

**IAEA Safeguards Agreements  
and Additional Protocols**

# Verifying Compliance with Nuclear Non-Proliferation Undertakings



**IAEA**

International Atomic Energy Agency





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## FOREWORD

# IAEA Director General Mohamed ElBaradei

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**IAEA** safeguards are generally acknowledged as the single credible means by which the international community can be assured that nuclear material and facilities are being used exclusively for peaceful purposes. This system functions not only as a confidence building measure, but also as an early warning mechanism.

One of the most important challenges facing the IAEA is ensuring that its safeguards system is able to provide credible assurance not only about the non-diversion of nuclear material declared by a State, but also about the absence of undeclared material and activities in a State. Realizing the full potential of the safeguards system requires that all States bring into force the necessary safeguards agreements, as well as additional protocols thereto.

The assurance provided by the IAEA's safeguards system also facilitates States' acquisition of nuclear material, facilities and technology for peaceful purposes.

Today, more than 50 years after the IAEA's founding, its verification mission is as relevant as ever. This is illustrated by the special challenges encountered in recent years with regard to verification of compliance by States with their non-proliferation undertakings and the urgent need to strengthen worldwide control of nuclear material.

The IAEA will continue to assist States in their efforts to prevent the further spread of nuclear weapons and to prevent, detect and respond to illicit uses of nuclear material. Adherence by as many States as possible to the IAEA's safeguards system is a crucial component in this endeavour. I therefore continue to urge all States that have not yet done so to bring into force their comprehensive safeguards agreements and additional protocols.





“The IAEA should be able to provide credible assurance not only about the non-diversion of nuclear material declared by a State but also about the absence of undeclared material and activities.”





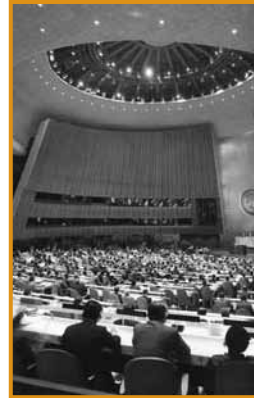
“The events of  
11 September 2001  
focused States' attention  
on the importance of  
preventing terrorist and  
other malicious use  
of nuclear material.”

# 1. The Important Role of IAEA Safeguards

Since the IAEA was founded in 1957, its safeguards system has been an indispensable component of the nuclear non-proliferation regime and has facilitated peaceful nuclear cooperation. In recognition of this, the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) makes it mandatory for all non-nuclear-weapon States (NNWS) party to the Treaty to conclude comprehensive safeguards agreements with the IAEA, and thus allow for the application of safeguards to all their nuclear material. Under Article III of the NPT, all NNWS undertake to accept safeguards, as set forth in agreements to be negotiated and concluded with the IAEA, for the exclusive purpose of verification of the fulfilment of the States' obligations under the NPT. The negotiation of such an agreement is required to be initiated not later than the date of deposit of a State's instrument of ratification or accession to the NPT, and the agreement is to enter into force within 18 months of initiation of such negotiations.

In the context of NPT NNWS, the IAEA is thus charged with providing the international community with credible assurance that no nuclear material is diverted to nuclear weapons or other nuclear explosive devices. In addition, the IAEA, through its safeguards system, verifies compliance with similar non-proliferation undertakings by parties to regional nuclear-weapon-free zone treaties. This task can only be realized in States that have concluded comprehensive safeguards agreements. Under such agreements, the IAEA is also responsible for verifying the absence of possible undeclared material and activities. For the IAEA to be able to do so credibly, States should also have in force additional protocols to their safeguards agreements, based on the model approved by the IAEA Board of Governors in 1997. Calls for wider adherence to safeguards agreements and additional protocols have been made in resolutions of the United Nations General Assembly, by States parties to the NPT in the final document of the 2000 NPT Review Conference, and by Member States of the IAEA in resolutions of its General Conference.

The events of 11 September 2001 focused States' attention on the importance of preventing terrorist and other malicious use of nuclear material. The IAEA safeguards system and related domestic measures – such as State systems of accounting for and control of nuclear material – constitute a firewall against such threats. However, IAEA safeguards alone cannot ensure the physical protection of nuclear material or nuclear facilities. It is the responsibility of States to undertake all the necessary security and safety measures, and to ensure adequate control of such material and facilities. The effective implementation of comprehensive safeguards agreement and additional protocols, however, contributes to a State's ability to detect indications of unaccounted nuclear material or nuclear related activities which may point to malicious activities.



## 2. Strengthening the Safeguards System



Although safeguards have developed progressively since their inception, until the early 1990s the IAEA system focused mainly on the verification of nuclear material and activities declared by the State. The discovery of Iraq's clandestine nuclear weapon programme (despite the existence of a comprehensive safeguards agreement between Iraq and the IAEA), as well as the IAEA's subsequent discovery of indications of undeclared nuclear material in the Democratic People's Republic of Korea (DPRK), demonstrated that an effective verification regime must also focus on possible undeclared material and activities. With this in mind, the IAEA took a number of steps to strengthen its safeguards system. While some of these measures could be applied on a routine basis within the framework of existing comprehensive safeguards agreements, others required additional legal authority.

In May 1997, the IAEA Board of Governors approved the Model Additional Protocol to Safeguards Agreements (reproduced in INFCIRC/540(Corr.)) which provided for that additional legal authority. The principal aim of protocols concluded on the basis of the Model Additional Protocol is to equip the system with better tools for the IAEA to provide assurance about both declared and possible undeclared nuclear activities. Under additional protocols, States are required to provide the IAEA with an expanded declaration that contains information covering all aspects of their nuclear fuel cycle activities. States with additional protocols must also grant the IAEA broader rights of access to safeguards relevant locations and enable it to use the most advanced verification technologies.

Previously, routine access was generally limited to specific "strategic points" in declared facilities. Additional protocols require States to provide access to any place on a nuclear site and to other locations where nuclear material is, or may be, present. States are required to provide access to all locations that are, or could be, engaged in activities related to the nuclear fuel cycle and, in cases where such access may not be possible, to make every reasonable effort to satisfy IAEA requirements without delay through other means. Additional protocols also provide for certain improved administrative procedures, including streamlined procedures for designating inspectors and for the granting of long term multiple entry visas, and improved means by which inspectors may communicate.



The strengthened safeguards system is based on States' commitments to support a verification system where qualitative assessment takes place alongside quantitative accounting measures.

## INTEGRATED SAFEGUARDS

In States that have both a comprehensive safeguards agreement and an additional protocol in force, the IAEA is able to optimize the implementation of all safeguards measures available. This combination of “traditional” safeguards measures – based on nuclear material accountancy – with the new safeguards strengthening measures, so as to achieve greater overall effectiveness and cost efficiency, is referred to as “integrated safeguards”. The process of defining the optimum combination of measures is developed on a non-discriminatory basis for each State that has a comprehensive safeguards agreement and additional protocol in force, and for which the IAEA has been able to draw the conclusion, for a given year, that ‘all nuclear material remained in peaceful activities’.

## SMALL QUANTITIES PROTOCOLS

In order to simplify certain procedures under comprehensive safeguards agreements for States with little or no nuclear material and no nuclear material in a facility, the IAEA began making available, in 1971, a “small quantities protocol” (SQP), which held in abeyance the implementation of most of the detailed provisions of comprehensive safeguards agreements for so long as the State concerned satisfied these criteria.

In May 2005, the Director General drew the Board of Governors’ attention to the limitations of SQPs seen against the background of efforts to strengthen the safeguards system. On 20 September 2005, the Board decided that – while SQPs should remain part of the IAEA’s safeguards system – they should be subject to certain modifications. The standardized text of the SQP was revised accordingly and SQPs now require States to submit an initial report on nuclear material, permit inspection activities and inform the IAEA once a decision has been made to build a nuclear facility. The Board also decided that SQPs would not be made available to States with planned or existing nuclear facilities.

In order to give effect to the revised text and the changed eligibility criteria, the Board authorized the Director General to conclude exchanges of letters amending or rescinding existing SQPs. It also decided that, henceforth, it would approve only SQP texts which were based on the revised standardized text.

More information on safeguards requirements for States with SQPs can be found in the IAEA publication *Non-Proliferation of Nuclear Weapons and Nuclear Security – Overview of Safeguards Requirements for States with Limited Nuclear Material and Activities*, available at <http://www.iaea.org/Publications/Booklets/Safeguards3/safeguards0806.pdf>

### 3. Rationale for Participating in the Safeguards System

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**Fulfilment of international obligations:** All non-nuclear-weapon States party to the NPT are required under the provisions of the Treaty to bring into force a comprehensive safeguards agreement with the IAEA.

**International security:** With its verification role under the NPT, the IAEA's safeguards system is an indispensable component of the international regime to prevent the spread of nuclear weapons. Strengthened safeguards also play an important role in international efforts to prevent nuclear terrorism.

**Regional and national security:** The importance of safeguards to regional security is demonstrated by the fact that all the existing regional nuclear-weapon-free zone treaties<sup>1</sup> require States parties to conclude comprehensive safeguards agreements with the IAEA. Safeguards contribute to greater nuclear transparency, and fulfil the role of a confidence building measure in the context of regional and international security. States adhering to the safeguards system may also be eligible to receive assistance from the IAEA in order to develop a national system for better control of nuclear and other radioactive material. This will decrease the risk of such material becoming a health hazard or falling into the hands of individuals with malevolent intent.

**Pursuit of development:** Nearly all States benefit in one way or another from the use of nuclear energy for development purposes. Effective implementation of IAEA safeguards is vitally important for facilitating cooperation in the peaceful uses of nuclear energy. Moreover, it is generally agreed that such a pursuit carries with it certain responsibilities in terms of safety, security and effective oversight.



<sup>1</sup> Tlatelolco Treaty (Latin America and the Caribbean), Rarotonga Treaty (South Pacific), Bangkok Treaty (Southeast Asia), Pelindaba Treaty (Africa), CANWFZ Treaty (Central Asia).



“Safeguards contribute to greater nuclear transparency, and fulfil the role of a confidence building measure in the context of regional and international security.”



## 4. Reporting and Access Requirements

### NUCLEAR MATERIAL REPORTING

The safeguards system aims at detecting and deterring the diversion of nuclear material. Such material includes enriched uranium, plutonium and uranium-233, which could be used directly in nuclear weapons. It also includes natural uranium and depleted uranium, the latter of which is commonly used, for instance, in shielding on radioactive sources used in hospitals. Other radioactive material, such as most radioactive sources and isotopes used in medicine, industry, agriculture, and water resource management, are not the subject of safeguards and need not be reported to the IAEA under safeguards agreements.<sup>2</sup>



Reporting depends on the level of nuclear activity in the country. Declarations pursuant to safeguards agreements and additional protocols for States that do not have nuclear facilities are expected to be short and simple. The IAEA has prepared a document, available upon request, which provides guidance on the reporting requirements for such States. More elaborate guidelines have been prepared for States that do have nuclear facilities subject to routine safeguards inspections.

### INSPECTIONS AND COMPLEMENTARY ACCESS

Through its activities in the field, the IAEA seeks to verify the correctness and completeness of States' reports and declarations regarding nuclear material. Inspections are used to verify States' nuclear material accounting reports, and design information verification is used to ensure that facilities operate in the manner declared by the State. In addition, the IAEA uses "complementary access" – a tool of the additional protocol – to help verify the absence of undeclared nuclear material and related activities and the decommissioned status of facilities. In cases of questions or inconsistencies, such complementary access may sometimes be carried out at a wider range of locations. However, both inspections and complementary access can be expected to be rare or non-existent in States that have little or no nuclear material and no nuclear facilities.



<sup>2</sup> Such radioactive sources may fall under the purview of the IAEA's nuclear security activities. For more information on possible IAEA assistance in this field, please consult <http://www-ns.iaea.org/>

## CONTROL OF NUCLEAR MATERIAL

Each State with a comprehensive safeguards agreement is required to establish and maintain a State system of accounting for and control of nuclear material (SSAC), which is the national authority formally designated to keep track of nuclear material and activities in the country.

SSACs not only allow States to meet their international nuclear non-proliferation obligations by facilitating the application of IAEA safeguards – including any in-field verification activities that may be required – they also enhance the States' oversight and control of any nuclear material and activities on their territory, thereby contributing to the security of nuclear material and to combating illicit trafficking in such material.

## 5. Drawing Conclusions

For all States with safeguards agreements in force, the IAEA draws an annual conclusion on the non-diversion of nuclear material and other items placed under safeguards. For States with both a comprehensive safeguards agreement and an additional protocol, the IAEA aims to provide broader assurances regarding not only the non-diversion of declared nuclear material, but also on the absence of undeclared nuclear material and activities in the State as a whole. Such assurances are based on the IAEA's evaluation of all information available to it – including the results of its verification activities and the information provided by the State. The IAEA's safeguards system provides the State with a means to demonstrate transparency in its nuclear activities and that it is complying with its nuclear non-proliferation undertakings.



## 6. IAEA Assistance

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The IAEA's focal point for the negotiation of safeguards agreements and additional protocols, and the amendment of SQPs, is the Office of External Relations and Policy Coordination. Once a State has decided to conclude such an agreement and/or protocol, or amend its SQP, the IAEA can help the country with the implementation of related legal and technical requirements.



Legislative assistance is provided by the IAEA's Office of Legal Affairs in response to requests from States, for instance within the framework of national and regional technical cooperation programmes, to help States inter alia develop the necessary laws and regulations that allow SSACs to implement their responsibilities. More information on legislative assistance can be found at <http://ola.iaea.org/OLA/default.asp>.

The IAEA also assists States in preparing the way for national implementation of safeguards agreements and additional protocols. For example, the Department of Safeguards provides guidance in the preparation of initial reports and additional protocol declarations. The Department also provides training to State officials in charge of safeguards matters, including those who act as national contact points for the IAEA in this regard.

## APPENDIX

# How to Conclude a Comprehensive Safeguards Agreement and/or an Additional Protocol

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Concluding safeguards agreements and/or additional protocols with the IAEA generally requires two or three steps:

1. The State notifies the IAEA of its intention to conclude a safeguards agreement and/or an additional protocol, and asks the IAEA to submit the draft text(s) to the Board of Governors, which authorizes the Director General to sign, and subsequently implement, the agreement and/or protocol (model notification letters are provided in Annexes 1 and 2). This notification should contain information on the applicable entry into force procedure (see step 3 below). States that wish to conclude an SQP should also confirm that they are eligible for one (the model letter in Annex 1 contains language for this purpose). Once the instruments have been approved by the Board, they are open for signature.
2. The agreement/protocol is then signed by a representative of the State and by the Director General. Signature on behalf of the State may be done by the Head of State, Head of Government or Minister for Foreign Affairs, or by any other Government official — such as the Resident Representative to the IAEA — with full powers to sign.
3. The State has two options for bringing into force its safeguards agreement/protocol: either upon signature or on receipt by the IAEA of written notification from the State that its domestic requirements for entry into force have been met. If the latter option is selected by the State, the third step required is for the State to provide such notification to the IAEA. A model letter is provided in Annex 3.

## ANNEX 1

# Model Notification Letter

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## Conclusion of a safeguards agreement, a small quantities protocol and an additional protocol

(date)

I refer to your letter of (date), and have the honour to inform you that the Government of (State) has decided to conclude a safeguards agreement between (State) and the International Atomic Energy Agency for the application of safeguards in connection with the NPT, a small quantities protocol and an additional protocol on the basis of the model approved by the IAEA Board of Governors in May 1997.

Accordingly, I would request that the Secretariat submit the drafts, as contained in the letter of (date), to the Board of Governors for its consideration [at its (mm, yy) session].

I confirm that the amount of nuclear material present in (State), or under its jurisdiction or control, is less than the amount given in Article [36] of the draft agreement, that there exists in (State) no "facility" as defined in the draft agreement and that (State) has not taken the decision to construct or authorize construction of any such facility.

Entry into force will take place [on the date on which the IAEA receives from (State) written notification that (State)'s statutory and/or constitutional requirements for entry into force have been met] [upon signature by the representatives of (State) and the IAEA].

(Signed)

*Government Representative*

## ANNEX 2

# Model Notification Letter

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## Conclusion of an additional protocol to an existing safeguards agreement

(date)

I refer to your letter of (date), and have the honour to inform you that the Government of (State) has decided to conclude an additional protocol to the safeguards agreement between (State) and the International Atomic Energy Agency for the application of safeguards in connection with the NPT [and the Tlatelolco Treaty], on the basis of the model approved by the IAEA Board of Governors in May 1997.

Accordingly, I would request that the Secretariat submit the draft, as contained in the letter of (date), to the Board of Governors for its consideration [at its (mm, yy) session].

Entry into force will take place [on the date on which the IAEA receives from (State) written notification that (State)'s statutory and/or constitutional requirements for entry into force have been met] [upon signature by the representatives of (State) and the IAEA].

(Signed)

*Government Representative*

### ANNEX 3

## Model Notification Letter

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### Entry into force of a safeguards agreement and/or an additional protocol

The [Permanent Mission] [Ministry for Foreign Affairs] of (State) presents its compliments to the Secretariat of the International Atomic Energy Agency and has the honour to notify it that the constitutional and statutory requirements for entry into force of the [protocol additional to the] comprehensive safeguards agreement between (State) and the International Atomic Energy Agency [and the protocol additional thereto] have been met.

The [Permanent Mission] [Ministry for Foreign Affairs] of (State) avails itself of this opportunity to renew to the Secretariat of the International Atomic Energy Agency the assurances of its highest consideration.



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