ABACC

Relatório Anual
Informe Anual
Annual Report

2015

GARANTINDO O USO PACÍFICO DA ENERGIA NUCLEAR NA ARGENTINA E NO BRASIL
GARANTIZANDO EL USO PACÍFICO DE LA ENERGÍA NUCLEAR EN ARGENTINA Y BRASIL
GUARANTEEING THE PEACEFUL USE OF NUCLEAR ENERGY IN ARGENTINA AND BRAZIL

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Secretário adjunto
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Operações
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Annual Report

Message from the Secretary

This Annual Report presents the activities developed by ABACC during 2015 and performed in accordance with the Agreement between the Federative Republic of Brazil and the Argentine Republic for the Exclusively Peaceful Use of Nuclear Energy – the Bilateral Agreement.

As a result of the work that took place, ABACC can confirm that during 2015 no indication was detected of any diversion of nuclear materials or of non-compliance with the Bilateral Agreement signed between Brazil and Argentina or with the Quadripartite Agreement signed by both countries, ABACC and the International Atomic Energy Agency.

In order to achieve these results, the Secretariat of ABACC relied on the work and effort of its entire team, especially the inspectors, the support of the ABACC Commission and the National Authorities of safeguards: the Comissão Nacional de Energia Nuclear in Brazil and the Autoridad Regulatoria Nuclear in Argentina. In order to undertake all the inspections during the year and to comply fully with its mission, ABACC had a budget of approximately US$5,000,000.

The administration of the Common System of Accounting and Control of Nuclear Materials established in the Bilateral Agreement and the management of the Quadripartite Agreement received special attention from the Secretariat of ABACC. Coordination meetings were held between the parties for the analysis, control and the follow up of the relevant topics regarding safeguards. The meeting of the Liaison Committee, the highest authority with respect to decision-taking in the Quadripartite Agreement, was held in July, at the headquarters of the Comissão Nacional de Energia Nuclear, in Rio de Janeiro, Brazil.

The cooperation and the high technical level maintained in the relationship between ABACC, the International Atomic Energy Agency and the National Authorities of both countries constitute a preeminent factor in the compliance with the signed agreements.

In the 2016 planning, ABACC will start several important projects, related to new technology and improvement of procedures for the common use, by ABACC and the IAEA, of containment and surveillance equipment and in the sampling for destructive measurement of nuclear material.

One of the projects that will have priority is the validation of the sampling method of uranium hexafluoride, known as the ABACC-Cristallini Method. This will result in the advantageous replacement of the traditional UF_6 sampling method, reducing the quantity of nuclear material collected, minimizing costs and facilitating transport.

SECRETARY

Odilon Marcuzzo do Canto

Complying with the Mission of the Application of Safeguards

In 2015, ABACC performed 110 inspections in the nuclear facilities of Argentina and Brazil, in coordination with the International Atomic Energy Agency, with an inspection effort of 806 inspector-days. During these inspections, 90 accounting audits of nuclear material were performed, whose data was used to verify the declarations of Argentina and Brazil and to update the accounting information database of the two countries. This updating is of the utmost importance to guarantee that the nuclear materials of the two countries are under control and that the inventories of verified nuclear material are consistent with the information supplied by the countries.

Brazil and Argentina have a significant level of nuclear activity. Consequently, the activities and the quantities of nuclear material under safeguards will increase as the new facilities start to operate.

ABACC has been monitoring this growth and has developed, in cooperation with the IAEA and the National Authorities, an effective and efficient safeguards approach based on the use of modern technology, seeking to minimize any intrusion into the routine activities performed at the facilities.

Main Activities of Safeguards Developed in Argentina and in Brazil

In this section, the main activities carried out by ABACC are highlighted.

IN ARGENTINA

At the Nuclear Reactors

In accordance with the safeguards approach established by ABACC and the IAEA, the spent fuel transfers from the storage pool of the Central Nuclear Presidente Juan Domingo Perón (Ex Central Nuclear Atucha I) to the pools of the Central Nuclear Presidente Dr. Néstor Carlos Kirchner (Ex Central Nuclear Atucha II) were verified. This approach combined the activities of verification of the nuclear material with the containment and surveillance technology and radiation detectors, with satisfactory results.

Central Nuclear Embalse

A Remote Monitoring System to cover the spent fuel transfers from the reactor storage pool to the dry storage was finalized. Its routine use is expected after the field tests and the training of the inspectors from ABACC and the IAEA.

PHOTO: Presidente Juan Domingo Perón Nuclear Power Plant

ABACC analysed the notifications of the Autoridad Regulatoria Nuclear regarding the schedule for the life extension of the Central Nuclear Embalse, evaluated its impact and performed the technical activities required for the application of safeguards.

Central Nuclear Presidente Juan Domingo Perón

In coordination with the IAEA, ABACC is analyzing the safeguards procedures to be implemented at the dry storage, under construction at the Central Nuclear Presidente Juan Domingo Perón. This analysis took into consideration the information provided by the Autoridad Regulatoria Nuclear at the initial stage of the construction. This is a clear example of the advantages of anticipating this information because it facilitates the definition of safeguards procedures, in particular those that require the introduction of containment and surveillance systems at the initial stage of construction.

At the facilities that process bulk nuclear material

Planta de Conversión a UO_2 da DIOXITEK S.A.

ABACC developed the general lines of the safeguards approach for this facility based on the parameters analyzed by the ABACC-ARN-IAEA work group. It considered the pure uranyl nitrate as the starting point of the application of safeguards.

IN BRAZIL

At the nuclear reactors

Central Nuclear Almirante Álvaro Alberto - Angra 1

ABACC and the IAEA defined the replacement of the surveillance system of this Central for one of a more advanced technology, as well as the change of location of the server to facilitate the inspections.

To reduce the inspection effort in the verification of the spent fuels with a low burn-up and a long cooling time that are stored in the pools, ABACC will propose the application of ultrasonic seals as an alternative to the current verification methodology to the IAEA and the National Authorities.

PHOTO: Almirante Álvaro Alberto Nuclear Power Plant - Angra 1

At the enrichment facilities

Fábrica de Combustível Nuclear – Enriquecimento das Indústrias Nucleares do Brasil

Reference standards were certified for joint ABACC-IAEA use for the weighing of cylinders and the use of standards for the non-destructive measures of natural and enriched uranium. This represents an improvement in the verification of the nuclear material.

ABACC and the IAEA are evaluating an independent system for weighing the cylinders of uranium hexafluoride.

At the facilities that process bulk nuclear material

Fábrica de Combustível Nuclear - Reconversão e Pastilhas / Componentes e Montagem das Indústrias Nucleares do Brasil

ABACC, the IAEA and the Comissão Nacional de Energia Nuclear of Brazil carried out an evaluation of the measurement system and the procedures used to determine the inventory of the nuclear material of the facility. Some proposed procedures have already been implemented, which have had a positive result on the precision and accuracy of the inventory of nuclear material and its variations.

Unidade de Produção de Hexafluoreto de Urânio

Taking into consideration that this facility is in the test phase for commissioning, the verification activities of ABACC and the IAEA were performed accordingly. This allowed both the Agencies and the Operator to acquire experience in the development of the safeguards approach of the plant.

Technical Support Activities for the Inspections

Databank of Accounting Information

The accounting databank of ABACC, a fundamental tool in the control of the nuclear material in the facilities under safeguards, was regularly updated. This update consisted of the processing of information from the Inventory Variation Reports, from the Material Balance Reports and from the Physical Inventory Lists received from Argentina and Brazil, as well as from the data collected in the accounting audits performed during the inspections.

Once consolidated, this information was used to notify the National Authorities and the IAEA on a monthly basis of the accounting situation of the balance areas of nuclear material in the facilities.

Design Information Questionnaires and Application Manuals/ Facility Attachments

The Design Information Questionnaire contains the main characteristics of the facilities, its nuclear material and the nuclear processes used, for the determination of the safeguards procedures to be applied. The Facility Attachment is the document that describes the safeguards procedures for the specific application in each facility.

At December 31, 2015, there were 23 Design Information Questionnaires in force for the Brazilian facilities and 44 for the Argentine facilities.

Regarding the Facility Attachments, there were 12 in force for the Brazilian facilities and 27 for the Argentine facilities.

ABACC has received Design Information Questionnaires with preliminary information for 4 new facilities.

New Technology in the Application of Safeguards

ABACC-CRISTALLINI Method

The ABACC-Cristallini Method for the sampling of UF_6, developed by technicians from Argentina and Brazil with the support of ABACC, is an innovative method that can provide great benefits in terms of efficiency and safety in relation to the method that is routinely used.

During 2015, several actions for the validation of the Method at an international level were implemented.

One of these procedures was the process for the certification of the Method with ASTM International, which has the support of the New Brunswick Laboratory within the ABACC/US-DoE agreement. To achieve this, ABACC is coordinating the activities required for the inter-comparison exercise, in which internationally renowned laboratories of the following institutions are participating: Comisión Nacional de Energía Atómica, Centro Tecnológico da Marinha em São Paulo, the European Commission, the US Department of Energy, the International Atomic Energy Agency, the Institute for Transuranium Elements, the Institute for Reference Materials and Measurements and the Laboratoire de Développement Analytique Nucléaire Isotopique et Elémentaire.

Another action was the participation of ABACC, as an observer, in the general coordination meeting of the Safeguards Support Program to the IAEA, in which Brazil and Argentina participated and collaborated, in order to facilitate a possible ABACC-IAEA joint use of the Method.

The ABACC-Cristallini Method was presented at several important events, such as at the "SPLG 13th Workshop on Separation Phenomena in Liquid and Gases" held in Bariloche; at the "56th INMM Annual Meeting" in Indian Wells and during the 59th IAEA General Conference" and was well received.

System of transmission of the state of health of safeguards systems

This system will send regularly information to ABACC about the performance of the containment and surveillance systems, allowing immediate action in the case of failures. This will avoid the loss of continuity of the awareness of the nuclear material inventories under control.

ABACC has already finalized the proposal for the application of this transmission technique in some power reactors in Argentina and Brazil. With the agreement of the National Authorities and the IAEA, ABACC plans to implement the application during 2016.

Ultrasonic seals

The application of ultrasonic seals in spent fuel storage pools, which are in locations with difficult access for the verification of nuclear materials, is one of the objectives of the cooperation projects with the European Commission. The use of these seals can facilitate the verification of spent fuel during the inspections enhancing safeguards efficiency. They are being tested and ABACC will analyze with the respective National Authority and the IAEA the viability of their application.

Management of the Common System of Accounting and Control of Nuclear Materials and the Quadripartite Agreement

ABACC, the National Authorities and the IAEA work permanently in collaboration for the application of the safeguards established in the Bilateral and Quadripartite Agreements. Technical and coordination meetings, such as the meeting of the Liaison Committee and the Liaison Subcommittee, are organized to analyze important topics related to the application of the safeguards in the nuclear facilities of Brazil and Argentina.

Much of the success of the work of ABACC is due to the extensive debates and the positive contributions made by the Parties during these meetings. The collaboration of the National Authorities and the IAEA in the implementation of the adopted decisions also plays an important role in the efficient application of safeguards.

In 2015, six technical meetings between ABACC, IAEA and the National Authorities were held, and one ABACC-IAEA coordinating meeting and one meeting of the Liaison Committee.

PHOTO: Training on 3D Laser Verification System

Technical Training

The efforts in technical training of the ABACC inspectors were mainly oriented to the specific training in the pre-inspection, taking into consideration the type of nuclear facility to be inspected and the procedures, systems and equipment to be used in the mission. Another line of action was of the type "Train the Trainers" on containment and surveillance system, which has a multiplier effect and provides the possibility of offering customized courses.

Some training abroad was part of the technical training on offer in this year:

Training Course for Instructors for the Ultrasonic Seals System

DATE: May 25 to 28
LOCATION: Joint Research Center, Ispra, Italy

Training Course for Instructors for the 3D Laser Range Finder System

DATE: June 30 to July 2
LOCATION: Joint Research Center, Ispra, Italy

Training in Containment and Surveillance Systems

DATE: June 22 to 26
LOCATION: *Autoridad Regulatoria Nuclear, Buenos Aires, Argentina*

Technical Meeting on Statistical Methodologies for Safeguards

DATE: October 14 to 16
LOCATION: IAEA, Vienna, Austria

Technical Cooperation

Cooperation with institutions in the area of nuclear safeguards is important to assure the effective application of the safeguards and for access to new available methods and technology. Cooperation also allows for the exchange of knowledge and the development of projects of interest to ABACC, favoring the use of more modern and advanced technology.

ABACC has developed technical cooperation projects with different institutions from Argentina and Brazil, the European Commission, the United States and South Korea, among others.

The cooperation with the US-DoE focuses on general application projects, such as destructive and non-destructive analysis and in the training and development of systems and scientific methods that facilitate the verification of the nuclear material. ABACC and the US-DoE are also working on the development and validation of software for the verification of spent fuel elements with difficult access for the joint use of ABACC and the IAEA and in the validation of the ABACC-Cristallini Method.

In the area of destructive testing of nuclear material, there are projects regarding the bulk environmental analysis results of the laboratories from the ABACC network and a program to guarantee the quality of the chemical analysis laboratories by inter-comparison exercises.

ABACC and the European Commission develope two cooperation projects:

- Training in the use of a 3D LRF laser system that permits the verification of physical alterations in the pipes and equipment of nuclear facilities for possible use in design information verification activities.
- Development of tools for the application and use of ultrasonic seals for spent fuel stored in the pools at the Central Nuclear Presidente Juan Domingo Perón.

ABACC and the Korea Institute of Nuclear Non Proliferation and Control – KINAC cooperated in two projects related to the training and the exchange of experience in the application of safeguards. In the training area, the focus was on the fuel fabrication plants for power reactors.

Presence at Events

The presence of ABACC at various national and international forums dealing with nuclear safeguards offered the opportunity to contribute and to be updated and monitor the developments and innovations that have occurred in the international scenario. It also provided the possibility of the exchange of ideas and experiences to improve the performance of the mission of ABACC.

The Secretariat of ABACC participated at the following events:

2015 Review Conference of the Nuclear Non-Proliferation Treaty

DATE: April 27 to May 22
LOCATION: UN, New York, United States

37th ESARDA Symposium on Safeguards and Nuclear Non-Proliferation

DATE: May 19 to 21
LOCATION: Manchester, United Kingdom

INMM 56th Annual Meeting

DATE: July 12 to 16
LOCATION: Indian Wells, Estados Unidos

Meeting of the Board of Governors of the IAEA

DATE: September 7 to 11; September 21
LOCATION: Vienna, Austria

59th General Conference of the IAEA

DATE: September 14 to 18
LOCATION: Viena, Áustria

International Nuclear Atlantic Conference 2015 - INAC 2015

DATE: October 4 to 9
LOCATION: São Paulo, Brazil

8th Brazilian Congress on Metrology

DATE: November 29 to December 2
LOCATION: Bento Gonçalves, Brazil

Institutional Activities

In accordance with that established in item i), of Article XI, of the Agreement between the Federative Republic of Brazil and the Argentine Republic, and in the Regulations of the ABACC Commission, the Secretariat of ABACC sent the 2014 Annual Report to the Governments of Brazil and of Argentina, in which the work performed by ABACC is reported.

In January and July, the Secretariat of ABACC also sent to the two Governments the reports required by the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (Tlatelolco Treaty) to the Agency for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (OPANAL). These disclosed that ABACC had not found any event that could indicate any diversion of significant quantities of nuclear materials for any activity prohibited by the provisions of this Treaty.

PHOTO: Event "ABACC: 25 years of achievements and a vision for the future"

PHOTO: Participants of the Event "ABACC: 25 years of achievements and a vision for the future"

ABACC participated in the parallel activities of the 59th General Conference of the IAEA with the organization of a special event for the presentation of the ABACC-Cristallini Method. Argentina kindly offered space in its lounge to display five panels with information about the Method, its advantages over the traditional process and the experts who contributed most to its development. The high point of the event was the presentation of a video about the Method, in which representatives of the two countries and the IAEA were present. At the end of this presentation, the representative of the General Director of the IAEA, Van Zyl de Villiers, Ambassadors Rafael Grossi and Laércio Vinhas, from Argentina and Brazil respectively, and Minister of Federal Planning, Public Investment and Services, Architect Julio de Vido, made speeches that emphasized the long alliance of the two countries in the nuclear area and the contribution of the ABACC-Cristallini Method to nuclear safeguards.

PHOTO: Audience in the Event for the presentation of ABACC-Cristallini Method in the 59th IAEA General Conference

FOTO: Ambassador Rafael Mariano Grossi during the speech in the Event for the presentation of ABACC-Cristallini Method in the 59th IAEA General Conference

To start the activities of commemorating the 25 years of ABACC, the event “ABACC: 25 years of achievements and a vision for the future” was organized in December, in Rio de Janeiro. The General Consul of the Argentine Republic, Marcelo Bertoldi, in his greeting, emphasized important points in the process of construction of a mutual trust between Brazil and Argentina and that ABACC “is a model that is admired worldwide, of which both Brazilians and Argentinians should feel proud”. Prominent figures were invited to make presentations: Ambassador Celso Amorim, who made the opening speech, the vice-president of the Autoridad Regulatoria Nuclear, Julián Gadano and Dr. Carlos Feu, ex-Secretary of ABACC, among others.

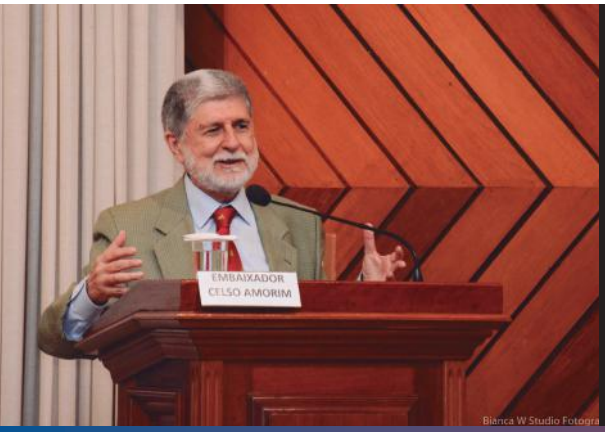

PHOTO: Ambassador Celso Amorim during the speech in the event “ABACC: 25 years of achievements and a vision for the future”

PHOTO: General Consul of Argentine Republic Marcelo Bertoldi during the speech in the event “ABACC: 25 years of achievements and a vision for the future”

Administrative and Financial Activities

The accounting activities and the internal controls were performed without significant changes by the financial administration. All the costs were evaluated and used according to the regulations of the Agency.

The external audit, to which all administrative and financial activities are submitted every year was performed. After examining the operations, the books, the accounting records and the supporting documents in accordance with the standards used in Brazil, it concluded that the financial statements of ABACC correctly represented its assets and financial position and did not find evidence or any situation of anomalies.

PHOTO: Pre-inspection meeting

Human Capital

ABACC is an international organization formed by two organs: the Commission, the directorial body, and the Secretariat, with headquarters in Brazil. Its mission, obligations and responsibilities are defined in the Agreement between the Federative Republic of Brazil and the Argentine Republic for the Exclusively Peaceful Use of Nuclear Energy, known as the Bilateral Agreement.

To comply with its mission to guarantee that all nuclear materials are used exclusively for peaceful purposes, ABACC has a team of 22 employees, with 2 secretaries, one for Brazil and one for Argentina, 10 officers of both nationalities, an administrative group of 9 people in Rio de Janeiro and a technical and administrative support in Buenos Aires, and 102 Brazilian and Argentine inspectors.

FOTO: ABACC Team

Secretaries of ABACC: Dr. Odilon Marcuzzo do Canto and Eng. Sergio Solmesky

The inspectors that perform the inspections of safeguards in Argentina and Brazil are employees of ABACC during the compliance of their missions and they undertake to govern their conduct, taking into account solely the interests of ABACC. During the missions, they are subordinated only to the authority of the Secretary and they cannot request or accept instructions from any government or authority unconnected to ABACC. This undertaking is permanent.

On average, most inspectors have between 20 and 30 years of experience in the area, 12% have a Ph.D. and 39% have a master's degree.

The impartiality in the conduct of the inspections, the broad experience in the nuclear area and the significant professional and academic training are fundamental aspects for the credibility of the results of the inspections and the success of ABACC in the full compliance with its mission.

Outlook for 2016

ABACC will continue its verification work for the exclusively peaceful use of nuclear energy in Argentina and Brazil, in the context of the policy of nuclear nonproliferation adopted by the two countries.

With respect to the technical evolution regarding safeguards, the Secretariat of ABACC will be alert to new developments that may occur in the international scenario, continually seeking to update and improve its work, through agreements of technical cooperation and participation in important forums.

In order to comply with its mandate, established in the Bilateral Agreement and its coordinating role in the application of safeguards with the IAEA, as established in the Quadripartite Agreement, ABACC must count on highly qualified technical staff and to maintain a state-of-the-art technical infrastructure, both in new technologies and equipment, as well as monitor their evolution. It also has to develop and continually update the safeguards approach, the procedures and the techniques that assure the effective application of safeguards. The relationship of parity and cooperation with the IAEA in the application of safeguards, as established by the Quadripartite Agreement, has been a principle that rules the relationship between the agencies and makes possible the success of the inspections.

Among the main activities that ABACC aims to perform in 2016, the following are highlighted:

- Acquisition of new equipment and technology for application in safeguards, mainly in the area of containment and surveillance; equipment for non-destructive testing, and a “mock-up” system to be installed at the ABACC headquarters to train inspectors more efficiently in the verification activities in the field;
- Proceed with the programmed replacement of the new generation surveillance systems based on the five-year strategic plan of acquisition developed;
- Continue the development of the safeguards approach for application in existing and new facilities;
- Implement the unattended monitoring system that will replace the current regime of permanent inspections to verify the spent fuel transfer campaigns to the silos at the Central Nuclear Embalse;

- Implement the State of Health system in the containment and surveillance systems of some reactors in Argentina and Brazil;
- Monitor the life extension activities for the Central Nuclear Embalse from the perspective of the possible impact on safeguards;
- Replace the VACOSS seals with EOSS seals in common ABACC-IAEA use and update the joint application procedures;
- Coordinate and participate in the certification of the ABACC-Cristallini Method in cooperation with the national and international laboratories, in the inter-comparison campaign of UF_6 samples; and
- Continue the technical cooperation and interaction with international, regional and national organizations dedicated to nuclear safeguards in order to exchange experience and knowledge for the effective and efficient application of safeguards.

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Instalações Brasileiras Sujeitas aos Acordos Bilateral e Quadripartite
Instalaciones Brasileñas Sujetas a los Acuerdos Bilateral y Cuatripartito
Brazilian Facilities under the Bilateral and Quadripartite Agreements

Nome / Nombre / Name
Arranjo Grafite-Urânio Subcrítico
Transferência Gasosa e Armazenagem de ARAMAR
Central Nuclear Almirante Álvaro Alberto – Unidade 1
Central Nuclear Almirante Álvaro Alberto – Unidade 2
Central Nuclear Almirante Álvaro Alberto – Unidade 3 (em construção) (en construcción) (under construction)
Coordenadoria de Desenvolvimento e Tecnologia de Combustíveis (IPEN-CNEN/SP)
Fábrica de Combustível Nuclear - Enriquecimento
MBA1 – Estocagem
MBA2 – Processo
Fábrica de Combustível Nuclear – Reconversão e Pastilhas / Componentes e Montagem
Instalação de Estocagem de Elementos Combustíveis (em projeto) (en proyecto) (in the planning stage)
Laboratório de Desenvolvimento de Elementos de Separação Isotópica
MBA1 – Estocagem, Purificação e Transferência, Tratamento de Rejeito
MBA2 – Laboratórios
MBA3 – Processo
Laboratório de Desenvolvimento de Instrumentação e Combustível Nuclear
Laboratório de Enriquecimento Isotópico da Unidade de Enriquecimento Almirante Álvaro Alberto
Laboratório de Espectroscopia a Laser
Laboratório de Geração Núcleo-elétrica
Laboratório de Materiais e Combustível Nuclear– (CDTN/CNEN-MG)
Laboratório de Materiais Nucleares
Laboratório de Salvaguardas
Planta Piloto de Enriquecimento de Urânio
MBA1 – Estocagem
MBA2 – Processo
Projeto Reprocessamento (IPEN-CNEN/SP)
Reator Argonauta (IEN/CNEN-RJ)
Reator IEA-R1
Reator IPR-R1
Reator Multipropósito Brasileiro (em projeto) (en diseño) (in the planning stage)
Subcrítica Universidade Federal de Pernambuco
Unidade de Armazenamento Complementar de Combustível Irradiado da CNAAA (em projeto) (en diseño) (in the planning stage)
Unidade Crítica IPEN/MB-01
Unidade de Produção de Hexafluoreto de Urânio

Instalações Argentinas Sujeitas aos Acordos Bilateral e Quadripartite
Instalaciones Argentinas Sujetas a los Acuerdos Bilateral y Cuatripartito
Argentine Facilities under the Bilateral and Quadripartite Agreements

NOME / NOMBRE / NAME
Bunker de Almacenamiento
Central Nuclear Atucha I
Central Nuclear Atucha II
Central Nuclear Embalse
Central Nuclear (Proyecto IV Central Nuclear) (em projeto) (en proyecto) (in the planning stage)
Circuito Experimental de Alta Presión
Circuito Experimental de Baja Presión
Departamento de Instrumentación y Control
Depósito Central de Material Fisionable Especial
Depósito Central de Material Fisionable Especial Irradiado
Depósito de Material Nuclear
Depósito de Uranio Enriquecido
División Productos de Fisión
División Materiales Nucleares
Fábrica de Elementos Combustibles Nucleares
Fábrica de Elementos Combustibles – Reactores de Investigación
Facilidad de Almacenamiento de Combustibles Irradiados de Reactores de Investigación
Facilidad Experimental de Conversión por Vía Seca
Laboratorio Alfa
Laboratorio Química Analítica en Medios Activos
Laboratorio de Física Nuclear
Laboratorio de Enriquecimento Isotopico por Laser
Laboratorios de la Gerencia de Química
Laboratorio de Nanoestructura
Laboratorio de Química Analítica
Laboratorio de Recuperación Uranio Enriquecido
Laboratorio de Salvaguardias

NOME / NOMBRE / NAME
Laboratorio Facilidad Radioquímica
Laboratorio Materiales Fabricación Aleaciones Especiales
Laboratorio para el Desarrollo de Combustibles Avanzados de Muy Alta Densidad
Laboratorio para Ensayos Post-Irradiación
Laboratorio Mock Up
Laboratorio Triple Altura
Laboratorio Proyecto IV Central Nuclear
Material Nuclear en Usos No Nucleares
Planta de Conversión a Hexafluoruro de Uranio
Planta de Conversión a UO_2
Planta Piloto de Enriquecimiento de Uranio
MBA 1: Almacenamiento
MBA 2: Proceso
Planta de Fabricación de Elementos Combustibles para Reactores de Investigación
Planta Piloto de Combustibles Avanzados
Planta de Fabricación de Polvos de Uranio
Planta de Producción de Polvos de Uranio (em projeto) (en proyecto) (in the planning stage)
Reactor Prototipo CAREM 25 (em construção) (en construcción) (under construction)
Reactor Argentino 0
Reactor Argentino 1
Reactor Argentino 4
Reactor Argentino 6
Reactor Argentino 8
Reactor Argentino 3
Reactor Multipropósito Argentino (em projeto) (en proyecto) (in the planning stage)
Taller BU-MAN

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Dr. Nestor Masriera
Presidente do Diretório da Autoridade Regulatoria Nuclear
Suplente: Emiliano Luaces

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Diretor do Departamento de Organismos Internacionais do Ministério das Relações Exteriores
Suplente: Conselheiro Marcelo Paz Saraiva Câmara

Dr. Angelo Fernando Padilha e Dr. Renato Cotta
Presidentes da Comissão Nacional de Energia Nuclear
Suplente: Maria Cristina Lourenço

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Alterno: Emiliano Luaces

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Director of the Department of International Agencies of the Ministry of Foreign Affairs
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Presidents of the Brazilian Commission of Nuclear Energy
Alternate: Maria Cristina Lourenço

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BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS