



NON-PROLIFERATION AND SAFEGUARDS: THE ROLE OF ABACC

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**AGENCIA BRASILEIRO ARGENTINA DE CONTABILIDADE e CONTROLE
DE MATERIAIS NUCLEARES**

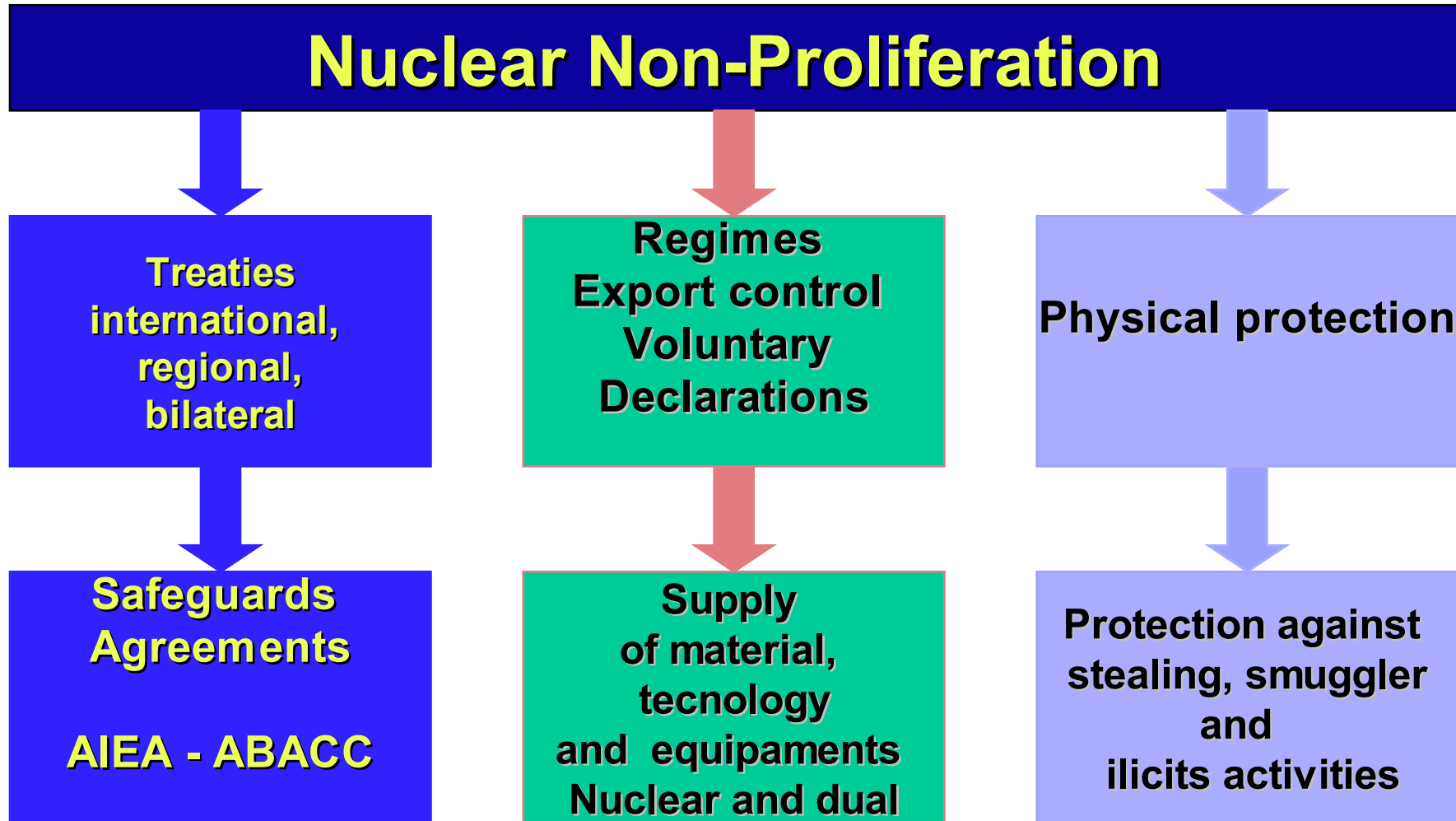


ABACC



Nuclear Weapons

United States	1945
Soviet Union	1949
United Kingdom	1952
(Atoms for peace)	1953
France	1960
China	1964
(TNP)	1970
India	1974
Israel	1982
Pakistan	1998
DPRK	2006





Safeguards Mechanisms

- Adoption of Agreements type INFCIRC/66
- TNP (negotiated 1968 / march 1970)
- Comprehensive Agreements Type
- Iraq and Israel case (1982)
- SCCC – 1989/1990 - Bilateral Agreement for the Exclusively Pacific Use of Nuclear Energy (18/07/91)
- South Africa and DPRK – 1991/1992
- Quadripartite Agreement for the Application of Comprehensive Safeguards (13/12/91)



Mechanisms

- Iraq - 1991 e 1992
- Program “93+2”
- Additional Legal Authority
 - Information
 - Access
 - New measures
- 1994 – Enforcement of the Quadripartite Agreement
- 1994 – Full adhesion of Argentina (in January) and of Brazil (in May) to the Treaty of Tlatelolco



Strengthening of Safeguards

- Additional Protocol – 1997
- Adhesion of Argentina (1995) and Brazil (1997) to the Treaty of Non-proliferation of Nuclear Weapons (TNP)
- Integrated Safeguards - 2002
- Iran e Libya
- DPRK, Syria, Iran
- Others Measures in Safeguards



New Proposals on Nuclear Suppliers

- Action Plan against terrorism - 2001
- Proposals for international suppliers
 - GNEP – Global Nuclear Energy Partnership;
 - International centers of enrichment, reprocessing, power stations, etc.
 - Participants?
- Proposals for technology restriction
 - Who define?
- New non-proliferation initiatives



ABACC Safeguards application

- Safeguards should be applied in the Quadripartite framework with;
 - Transparency;
 - Trustiness;
 - International credibility;



ABACC's Permanent Objectives

The role of ABACC and its international recognition may be attributed, among other considerations, to the following:

a) Technical competence of ABACC

- **managing and application of safeguards**
- **efficient use of the resources**

ABACC always paid special attention to maintain technical competence at all levels, including staff members, inspectors, consultants, auxiliary laboratories and so on. Acquisition and performance of systems and equipment.

b) International credibility

ABACC is considered as a highly credible organization in the nuclear safeguards and non proliferation field.

Its professional behavior convinced the other parties in such an area, mainly the IAEA, of the independence, respectability and reliability of its managing of the Common System of Accounting and Control.

c) The efficient and effective way of performing its duties – Applying safeguards



MAJOR GOALS ACCOMPLISHED BY ABACC ON APPLYING SAFEGUARDS IN ARGENTINA AND BRAZIL

- a) Implementation of a full-scope safeguards system for all nuclear materials and nuclear activities in Argentina and Brazil;**
- b) Safeguards application under the frame of the Quadripartite Agreement (preserving technological and commercial sensitive information).**
- c) Coordination between ABACC and the IAEA while applying safeguards.**
- d) Application of safeguards in uranium enrichment plants in South America.**
- e) Advanced cooperation with IAEA .**
- f) Use of new techniques**



Cooperation between ABACC and IAEA

- **Apply efficient and effective safeguards;**
- **Minimize manpower and intrusiveness;**
- **Significant effort was made by both Agencies to improve co-ordination;**
 - SAFEGUARDS APPROACH.
 - COMMON USE OF EQUIPMENT
 - SURVEILLANCE AND SPECIFIC EQUIPMENTS PLANNING AND COST SHARING.
 - GUIDELINES FOR JOINT INSPECTIONS and COMMON PROCEDURES FOR INSPECTIONS.
 - JOINT and INDEPENDENT UNANNOUNCED INSPECTIONS.



Why use a Regional System

- **A regional organization presents the advantage of controlling a small universe of facilities and material.**
- **It is not required to follow universal standard procedures as requested in an international system.**
- **Mutual inspection system implemented by the ABACC makes it possible to profit from the best professional expertise available in each of the two countries.**
- **Can reduce strongly the costs involved in safeguards implementation.**



Cooperation between ABACC and IAEA

Future Improvements

- ❑ **ABACC Regional System have robust safeguards system;**
- ❑ **On this 18/19 years IAEA and ABACC have developed a profile of IAEA/RSAC collaboration and safeguards improvement;**
- ❑ **Optimize the available resources from the two organizations;**
- ❑ **As a Regional System, ABACC has the capacity to act as an interface between the states and IAEA as well as to represent the IAEA in safeguards activities;**
- ❑ **IAEA to focus on more safeguards qualitative tools and assessment of the ABACC system.**
 - ❑ **State Level Concept; IAEA**
 - ❑ **Traditional Safeguards; ABACC**



HOW TO ASSIST ARGENTINA AND BRAZIL IN THE RENAISSANCE OF NUCLEAR PROGRAMS

- Providing the international community with the assurances of the peaceful character of the Argentinean and Brazilian nuclear programs.
- Minimizing international concern and pressures.
- Providing political support regarding non-proliferation for nuclear joint ventures.
- Supporting the participation of both countries in international nuclear suppliers groups.

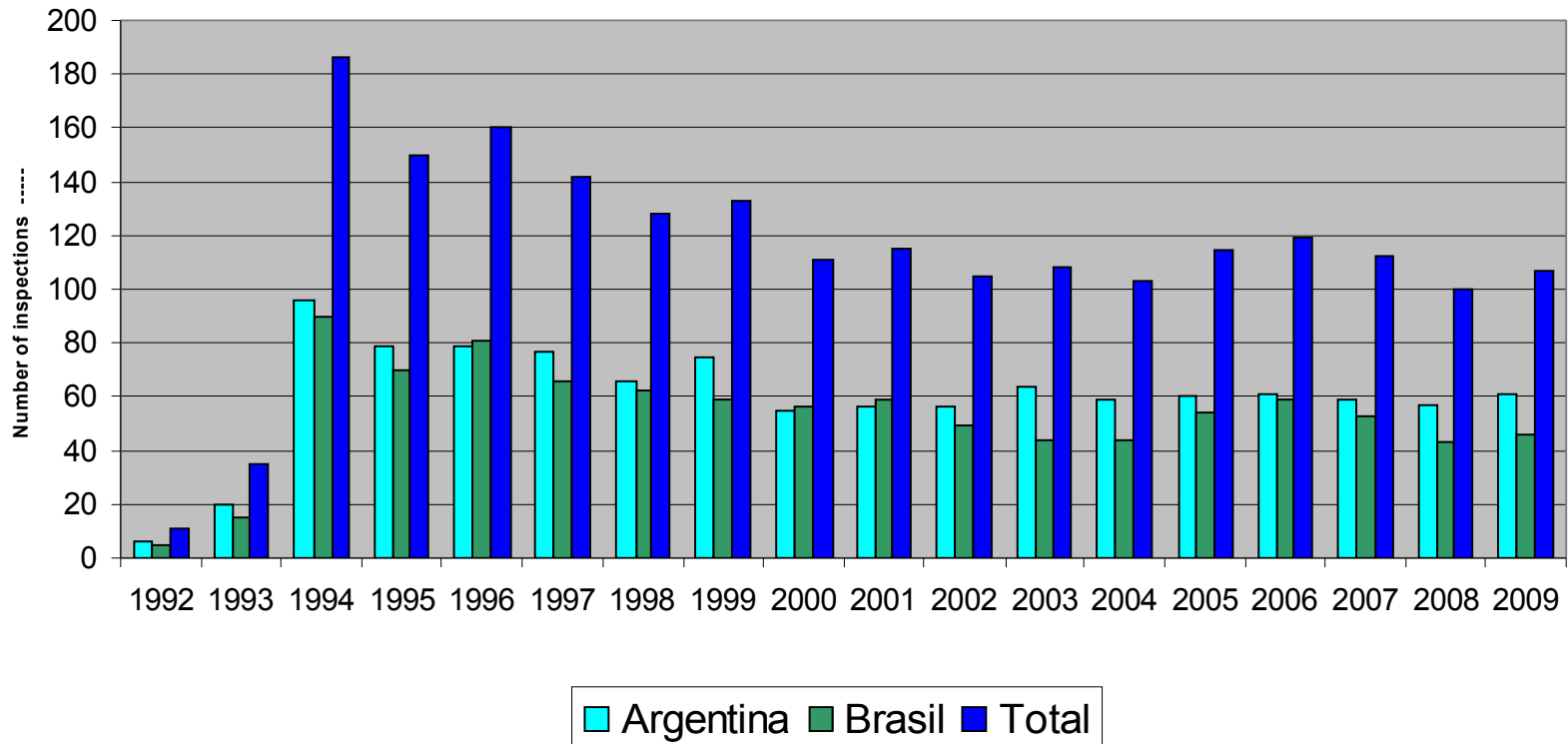


Challenges

- To contribute for non-proliferation arena.
 - **Be knowledgeable for international community;**
 - Increase its participation at the region;
 - Example for other regions of the world
- To be used as an additional guarantee on the safeguards implementation and non-proliferation;
- To be used as a catalyzer in the managing of the interfaces that any joint venture necessarily creates.

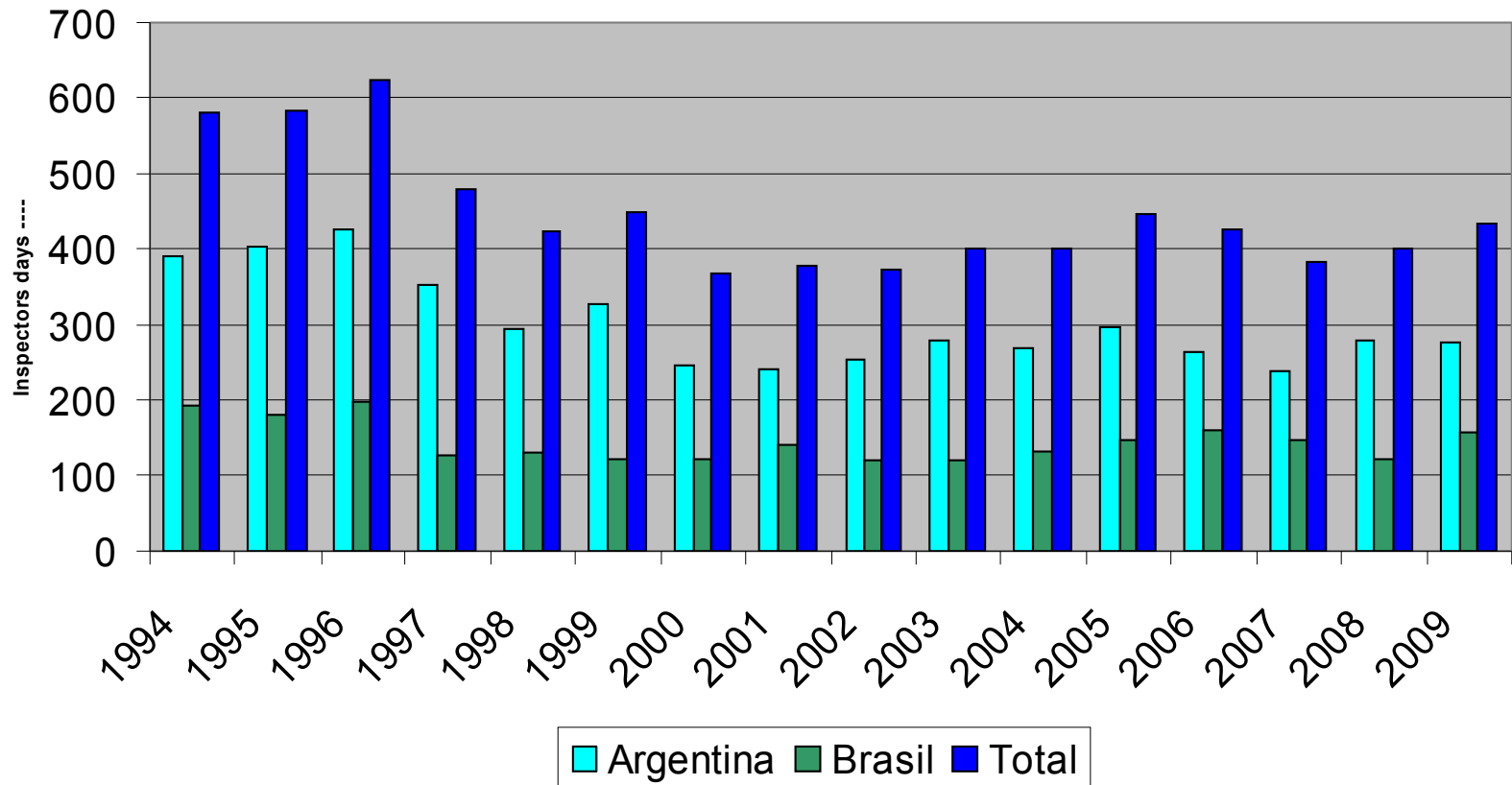


Number of Inspections



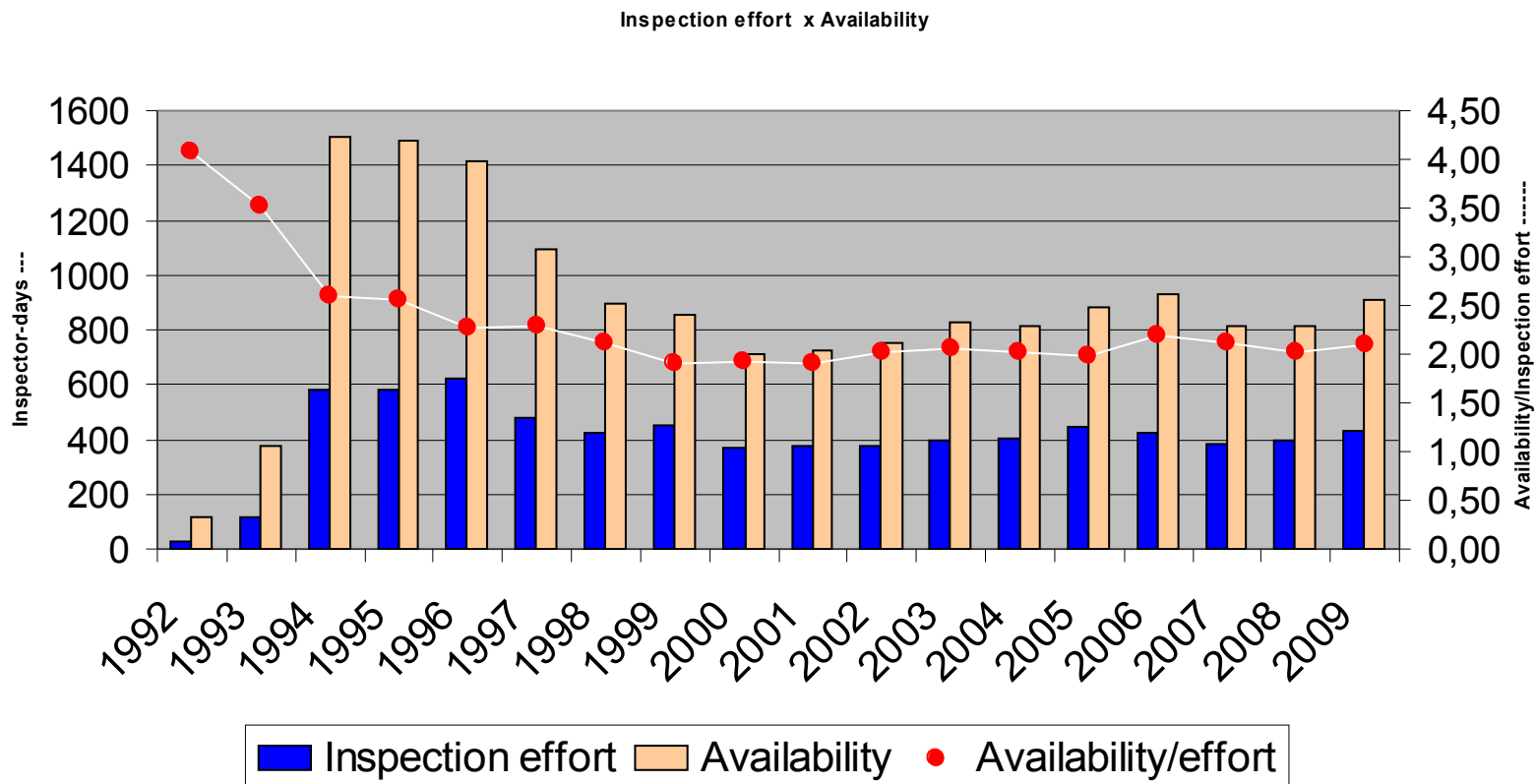


Inspection Effort





Effort / Availability





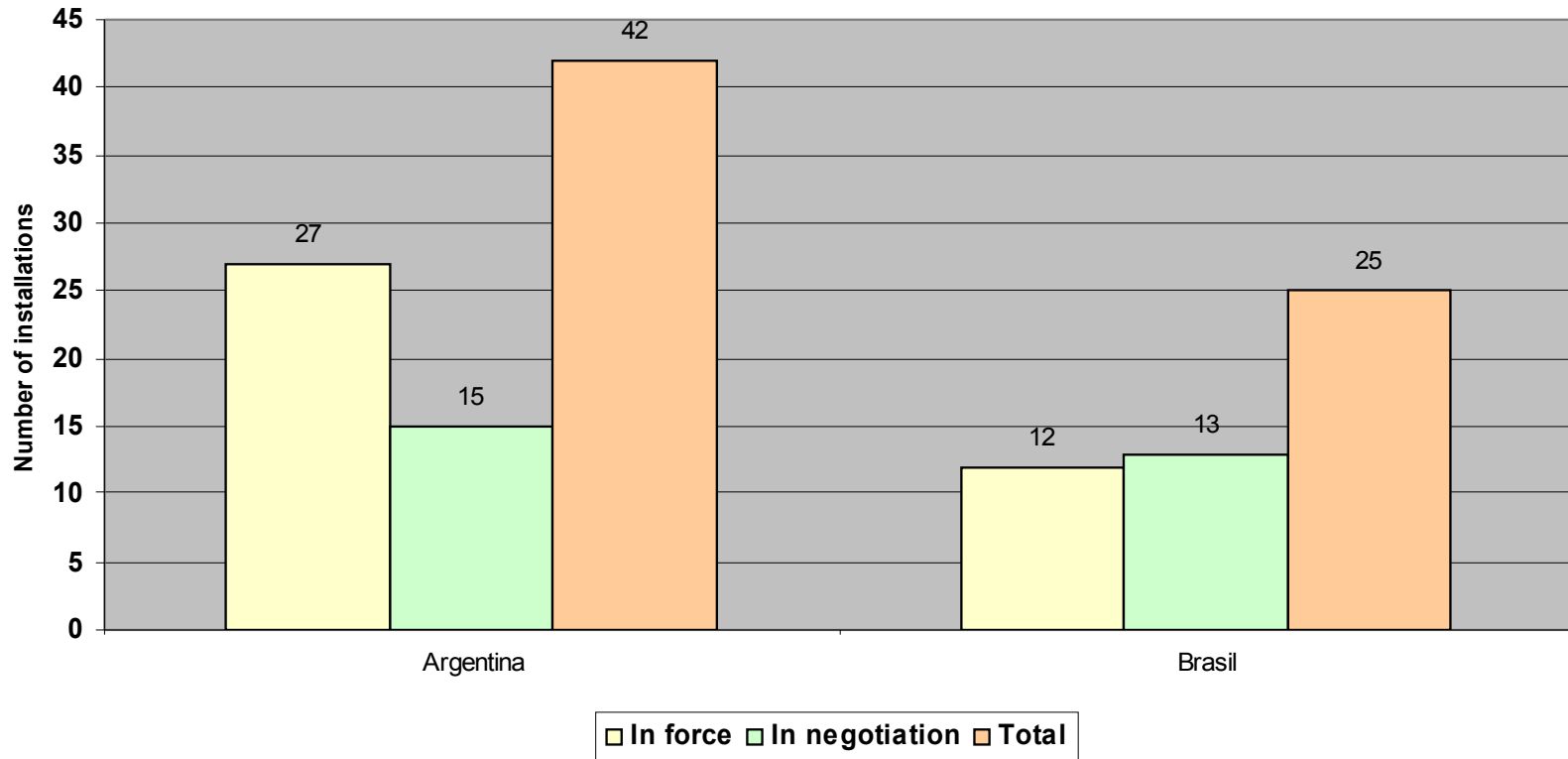
ABACC

Thank you/Gracias /
Obrigado



Facility Attachments

Facility Attachments 01/01/2010



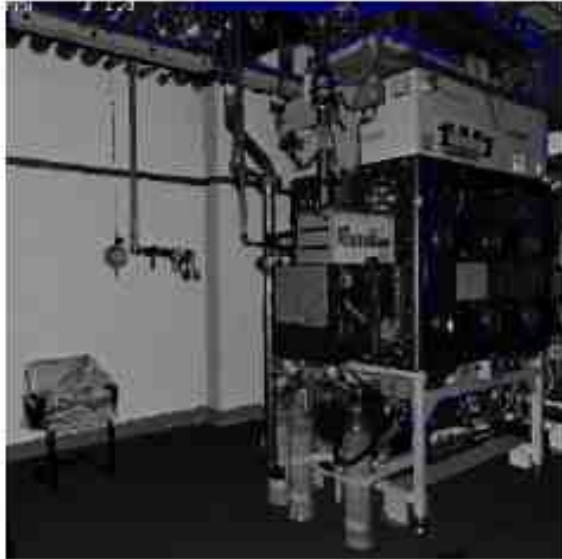


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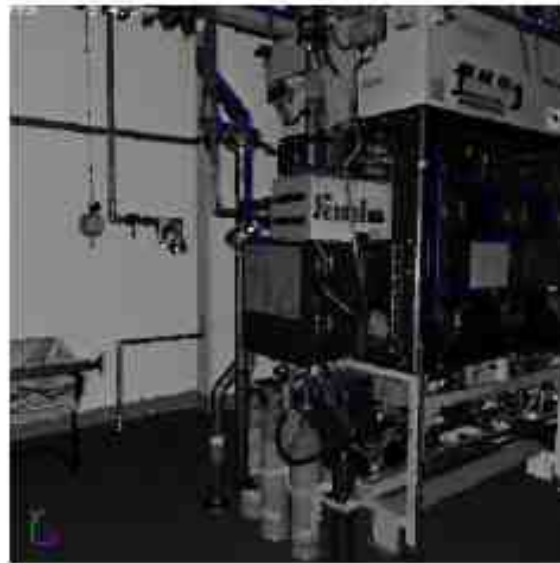




NON-PROLIFERATION AND SAFEGUARDS: THE ROLE OF ABACC 3D Laser

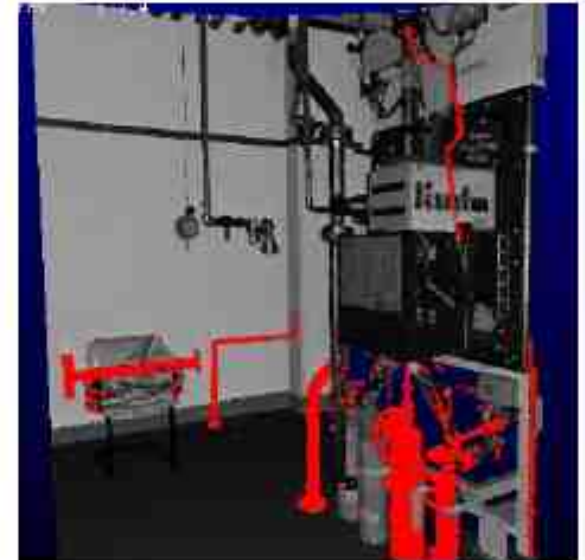


Reference
Model



Verification
Model

Differences





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NAME / PLACE	DESCRIPTION	INSPECTORS	IAEA PARTICIPATION	STATUS
C&S Workshop Rio de Janeiro and Buenos Aires (5 days each)	a) Training on the operation of C&S systems, such as: Autonomous Systems (ALIS/ALIP), SDIS, DMOS, GARS, VACOSS and COBRA seals, New technologies (an overview) and HM5 (extra). b) Joint Use Procedures for inspection equipments and software.	12 in each place	--	Proposed: Bs.As.: April RJ: April
VIFM Workshop Rio de Janeiro (3 days)	Theory and training on practice of operation of VIFM System. Main topics are: CANDU NGS and VIFM overview; Bundle counters, types, operation, data analysis; Bundle counter special applications - Atucha case; and CDMs, types, operation, data analysis.	10	1 instructor	Proposed: June
Training on Inspection Procedures applied for Enrichment Facilities São Paulo (Course-HQ) and Resende. (5 days total)	Theory and training on practice of procedures and common use of equipments during announced and unannounced inspections to the facilities: LEI (BRN-), USIDE (BRF-) e BRU- .	5	1 instructor (Possible 1 additional instructor for theory). 5 IAEA inspectors	Proposed: Sep
Training with the Neutron Collar Rio de Janeiro/Resende and Buenos Aires/CONUAR (3 days each)	Training in the operation of the Neutron Collar	12 in each place	1 instructor (3 days)	Proposed: Oct
Training on the Software for Auditing of Records - SJAR Rio de Janeiro, São Paulo and Buenos Aires. (3 days each)	Training on the software for joint auditing of records; auditing exercises.	6 in each place	4 IAEA inspectors	Proposed: Bs.As.: Aug SP: Sep RJ: Nov
DIV Training Course Rio de Janeiro (3 days)	Training on the Design Information Verification	10	4 IAEA inspectors	To be decided.



NON-PROLIFERATION AND SAFEGUARDS: THE ROLE OF ABACC

Equipment for Common Use For Countries Covered by ABACC and IAEA

EQUIPMENT	PLACE OF LOCATION
Cobra seal	Many installations
Vacoss seal	Many installations
Finger print for canister	Embalse NPS
MUX Surveillance system	Embalse NPS
Balances and Weights	All
Hungarian telescope	Embalse NPS
Spent Fuel Verifier	Embalse NPS
EMOSS Surveillance System	Aramar enrichment plant
Neutron Slab Detector	Aramar enrichment plant
Gamma scanning detector	Aramar enrichment plant
SDIS/ALIS Surveillance Systems	Angra II and Atucha I
Neutron Collar	Fuel fabrication plants
Portable Mini Multichannel An.(5)	Many installations
VIFM (VIFB/C/D)	Embalse and Atucha I NPS
Gars – review image	All
HM5 – nuclear material verification	All
SFNC	Atucha I NPS
Ultrasonic thickness gauge	All
ALIS/ALIP cameras	All
Ion Fork Detector	Angra I and Angra II NPS
DSOS Angra I	Angra I NPS
DMOS	Comercial enrichment plant and Embalse NPS
HDIS cameras	Aramar enrichment plant and Embalse NPS
Unattended monitoring system	Embalse NPS