

2010 WiN Global Annual Conference  
May 9 -14, 2010

## Session V Nuclear Safety, Security & Safeguards

# SAFEGUARDS IMPLEMENTATION UNDER COMPREHENSIVE SAFEGUARDS AGREEMENTS AND ADDITIONAL PROTOCOLS

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**IAEA**

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# Introduction

The International Atomic Energy Agency (IAEA) was founded in 1957:

- to promote the peaceful use of nuclear technology and,
- to verify the States (Non Weapon States in particular) compliance with their commitments under the Non Proliferation Treaty (NPT)

# Safeguards Application - NPT

Under Article III of the NPT, Non Nuclear Weapon State (hereafter State) party to the treaty undertakes to conclude agreements with the IAEA for the application of **Safeguards**, with a view to provide assurance to the international community that nuclear material is not diverted from peaceful nuclear uses to nuclear weapons or other nuclear explosive devices

# States Undertakings under NPT and the IAEA

- ***States Undertakings*** – to use nuclear material and facilities only for peaceful purposes (no nuclear weapon or nuclear explosive device)
- ***IAEA's Verification*** – through the Agency's inspection system (Secretariat/Inspectorate)

# Safeguards Application – Agency's statute

The Agency's authority to apply safeguards stems from Article III.A.5 of its Statute. Pursuant to this authority, the Agency concludes agreements with States, and with regional inspectorate, for application of safeguards

These agreements are of three main types:

- Comprehensive Safeguards Agreements (CSA)
- Item-specific Agreements (won't be discussed) and,
- Voluntary Offer Agreements (won't be discussed)

# Comprehensive Safeguards Agreements (CSAs)

- Most of the agreements under which the IAEA applies safeguards are of the **comprehensive type, that is, they cover all nuclear material in the State**
- Each CSA follows the structure and content set out in Agency document INFCIRC/153 (Corr.)

# Comprehensive Safeguards Agreements (CSAs) – States undertakings

- States to accept Agency safeguards on all nuclear material (source or special fissionable material) in all peaceful nuclear activities within the State or carried out under its control anywhere
- States to provide specific information to the IAEA regarding nuclear material production and transfers

# Comprehensive Safeguards Agreements (CSAs) - IAEA rights and obligations

Agency has a right and obligation to:

- ensure that **safeguards** applied on all nuclear material, for the exclusive purpose of verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices, in other words **safeguards** are being used in a manner consistent with what the State declared

# Safeguards Implementation

*Safeguards is implemented by the IAEA Secretariat/inspectorate:*

- By an extensive set of technical measures
- By independent verification of the correctness of declaration i.e. the type and quantity of the State's declared nuclear material holdings are correct and,
- By independent verification of completeness i.e. the declarations include everything that should have been declared

# Safeguards Objectives

- Technical objective is “the **timely detection** of diversion of significant quantities of nuclear material from peaceful nuclear activities to the manufacture of nuclear weapons or other nuclear explosive devices for purposes unknown, and **deterrence** of such diversion by the risk of early detection” – INFCIRC/153, para. 28
- This technical objective is the basis for detailed and specific inspection goals for each facility under CSA

# Safeguards Technical Measures

The Safeguards technical measures include:

- nuclear material accountancy
- nuclear material verification activities
- information analysis activities performed at headquarters or regional offices

# Safeguards Verification Activities - CSA

## In-field and HQs activities

**Inspections including examination of Books (including unannounced inspections),**

**DIVs,**

**Environmental Sampling at any place where Agency inspectors have access and sample analysis**

**Information analysis based on findings from the field activities, Evaluation of data of unattended and remote monitoring of movements of nuclear material in facilities and transmission of authenticated and encrypted SG-relevant data to the Agency**

**Open source**

# Strengthen Safeguards – Additional Protocol

- Although the IAEA has the authority (CSAs), to verify the absence of undeclared nuclear material and activities, the tools available are limited hence the Additional Protocol
- Additional Protocol (AP) to CSA Agreements (INFCIRC/540) is approved by the Board of Governors (BoG), this provides tools for strengthened safeguards

*AP together with CSA is contributing to global nuclear non-proliferation objectives*

# Measures implemented under AP

## In-field activities

**Inspections including unannounced inspections to a greater extent than previously, DIVs, CAs, Environmental Sampling (ES) including wide area ES**

**Information analysis based on findings from the field activities, open source information, information provided by the third parties, Satellite Imagery**

**Evaluation of data of unattended and remote monitoring of movements of nuclear material in facilities and transmission of authenticated and encrypted SG-relevant data to the Agency**

**Wide range of Open source Voluntary Reporting Scheme (VRS)**

## HQ's activities

# Information provided by the State under CSAs

## Information provided under CSAs

- Facility Design Information (DI)
- Nuclear Material Accountancy Reports – Books (quantity and type of the nuclear material)

# Information provided by the States under AP

Information provided under AP are AP declarations, including:

- Information on all parts of State's nuclear fuel cycle
- Information on certain R&D activities not involving nuclear material
- Information on manufacture and exports of sensitive items and equipment (INFCIRC/540, Annex I and II)
- Information on the entire fuel cycle – from mines to the waste
- Information on succeeding ten-year period relevant to the development of the nuclear fuel cycle

*The AP declarations are provided on regular basis as stated in the INFCIRC/ 540*

# SG Measures and In - Field Verification Activities

In-field verification activities are designed to contribute to address the:

- Detection of diversion of declared NM
- Detection of undeclared nuclear material or activities for the State as a whole

# In - Field Verification Activities

## Inspections, including

- Examination of Nuclear Material Accounting Reports (quantity and type of the NM)
- Non-Destructive Assay (NDA)
- Destructive Assay (DA)
- Application of Containment and Surveillance (C/S)

# In - Field Verification Activities – cont'd

- Design Information Verification (DIV)
- Complementary Access (CA) including utilization of radiation monitoring devices
- Taking Environmental Samples (ES)

# Documentation of the findings from SG measures (IAEA internal)

## State Evaluation Report (SER)

- The Agency produces yearly reports called State Evaluation Reports (SER) based on findings from the field and HQs activities, including assessment and analysis of information available to the Agency regarding to each State

# Reporting on Safeguards Implementation – under CSA

The Agency is obliged to report formally to the States through:

**Statement, called ‘90(a) statement’, on inspection results, including any discrepancies found and whether they have been resolved**

**Statement, called ‘90(b) statement’, on conclusions the Agency has drawn from its verification activities for each facility over a material balance period**

*90 (a) and (b) statements because of particular paragraph of the text in INFIRC/153 (corr.)*

# Reporting on Safeguards Implementation – under CA provisions of AP

Agency is obliged to send to the State:

**‘10.a statement’ – on activities performed during complementary access**

**‘10.b statement’ – on the results of activities in respect of questions or inconsistencies**

**‘10.c statement’ – on conclusions drawn from its activities under the additional protocol**

*10.a, b and c because of relevant article in Model AP*

# Safeguards Conclusions

It is only for States with

- *CSA*
- *AP*

That Agency has the verification tools to provide credible assurance of non-diversion of declared nuclear material and the absence of undeclared nuclear material and activities in that State

# Integrated Safeguards

Integrated Safeguards (optimized combination of all measures available to the Agency) may be applied to States for which the IAEA has drawn a conclusion on the non-diversion of nuclear material and the absence of undeclared nuclear material in a State as a whole

SG measures will be based on the integrated safeguards approaches which are prepared in accordance with State-specific factors while ensuring that safeguards are applied in a non-discriminatory manner

# Conclusions

IAEA safeguards are the mechanism by which the international community is provided with assurance that States are complying with their obligations, i.e., in essence, that they are not diverting nuclear material for non-peaceful purposes

## Conclusions – cont'd

Conclusions arising from the implementation of safeguards are reported on an annual basis (Safeguards Implementation Report) to the Agency's Board of Governors and made available on the Agency's website

<http://www.iaea.org/OurWork/SV/Safeguards/>