States questioned what they saw as IAEA management shortcomings and a lack of communication and transparency with Member States in this process. Their concern was that the concept was not properly described and that the IAEA Secretariat had not sought the Board of Governors' formal approval of this concept before implementing it. Additionally, some Member States were concerned that the practical implementation of the SLC could potentially result in subjective and politically motivated safeguards conclusions, which could jeopardize the stability of IAEA safeguards implementation. Fortunately, corrective steps were taken, and the issues were considered by the IAEA Board of Governors and General Conference over a two-year period. A 2014 General Conference resolution requires that the implementation of the SLC be carried out strictly in conformance with existing safeguards agreements, and the development and implementation of state level assessments be performed in consultation with the states involved.

#### **Ensuring Safeguards Sustainability**

The challenges described above and the reaction of the IAEA to them demonstrated the importance for the sustainable function of the IAEA safeguards system of the close collaboration between the IAEA Secretariat and the Board of Governors, as well as the transparency necessary for the secretariat to sustain its credibility and reputation for objectivity in the IAEA safeguards implementation. Inevitably, any report by

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<sup>&</sup>lt;sup>3</sup> See IAEA, Model Protocol Additional to the Agreement(s) between State(s) and the IAEA for the Application of Safeguards, (INFCIRC/540), September 1997, <u>www.iaea.org/sites/default/files/infcirc540c.pdf</u>.

the director general to the Board of Governors is likely to be criticized by some members as being either too harsh (too judgmental), or too restrained (not judgmental enough). Finding a balance will require a major investment of time by the director general and the deputy director general for safeguards to keep key board members apprised of their work and to fully explain all conclusions to the entire Board of Governors.

On the Member States' side, it is essential that they not regard safeguards as adversarial or an imposition. The agency and Member States should work toward developing and promoting a collaborative atmosphere, recognizing the common interest of all sides in seeing the achievement of a well-functioning and sustainable safeguards system.

IAEA Member States can contribute to sustainability by:

- Maintaining the existing international consensus that any further proliferation of nuclear weapons would threaten international peace, encourage additional states whose national security might be at risk to acquire national arsenals, and inhibit progress toward the eventual elimination of nuclear weapons in accordance with the provisions of Article VI of the NPT.
- Maintaining the international consensus that the IAEA merits the continued confidence of the international community based on periodic reviews of its performance and expectations that it will continue to meet its evolving challenges.
- Providing political support to the agency's safeguards work, encouraging adherence by all states to honor their respective obligations, and applying political pressure to correct actions of states that might lead to proliferation.



IAEA inspectors conducting measurements at a nuclear facility.

 Persuading and assisting each state with a CSA but without an AP to conclude an AP without delay.

Given that external and internal issues challenging the stable, effective, and efficient function of the IAEA safeguards system still exist, it is important first to follow the list of principles for safeguards implementation specified in the joint paper written by Russian, U.S., and Australian experts in 2020.<sup>4</sup>

#### **Complementary Issues**

Other external issues that influence the stable implementation of IAEA safeguards include the performance and effectiveness of state and regional systems of accounting for and control of nuclear material (SSACs and RSACs); restrictions on access to locations, material, facility records, and other relevant documentation experienced by IAEA inspectors in a few states; and some difficulties in relation

<sup>&</sup>lt;sup>4</sup> Grigory Berdennikov, John Carlson, Tom Countryman, and Anton Khlopkov, *Principles and Recommendations for Implementation of the IAEA Safeguards System*, (Nuclear Threat Initiative and Center for Energy and Security Studies, 2020), <u>https://media.nti.org/documents/Principles and Recommendations for Implementation of the IAEA Safeguards System.pdf</u>.

to customs clearance of IAEA safeguards equipment. These issues, sometimes complex, may lie outside the IAEA secretariat's direct capability, though usually they can be solved through interactions between the IAEA and the states concerned.

Internal issues connected with the IAEA secretariat, such as technical capabilities and staff performance, also influence stable safeguards implementation. Some of these issues may be corrected, if necessary, by the agency's management; others may depend on future technology developments and improved practices undertaken by the states and their facility operators.

### Opportunities for Russian-U.S. Cooperation to Support IAEA Safeguards Sustainability

Russia and the United States are depositary states of the NPT, are permanent members of the UN Security Council, and have seats on the IAEA Board of Governors. Against the backdrop of intense rivalries and surrogate wars, the United States and the Russian Federation (and its predecessor, the former USSR), avoided direct conflict while cooperating on non-proliferation for decades on such matters as securing the indefinite extension of the NPT in 1995. This experience provides Russia and the United States with a unique foundation for future bilateral cooperation in support of sustainable, effective, and efficient implementation of safeguards.

The authors of this paper propose that the two governments consider possibilities for continued consultation and, where appropriate, promote enhanced bilateral cooperation to support the sustainability of the international nuclear non-proliferation regime in general and IAEA safeguards specifically. Such cooperation, which would not necessarily require a formal bilateral agreement, falls squarely within the scope of the presidents' intention, announced at the June 2021 Geneva summit of the two countries, to seek greater cooperation in areas of common interest.

Each government would authorize its resident representative to the IAEA to be its principal point of contact,<sup>5</sup> with authority to meet with her/his counterpart as and when either might deem appropriate, to consider, inter alia,

- Pending policy matters under review, including matters referred to (or that may be referred to) the IAEA Board of Governors, the IAEA General Conference, or NPT Review Conferences, and other treaties or agreements in which IAEA safeguards are relevant or may be affected by actions arising therefrom.
- Implementation matters affecting general and specific staffing and financial decisions.
- Technical implementation matters affecting the ability of the IAEA (a) to detect any diversion of declared nuclear material at declared facilities or locations outside facilities (LOFs) where nuclear material is customarily used; (b) to detect any undeclared production or processing of nuclear material at declared facilities or LOFs; and (c) to detect any undeclared nuclear material or activities in a state as a whole.

## Approaches to Strengthening Bilateral Dialogue and Interaction

Some matters might benefit from a conversation that might facilitate a modification of views or at least enable the other party to prepare itself to respond to contrary views. Other matters, especially technical implementation matters, might afford opportunities for the two parties to contribute to a joint position—for example, through consultations involving national

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<sup>&</sup>lt;sup>5</sup> The suggested responsibilities are not intended to address bilateral relations at higher levels, or in respect of the United Nations Security Council, for example.

experts from the two parties, through joint projects as might be agreed involving national laboratories and/or academic or private industry resources, or through joint exercises designed to substantiate the technical premises for agreeing to common findings.

For each issue, the United States and Russia should agree on whether, how, and when the IAEA could or should be engaged. Should Russia or the United States share with the IAEA sensitive information on third-party nuclear activity, it neither should demand that the agency confirm that information, nor should it seek to instantly judge (or pre-judge) the agency's conclusions. Any decisions regarding public messaging about any aspect of the functioning of this cooperative effort should be jointly agreed.

It would fall to the resident representatives to decide on the prevailing circumstances for any consultations under this proposed framework.

Should the Russian and the United States governments agree to explore this proposal, the governments should decide on the mechanics for its realization. The consultative framework must anticipate that differences will arise and provide ways to protect the agreement from harm.



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