

# **Verification pursuant to the NPT: Concluding safeguards agreements and additional protocols**

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# **Outline of Presentation**

- 1. Evolution of the IAEA's safeguards system for verification under the NPT**
- 2. Legal instruments of the Agency's safeguards system**
- 3. Adherence to the Agency's safeguards system**
  - 1. IAEA outreach**
  - 2. Status of adherence; Developments 2000-2005**
  - 3. Non-member States of the Agency**
- 4. How to conclude the legal instruments of the Agency's safeguards system**



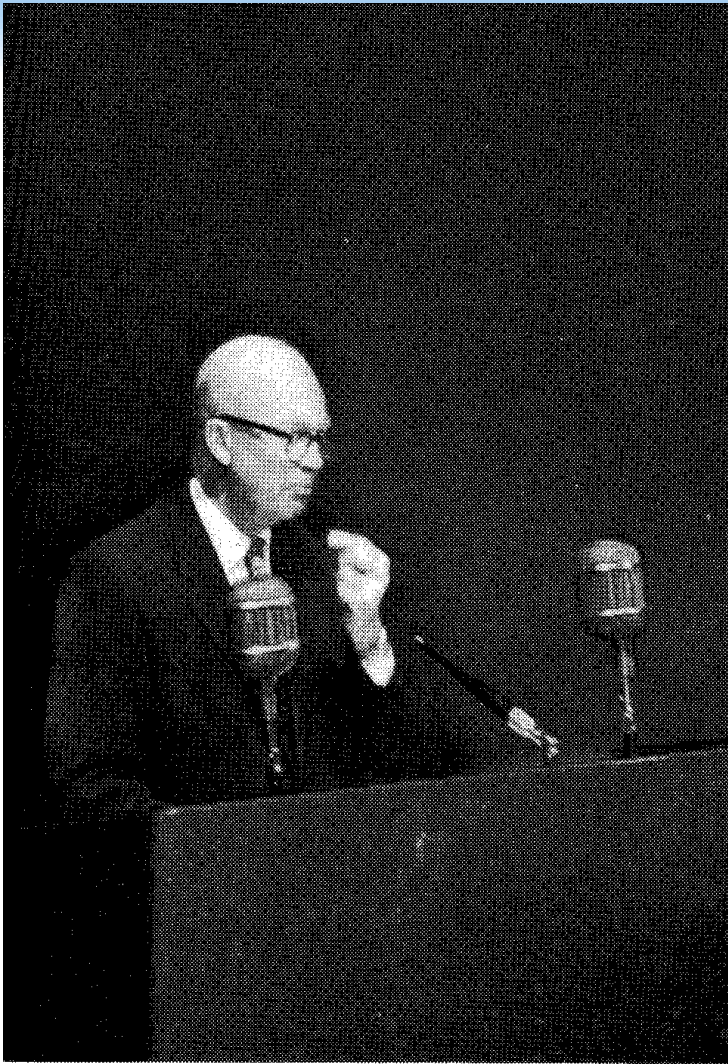
# Nuclear energy supports development



**Key Challenge:**  
**HOW TO DISSEMINATE THE BENEFITS**  
**OF NUCLEAR ENERGY WHILE**  
**ENSURING AGAINST ITS DESTRUCTIVE**  
**CAPABILITIES**







**General Assembly  
8 December 1953**

**U.S. President Eisenhower proposed an “international agency for nuclear energy” under the UN responsible for nuclear material**

- **To promote peaceful uses of nuclear energy**
- **To control that nuclear material under its control is used solely for peaceful purposes**



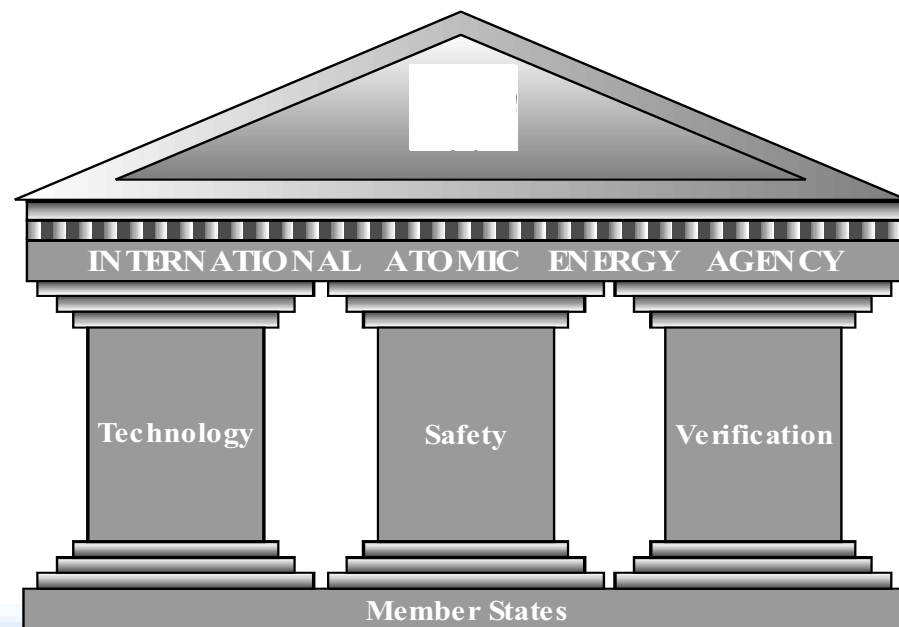
# IAEA Mission and Activities

*To accelerate and enlarge the contribution of nuclear energy to peace, health and prosperity while ensuring its peaceful use*  
*(Article II, IAEA Statute)*



## 3 “Pillars” of work

- ***Technology***
- ***Safety/Security***
- ***Verification***



# The IAEA's Verification Role

- ☐ **What:** *The IAEA verifies that States honour their nuclear non-proliferation undertakings*
  - *The Agency provides credible assurance to the international community that nuclear material under its verification is not diverted and regarding the peaceful nature of States' nuclear programmes*
  
- ☐ **How:** *This function is performed on the basis of safeguards agreements with States (legal aspects) and through the technical measures available to inspectors (technical aspects)*



# **Treaty Verification**

***Two distinct but interrelated roles of treaty verification:***

- 1. To build confidence between parties***
- 2. To deter against cheating by risk of detection***





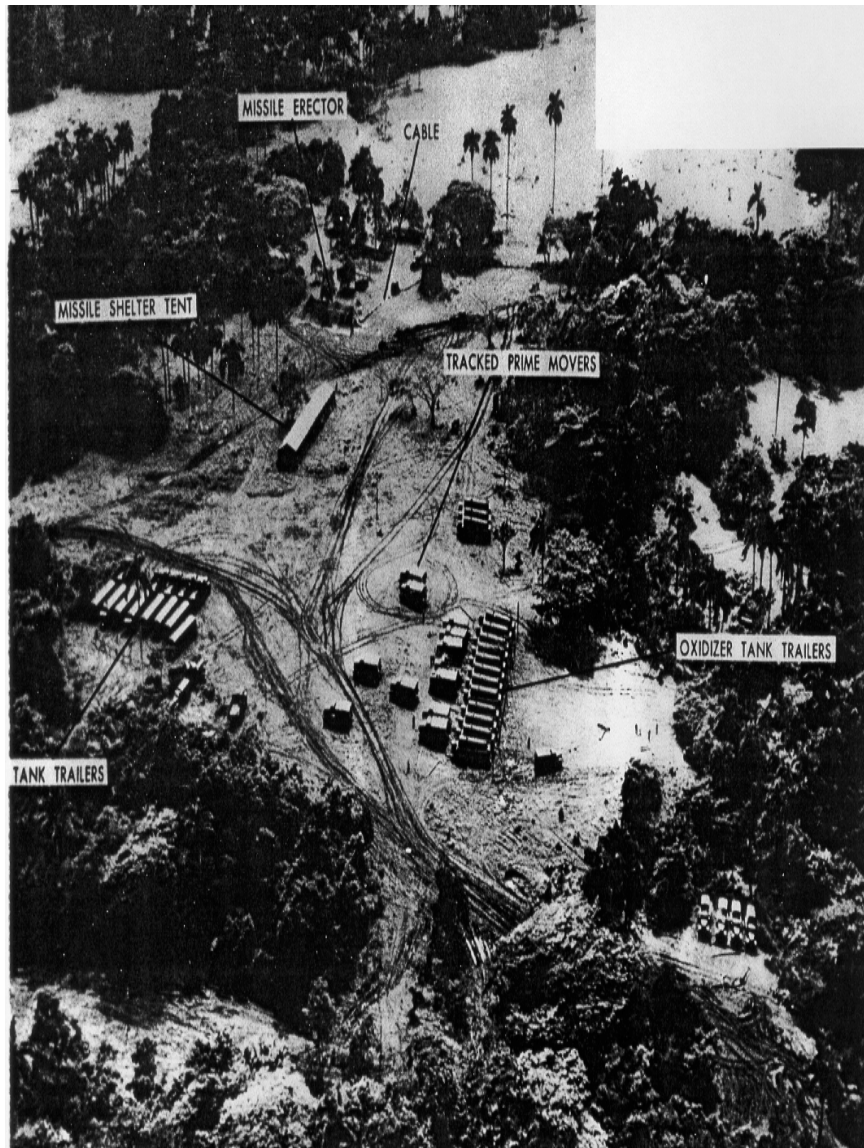
# Treaty Verification

The effectiveness of a verification system is a function of:

1. RIGHTS TO INFORMATION
2. RIGHTS OF ACCESS
3. AVAILABILITY OF AND RIGHTS TO APPLY VERIFICATION TECHNOLOGY



# The NPT: *Comprehensive Safeguards Agreements*



- NNWS undertake to accept safeguards, through an agreement with the IAEA in accordance with its statute and safeguards system, for verification of the fulfillment of its obligations assumed under [the NPT].
- Safeguards to be applied to **all nuclear material in all peaceful nuclear activities** in the state.
- NNWS undertake to **bring into force a comprehensive safeguards agreement with the IAEA** within 180 days of becoming party to the NPT



# **Evolution of the Agency's safeguards system for verification under the NPT**

**All Regional Nuclear-Weapon-Free Zones require  
comprehensive safeguards agreements with the IAEA**

- **Tlatelolco Treaty (Latin America and the Caribbean)**
- **Rarotonga Treaty (South Pacific)**
- **Bangkok Treaty (Southeast Asia)**
- **Pelindaba Treaty (Africa)**
- **(Central Asian Nuclear-Weapon-Free Zone)**



# **Evolution of the Agency's safeguards system for verification under the NPT**

## **Safeguards Agreements pursuant to the NPT (INFCIRC/153 (Corrected))**

- **Negotiated 1968-1970 in Vienna**
- **Obligatory for all NPT Non-Nuclear-Weapon States (NWS)**



# **Evolution of the Agency's safeguards system for verification under the NPT**

- **INFCIRC/153 type safeguards agreements:**
  - **“States undertake, in accordance with Article III of the NPT, to accept safeguards on all their nuclear material in all peaceful nuclear activities to verify that such material is not diverted to nuclear weapons.”**
  - **“Agreement provides for the Agency's right and obligation to ensure that safeguards will be applied on all nuclear material in all peaceful nuclear activities of the State.”**
    - **States report holdings of significant quantities of nuclear material and facilities containing such nuclear material**
    - **IAEA carries out inspections in accordance with the agreement at agreed strategic points in facilities and other declared locations**





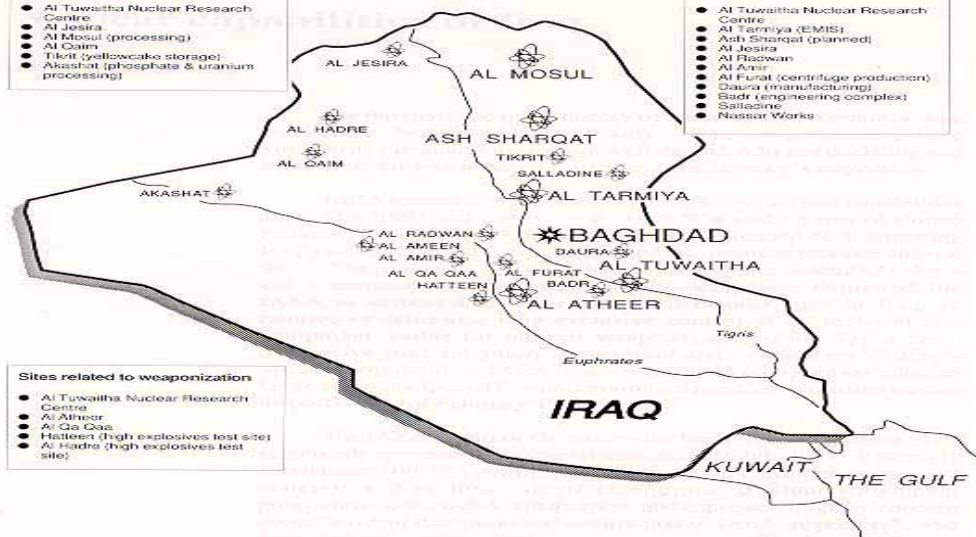
# Credible Assurance??

## Uranium mining, production, processing sites

- Al Tuwaitha Nuclear Research Centre
- Al Jesira
- Al Mosul (processing)
- Al Qaim
- Tikrit (yellowcake storage)
- Akashat (phosphate & uranium processing)

## Sites related to uranium enrichment

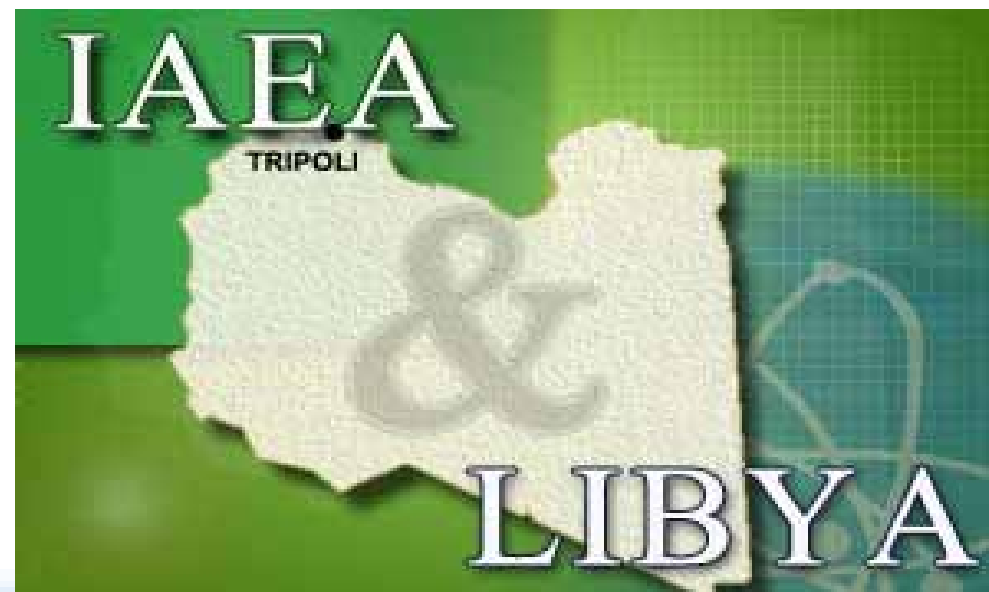
- Al Tuwaitha Nuclear Research Centre
- Al Tarmiya (EMIS)
- Ash Sharqat (planned)
- Al Jesira
- Al Radwan
- Al Amir
- Al Furat (centrifuge production)
- Daura (manufacturing)
- Badr Engineering complex
- Salladin
- Nassir Works



## Sites related to weaponization

- Al Tuwaitha Nuclear Research Centre
- Al Atheer
- Al Qa Qaa
- Hatteen (high explosives test site)
- Al Hadre (high explosives test site)

**DPRK 1993/2002**



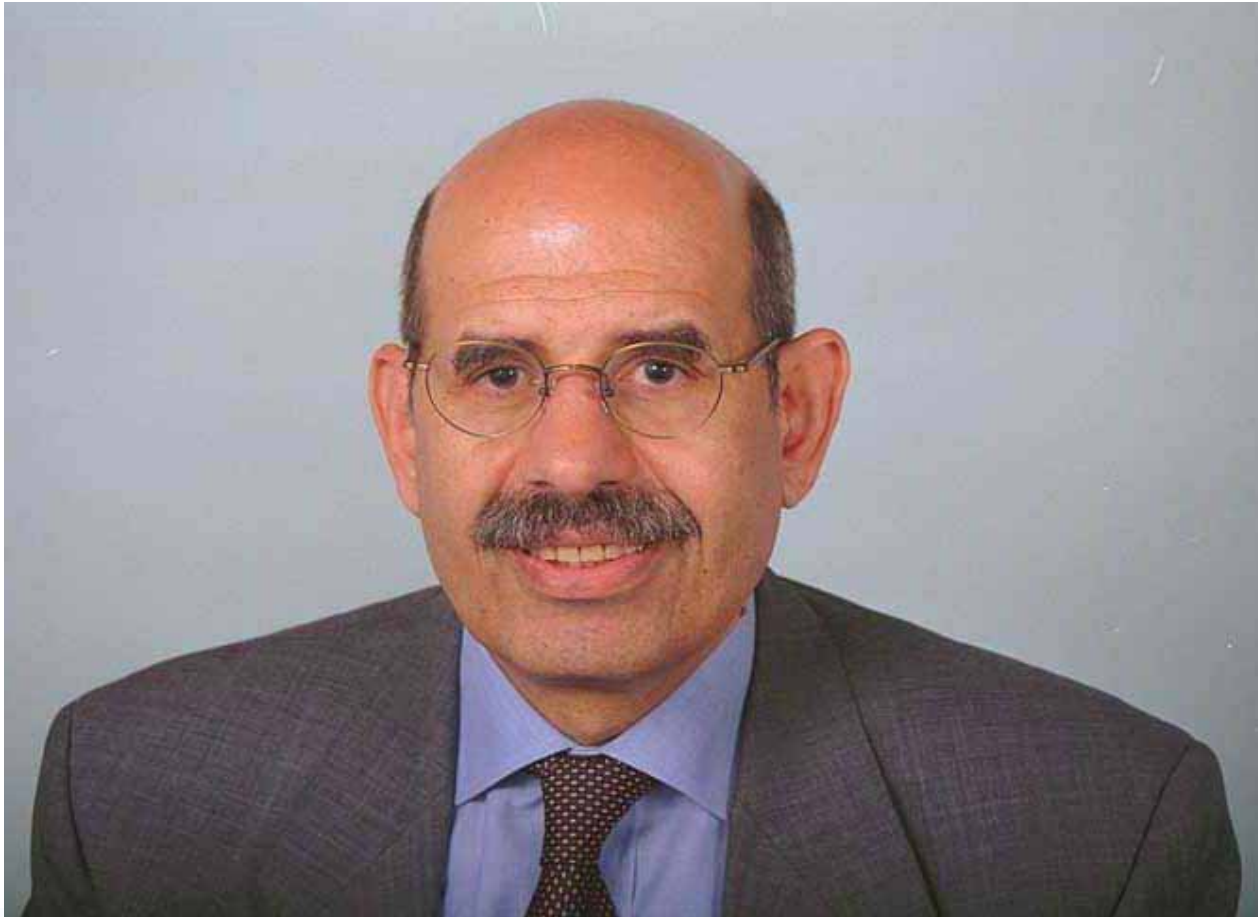
# Evolution of the Agency's safeguards system for verification under the NPT

- Traditional safeguards focused on assuring against the possible diversion of declared nuclear material from peaceful uses
- Experience with *Iraq, DPRK and South Africa* underlined need to focus more on the possibility that States have undeclared nuclear material and activities

→ **Model Additional Protocol, May 1997**



***“I believe that, for the Agency to be able to fulfil its verification responsibilities in a credible manner, the additional protocol must become the standard for all countries that are party to the NPT”***



***IAEA Director  
General, Mohamed  
ElBaradei***



# **Legal instruments and requirements Agency's safeguards system for verification under the NPT**

**Legal instruments:**

**NPT Safeguards Agreement** (INFCIRC/153 (Corr.))

**Additional Protocols** (INFCIRC/540 (Corr.))



# INFCIRC/153

**Part 1** provides the general framework

- The States basic NPT undertaking
- The Agency's "right and obligation"

**Part 2** outlines the detailed reporting and inspection provisions for reporting and carrying out inspections related to nuclear material and facilities





# INFCIRC/153 (Corr.)

## ■ **State parties must maintain a State System of Accountancy for and Control of Nuclear Material (SSAC)**

### ■ **The State must provide:**

- Initial report on nuclear material, and subsequent reports on inventories and inventory changes
- Design information on planned and existing nuclear facilities

### ■ **The Agency may perform:**

- Verification through inspections at declared facilities and locations outside facilities where nuclear material is customarily used
- Routine, ad hoc and special inspections, **as appropriate**



# **Additional Protocols**

**Same focus on nuclear material, nuclear facilities and related activities and locations; additional protocols provides the Agency with:**

- 1. ADDITIONAL INFORMATION**
- 2. BROADER ACCESS**
- 3. STREAMLINED ADMINISTRATIVE PROCEDURES**



# Additional Protocols

## ADDITIONAL INFORMATION:

- 1. Initial declaration** on various aspects of the nuclear fuel cycle, including any uranium mining and any exports of specified items for weapons production to NNWS (also nil reports)
- 2. Yearly update** of any changes (also nil reports)
- 3. Quarterly reports** on imports/exports (also nil reports)



# Additional Protocols

## BROADER ACCESS:

- Focused on declared sites
  - Routine use of environmental sampling
1. Broader access at **declared locations** to ensure the absence of undeclared nuclear material and activities
  2. Additional access to resolve a **question or inconsistency** for environmental sampling



# Efforts to encourage wider adherence to the IAEA safeguards system

- **The 2000 NPT Review Conference recommended a plan of action, to promote and facilitate the conclusion and entry into force of NPT safeguards agreements and additional protocols, including, for example, specific measures to assist States with less experience in nuclear activities to implement legal requirements.**
- **The 2000 IAEA General Conference provided a number of “elements of an Action Plan”**





# Secretariat efforts to encourage wider adherence to strengthened safeguards

## 2005 Plan of Action: Three categories of States

- ✓ (1) Member States with nuclear material or facilities under routine safeguards (71 States)
  - Individual consultations, national seminars
- ✓ (2) Member States without such material or facilities (Small Quantity States) (64 States)
  - Co-operation within the Secretariat, outreach seminars
- ✓ (3) Non-Member States (57 States)
  - Co-operation with advocate States, presentations in the margins of regional meetings



# **Secretariat efforts to encourage wider adherence to strengthened safeguards**

**More than 150 States have attended IAEA outreach events over the past four years.**

- **Regional and interregional seminars (for instance, Lima 2001, Johannesburg 2002, K.L. 2003, Sydney 2004)**  
Planned: Jamaica 2005, Fiji 2006
- **SSAC Training, Legislative Services and Assessment Services; national and regional SSAC workshops and training courses**
- **Correspondence and drafting of agreements and protocols, outreach publications**



# AP World Status

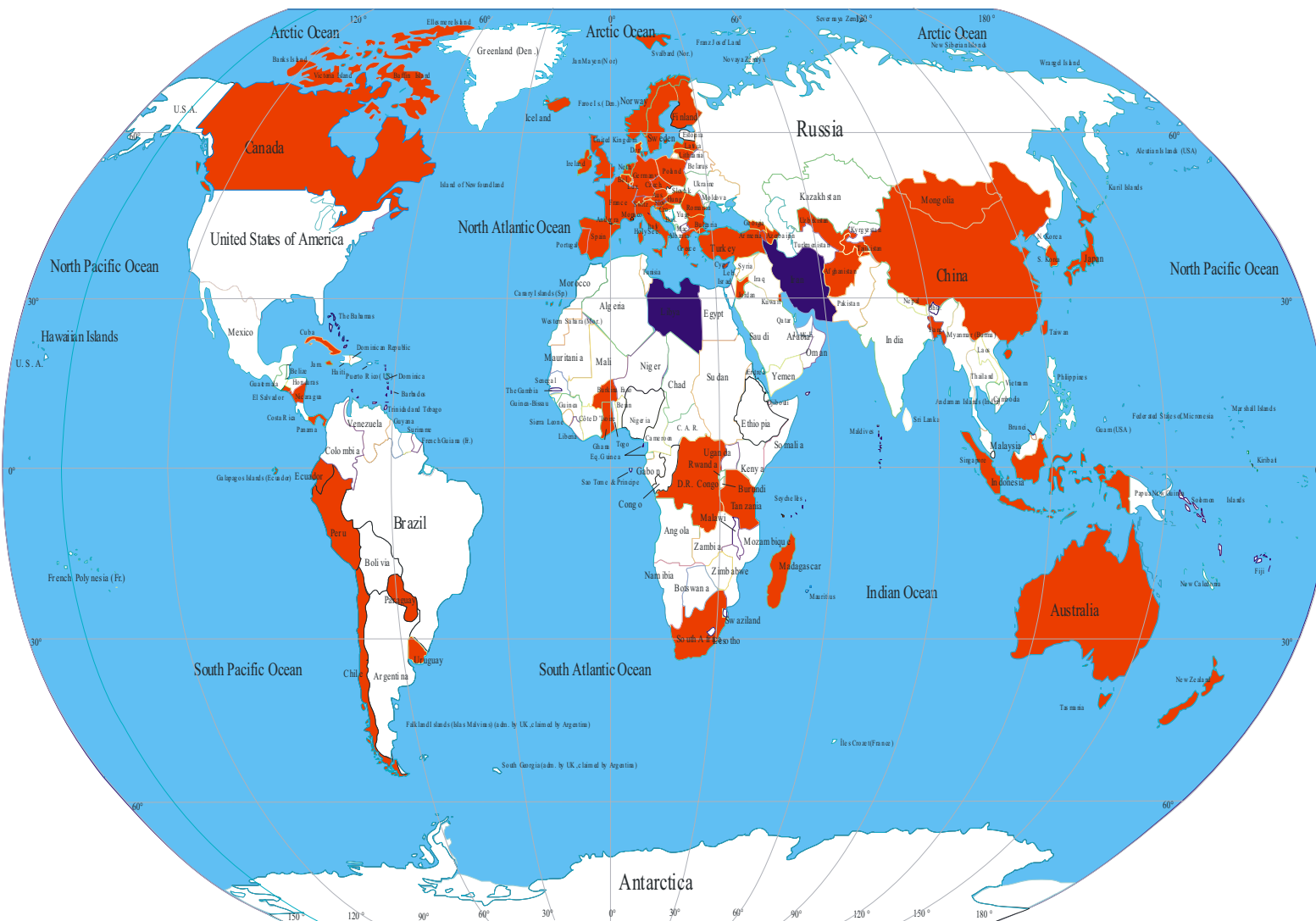
As of 24 Apr. 2000:

**9 States have APs  
in force**

**1 State has an AP  
otherwise applied**



# AP World Status



As of 5 May 2005

**66 States have**

**APs in force**

**2 States have APs  
otherwise applied**



# AP World Status

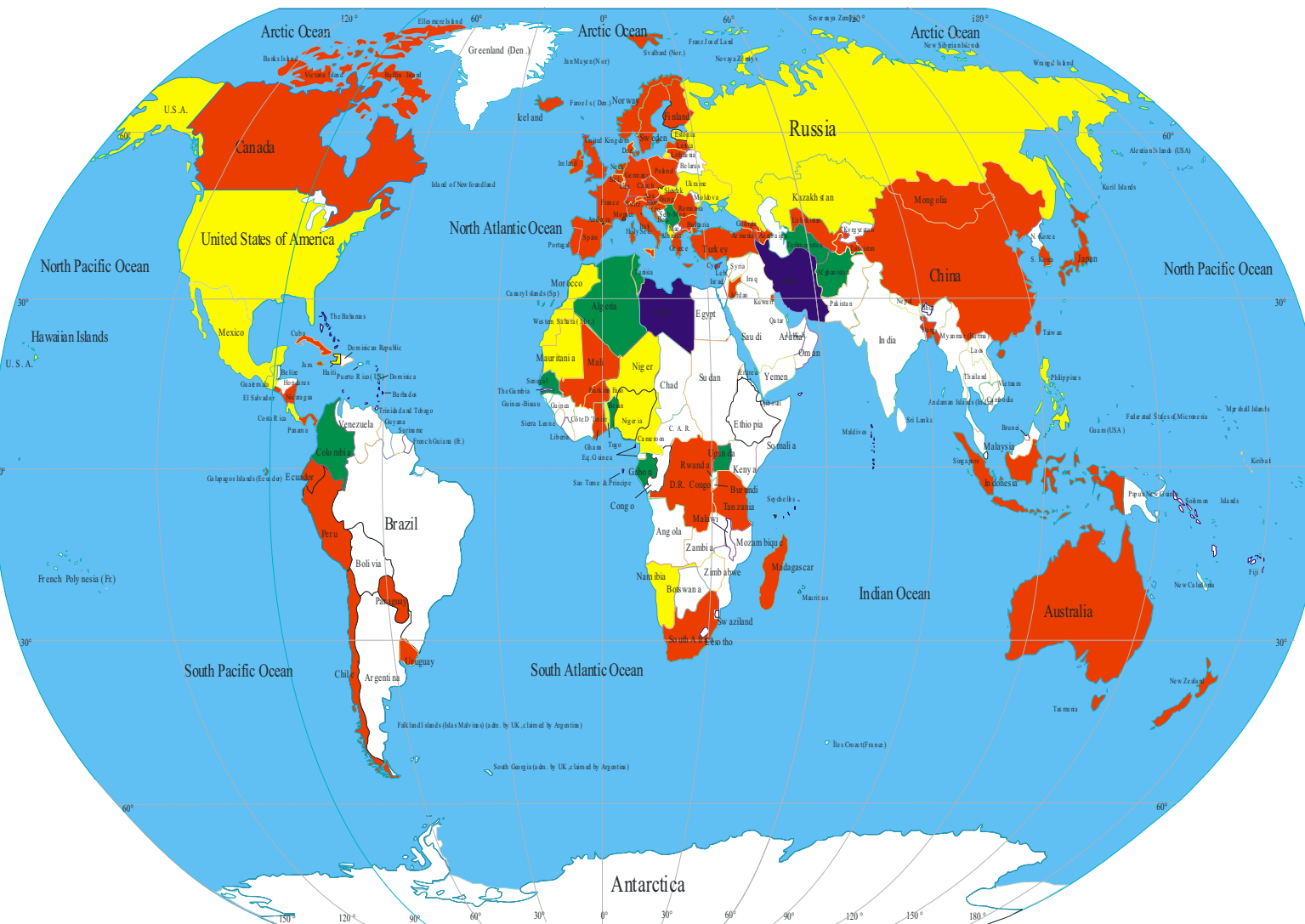
As of 5 May 2005

**66 States have APs  
in force**

**2 States have APs  
otherwise applied**

**23 States have APs  
signed but not yet in  
force**

**11 States have APs  
Board approved  
but not yet signed**





# AP Africa Status



As of 24 Apr. 2000:

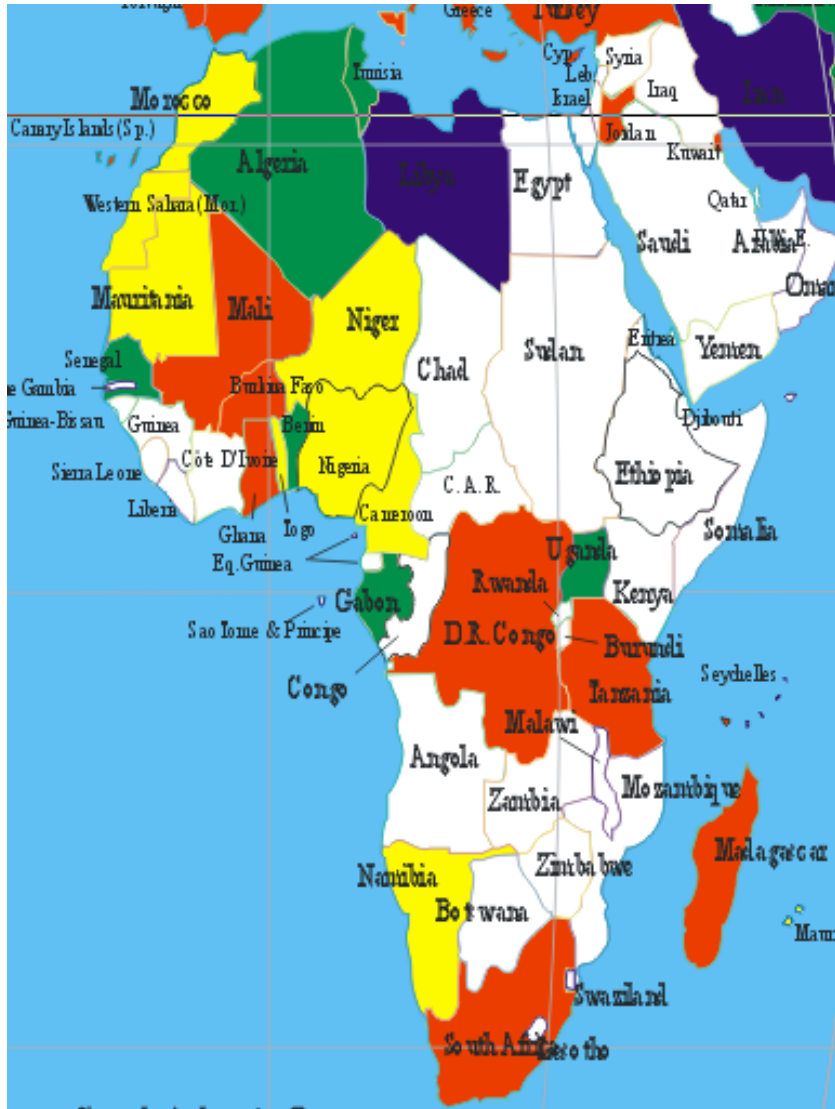
**0 States have APs in force**

**1 State has an AP otherwise applied**

**1 State has an AP signed but not yet in force**



# AP Africa Status



As of 5 May 2005

**6 States have APs in Force**

**1 State has an AP otherwise applied**

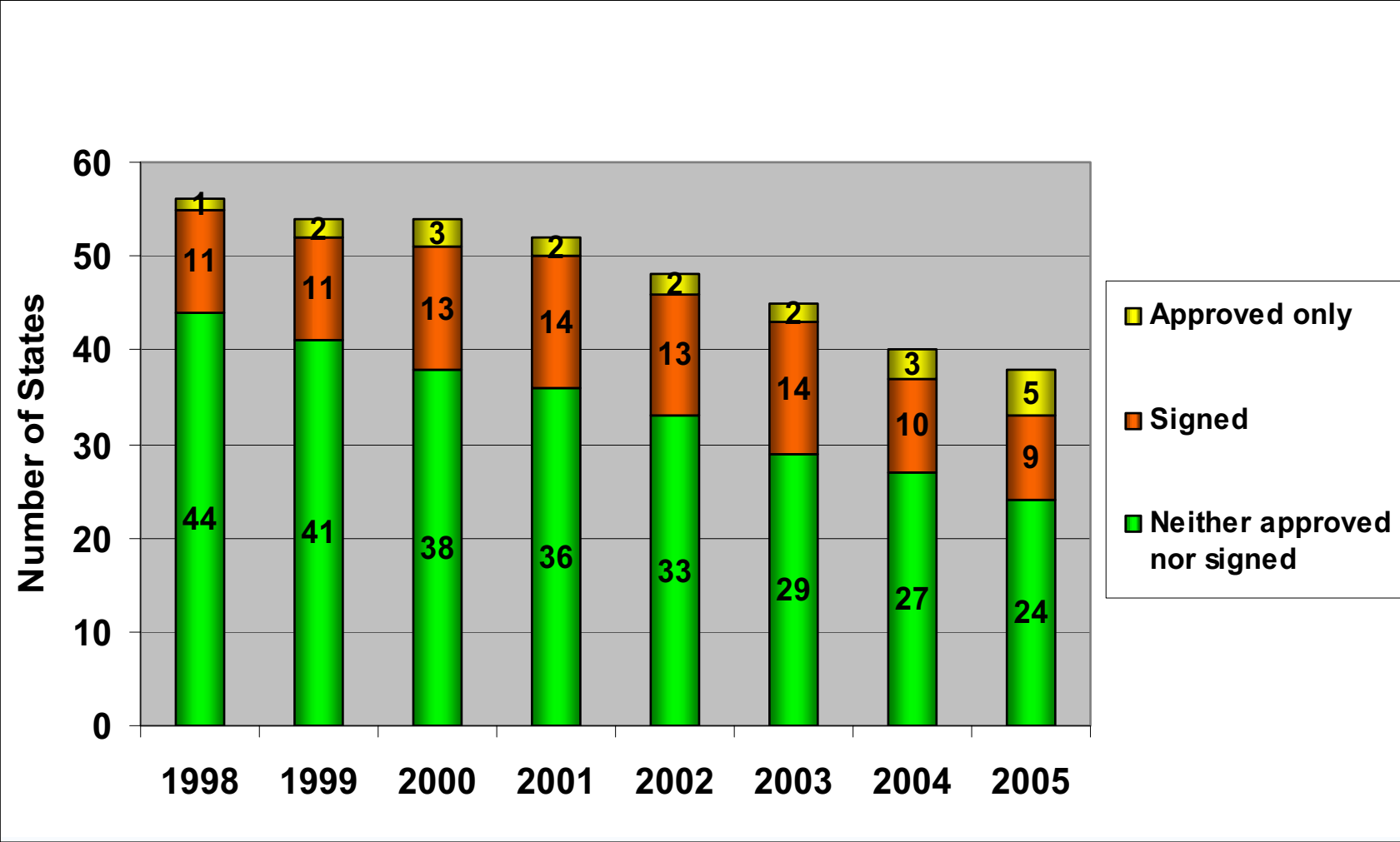
**7 States have APs signed but not yet in force**

**6 States have APs Board approved but not yet signed**

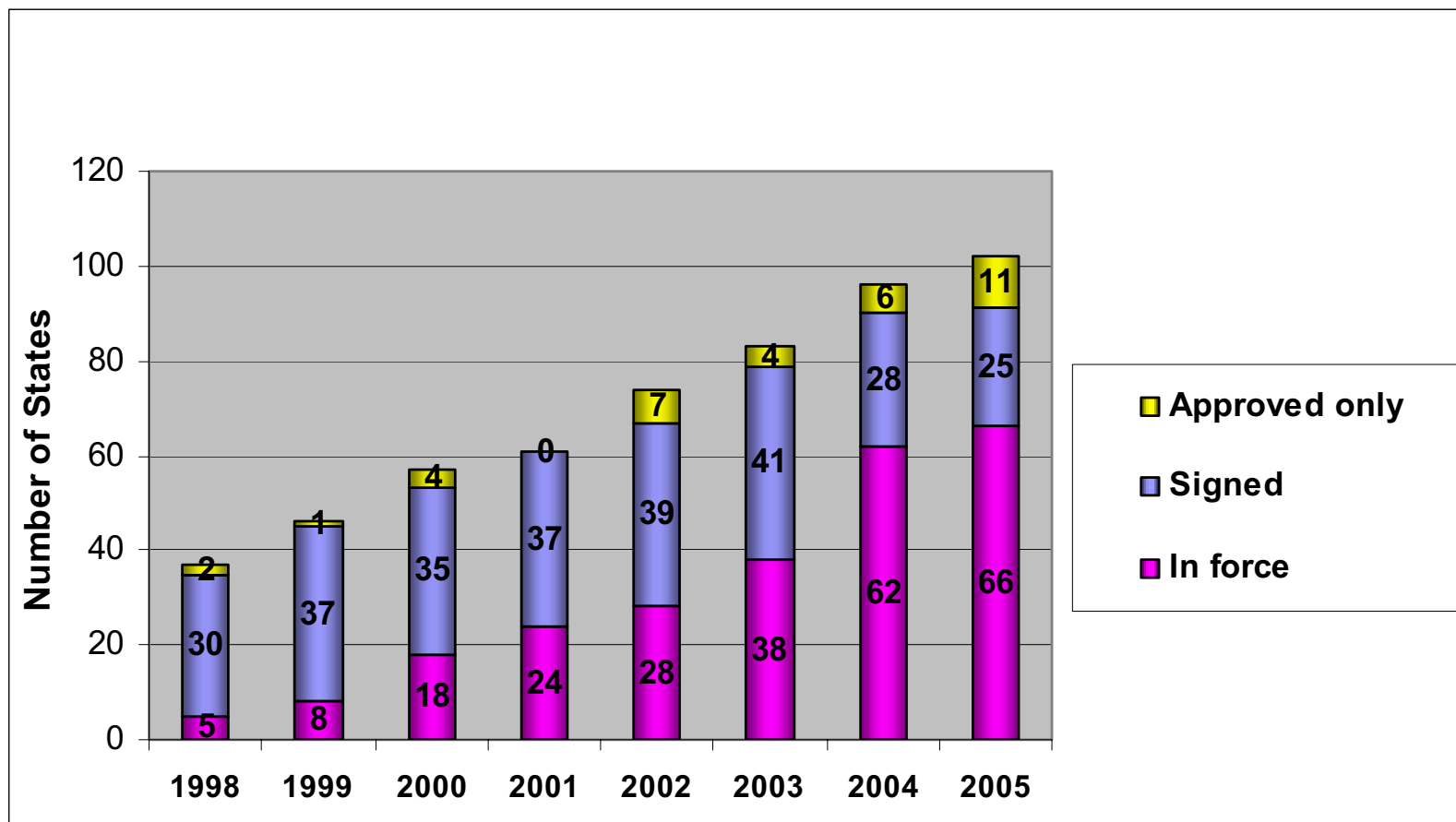


# States that have yet to conclude safeguards agreements pursuant to the NPT 1998-2005 (Until 5 May 2005)

( )



# Conclusion of Additional Protocols, 1998-2005 (cumulative, as of 5 May 2005)



# Conclusion of NPT Safeguards Agreements

- In 24 April 2000, **135** NPT States had safeguards agreements with the Agency; on 5 May 2005, **151** NPT States are party to safeguards agreements
- **38** NPT States (compared with **52** in 2000) still have no safeguards agreements with the IAEA:
  - **9** of these have signed safeguards agreements but not yet completed constitutional requirements for entry into force
  - **5** of these have had safeguards agreements approved by the Board but have not yet signed these
  - **24** of these have no approved safeguards agreement



# **IAEA non-Member States**

## **55 NPT States are non-Members of the IAEA**

- Out of **24** States that have not yet notified the Agency of their Governments' intention to conclude NPT safeguards agreements, **16** are IAEA non-Members
- Out of **90** States that have not yet notified the Agency of their Governments' intention to conclude additional protocols, **50** are IAEA non-Member





# How to bring into force the legal instruments of the safeguards system

## Three Steps

1. The State writes notifies the Agency of its decision to conclude the agreement/protocol
  2. The IAEA Board of Governors authorizes the Director General to sign and implement the agreement/protocol
  3. The agreement/protocol is signed by the Director General and a duly authorized representative of the State
- 
- The agreement/protocol enters into force *either* upon signature *or* upon receipt, by the Agency, of a notification that constitutional and statutory requirements for entry into force have been met, depending of the State's legal system.



# Trust but Verify!



**United States  
President Ronald  
Reagan &  
Soviet Union  
President Michail  
Gorbachev**





# The End

