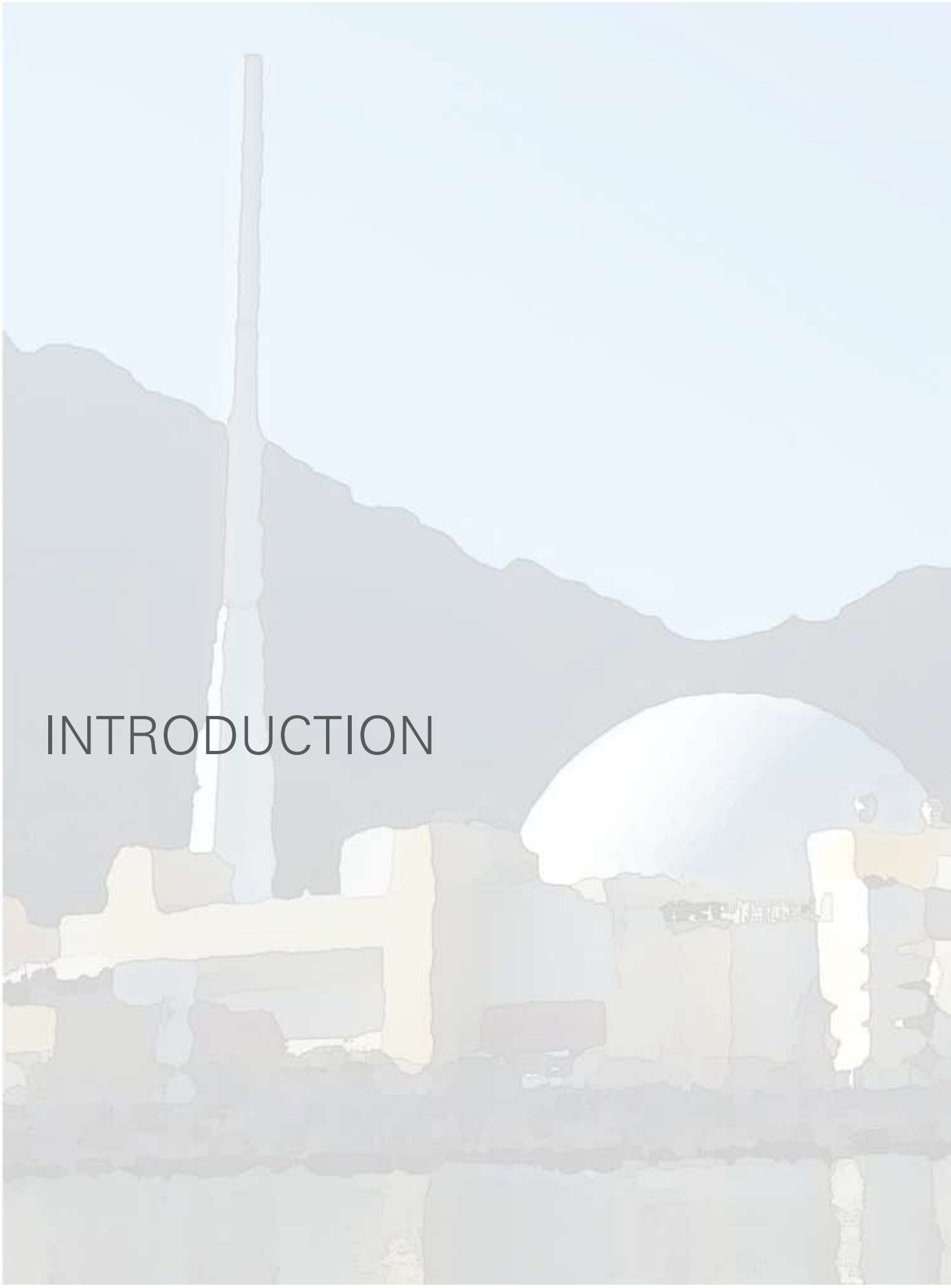


INTRODUCTION

This Annual Report presents the activities carried out by the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) during 2008, in accordance with the provisions laid down in Article 16, Paragraph h, of the Regulations of the ABACC Secretariat and satisfying the requirements of Article XI, Paragraph 1, of the Agreement between the Federal Republic of Brazil and the Argentine Republic for the exclusively peaceful uses of nuclear energy.

The form of presentation of the present document is designed to facilitate and ensure a clear understanding of the activities carried out by the ABACC.

It should be mentioned that, in the light of the work undertaken, the ABACC is able to affirm that no evidence has been found of any deviation of nuclear materials or undeclared activities within the scope of the Bilateral Agreement between Brazil and Argentina and the Quadripartite Agreement signed between both countries, the ABACC and the International Atomic Energy Agency (IAEA).

In the course of implementing its activities, the ABACC made 103 inspections (57 in Argentine facilities and 46 in Brazilian facilities), with an inspection effort of 400 inspection days and an availability of 874 inspection days. As a result of the 91 accounting audits carried out in the period, the accounting records of Argentina and Brazil were brought up to date.

An important advance this year was the implementation of the Short-Notice Random Inspections regime in the *Fábrica de Elementos Combustibles* of *Combustibles Nucleares Argentinos S.A.* (CONUAR) and in the *Fábrica de Combustível Nuclear – Reconversão* e *Pastilhas/Componentes* e *Montagem* of the *Indústrias Nucleares do Brasil* (INB).

Special mention should also be made of the staging of the 10th Meeting of the Liaison Committee of the Quadripartite Agreement in December, the previous meeting having been held in March 2003. At this meeting various important questions were defined concerning the application of nuclear safeguards in both countries, as well as various aspects of the relations between the ABACC and the IAEA.

In relation to the policy of periodic staff renewal, the ABACC welcomed the new Argentine Operations Officer and the new Brazilian Technical Support Officer. The Institutional Relations sector also renewed its personnel. The Secretariat extends its gratitude and acknowledgement to the Engineer Laura Castro and Dr. José Perrotta, who returned to their original institutions in Argentina and Brazil, respectively, as well as to Mrs Ioná Ponce, for the important work carried out during their term as officials of the ABACC. We give a warm welcome to Mr Carlos Rodríguez, the Engineer Geraldo Renha and Mrs Selma Chi Barreiro, certain that the professional competence that they bring with them will contribute to the continual improvement of our work.

In the same way, the Secretariat wishes to express its thanks for the invaluable role that the ABACC Commission has been playing during the organization's seventeen-year existence. Its dedication and guidance have been vital factors in enabling the ABACC to fulfill its objectives.

As already expressed before, the role of the ABACC as an inspector and certifier of the use of nuclear energy for peaceful ends at a regional level is fully recognized and accepted in international forums. This is due to the capacity and dedication of the officials, technicians, inspectors and auxiliary personnel, to whom we express our sincere thanks.

Antonio Abel Oliveira
Secretary of ABACC in 2008


ENGLISH

ABACC BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS

ACTIVITIES OF THE COMMISSION

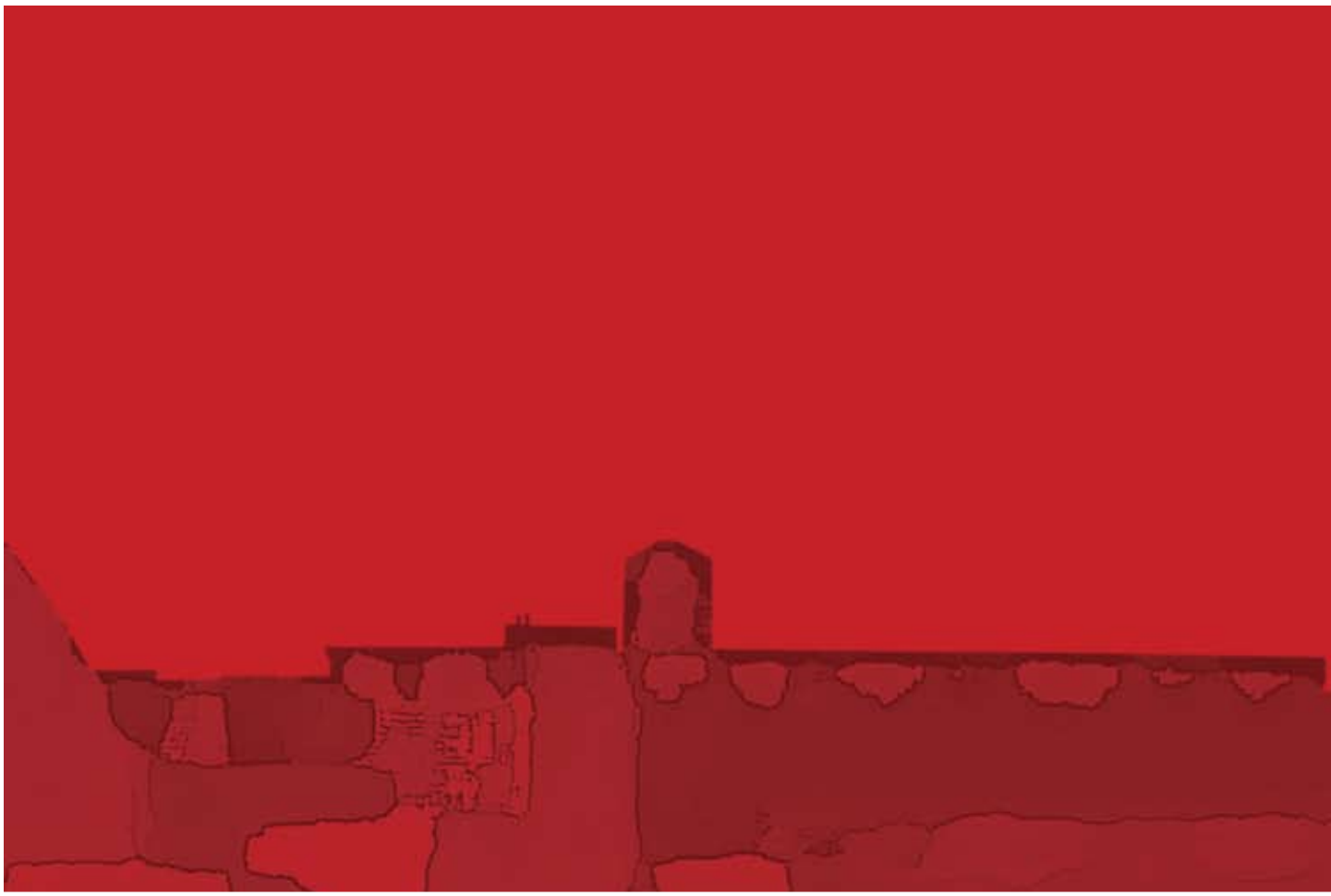
Three meetings of the ABACC Commission were held during the year: in April, in Buenos Aires and in August and December in Rio de Janeiro. Various important questions were discussed concerning the activities of the Secretariat with a view to the successful application of the common System of Accounting and Control of Nuclear Materials (SCCC) and the activities related to the Quadripartite Agreement.

At the first meeting of the year, the Economic-financial documents related to the 2007 financial year were presented, among which the Report of the External Audit and the Economic-financial Balance. Both were approved by the Commission. As for the 2009 Work Plan and Budget, the Commission requested that it be restructured in order to present the relation between the activities and the cost centers. Another item on the agenda at this meeting was the selection of the candidates to occupy the posts of Technical Support Officer and Institutional Relations Officer. Mr Geraldo Renha was selected to occupy the post of Technical Support Officer and Mrs Selma Chi Barreiro the post of Institutional Relations Officer.

At the second meeting the 2009 Work Plan and Budget were approved, restructured as requested by the Commission. Included among the items revised in the presentation of the Report of the March-June 2008 Period, was the status of the document "IAEA/ABACC Joint Use Procedures for Common Use of Equipment." On the basis of the documentation distributed by the Secretariat, the members of the Commission endorsed the position that ABACC has been defending.

At the third meeting of the Commission the appointment of 16 new inspectors, Brazilian and Argentine, was approved, increasing the number of ABACC inspectors to 98. This became necessary to meet the growing demand for safeguard inspections in the two countries.

This meeting terminated with the signing of the Transmission of the Secretariat of the ABACC, with Dr. Odilon Marcuzzo do Canto taking office as Secretary and Mr Antonio Abel Oliveira as Deputy Secretary.



ABACC BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS

TECHNICAL ACTIVITIES

APPLICATION OF SAFEGUARDS

INSPECTIONS

The ABACC carried routine and *ad-hoc* inspections in the nuclear facilities of both countries in coordination with the International Atomic Energy Agency (IAEA) and the national authorities. During the year 57 inspections were made in Argentine facilities and 46 in Brazilian facilities, which required an inspection effort of 400 days in the field out of a total availability of 874 inspectors-days, as shown in the table below:

TYPE OF INSPECTION	ARGENTINA	BRAZIL	TOTAL
Physical Inventory Verification (PIV)	31	20	51
Interin inspections	23	20	43
Unannounced inspections	0	6	6
DIQ* Verification (DIV)**	3	0	3
Total inspections	57	46	103
Inspection effort (in inspectors-days)***	278	122	400
Availability (in inspectors-days)	545	329	874

* *DIQ - Design Information Questionnaire*

** *DIV - Design Information Verification* in separate inspections for carrying out a DIV. In every PIV inspection a DIV is carried out.

*** In "inspection effort" are included the accompanying technical activities related to safeguards equipment, corresponding to 07 inspectors-day in Argentina and 05 inspectors-day in Brazil.

The accounting information collected in the **91** audits carried out during the inspections in Argentina and Brazil that include this activity, were used to update the audit records database, involving the processing of **205** inventory data confirmation lines, **95** data correction lines and **1,242** database updating lines.

MAIN ACTIVITIES IN ARGENTINA

Of special importance during the year was the implementation of the Short-notice Random Inspections in the *Fábrica de Elementos Combustibles Nucleares Argentinos* of *Combustibles Nucleares Argentinos S.A. (CONUAR)*. ABACC and IAEA carried out a field test to verify the procedures, and two inspections were implemented, each being initiated by one Agency. A Physical Inventory Verification inspection was also conducted.

In regard to the verification of domestic transfers of nuclear material produced in the *Complejo Fabril Córdoba*, ABACC and IAEA made routine inspections, including physical inventory verifications. At the end of the material balancing period of this facility, the target for the quantity of nuclear material to be verified had been met.

A Design Information Verification inspection was carried out at the *Central Nuclear Atucha II* with the aim of continuing the evaluation process of possible locations for installing equipment for spent fuel flow control (of the VXI Integrated Fuel Monitor – VIFM type) and the surveillance system of the storage pool for spent fuel elements, to be installed by the IAEA and ABACC, respectively. During this inspection, the ABACC was able to verify the progress in the work being carried out according to the delivery schedule provided by the *Autoridad Regulatoria Nuclear* (ARN).

At the *Central Nuclear Embalse*, during the shutdown of the reactor in October, the spent fuel flow monitor cabinet was transferred from inside the containment area of the reactor to the room housing of the closed circuit surveillance system. The objective behind this change was to reduce the need for access to the zone controlled by the inspectors and the time required for carrying out service and data-analysis activities during inspections. During 2008, two transfer campaigns of spent fuels were carried out from the storage pool to the silos, which represented an increase in the inspection effort in Argentina. The ABACC was informed about two other planned campaigns in 2009.

MAIN ACTIVITIES IN BRAZIL

Of special importance during the year was the implementation of the Short-notice Random Inspections in the *Fábrica de Combustível Nuclear–Reconversão* e *Pastilhas/Componentes* e *Montagem* of the *Indústrias Nucleares do Brasil (INB)*. ABACC and IAEA conducted two field tests to verify inspection procedures and one inspection, initiated by the IAEA. A Physical Inventory Verification inspection was also carried out.

Unannounced inspections were conducted in Brazil, jointly with IAEA: in the *Laboratório de Enriquecimento Isotópico* of the *Unidade de Enriquecimento Almirante Álvaro Alberto,* in the *Planta Piloto para Enriquecimento de Urânio* of the *Centro Experimental Aramar* of the *Centro Tecnológico da Marinha em São Paulo (CTMSP)*, and in the commercial enrichment plant of the *Fábrica de Combustível Nuclear* of the *Indústrias Nucleares do Brasil*.

Bearing in mind the replacement of the steam generators in Angra 1, which will require additional activities in terms of safeguards, technical visits were carried out involving discussions concerning the application of alternative procedures that would cause the minimum impact for the operator and ensure the efficiency of the applied safeguards.

INSPECTION SUPPORT

All the different sectors of ABACC carried out the routine activities of preparation, execution, support and evaluation of the inspections conducted during 2008. These essential activities, performed by ABACC staff, contributed greatly to the success in the application of safeguards. The different databases that support safeguard activities were maintained and updated and the equipment that ABACC uses routinely in the inspections were also maintained, tested and calibrated.

The updating of the ABACC's database of accounting records involved the processing of **2,942** lines of inventory variations, stemming from **297** Inventory Variation Reports and **6,115** lines of nuclear material inventory, stemming from **203** Material Balancing Reports and Lists of Physical Inventory, corresponding to the accounting reports received from Argentina and Brazil in 2008. ABACC informed the national authorities on a monthly basis the results found and the accounting situation of their respective facilities.

Various inspection procedures were elaborated or revised during the year, among which special mention should be made of the procedures for unannounced inspections and also the operational procedures and the working papers used to guide ABACC inspectors in the operation of the systems and equipment for gamma measurement, calculation of uranium enrichment, the surveillance systems (SDIS, DMOS, ALIS and ALIP), the image review system General Advanced Review Software, the portable radiation detection device HM*5,* and of the VACOSS and COBRA seals.

These procedures are also designed to facilitate the joint use of equipment with the IAEA inspectors.

The following activities were conducted outside the headquarters of ABACC:

IN ARGENTINE FACILITIES

- In the technical visits to the *Central Nuclear Atucha*, preventive maintenance activities were performed on the Surveillance Digital Image Systems belonging to ABACC and IAEA installed in the *Central Nuclear Atucha I*.
- A technical review was carried out in the Uranium Neutron Coincidence Collar in the *Fábrica de Elementos Combustibles Nucleares* (FECN).
- Maintenance was carried out on the Digital Multi-channel Optical Surveillance System (DMOS), which was also expanded, and the VIFM system of the reactor containment structure was transferred to the safeguards room, both systems in operation in the *Central Nuclear Embalse*.

IN BRAZILIAN FACILITIES

- In the enrichment facilities of the *Centro Experimental Aramar* the following activities were implemented:
    - Maintenance of the Euratom Multi-Camera Optical Surveillance System (EMOSS);
    - Installation of a new computerized device for the non-destructive analysis (NDA) measurements carried out in the cascade area. ABACC prepared the hard disks to be used in this new system under the supervision of the national authority and the operator.
- In the FCN-Enrichment facility, maintenance was performed on the DMOS surveillance system and an expansion project was implemented to cover new areas of the plant, in line with what is established in the safeguards approach. New cameras were installed, complementing the present DMOS surveillance system in operation in the plant.

- Maintenance and modernization of the (DSOS) belonging to the IAEA, in operation in Angra 1.
- For Angra-2 a project was developed for repositioning the SDIS surveillance system, with the aim of transferring the server outside the reactor containment building. This change will expedite the inspection procedures and improve the operating conditions of the equipment.

AT THE ABACC OFFICE IN BUENOS AIRES

As a permanent inspection support initiative, technical questions were discussed related to improvements in the gamma spectrometry system and support programs for analyzing the results obtained in the field measurements. The qualification of the new detectors acquired by ABACC was also carried out.

The training of inspectors in non-destructive analysis techniques was planned and offered. Finally, an inventory was made of the equipment, instruments and materials used in inspections with the aim of improving the organization of the office and aiding future replacements or modernizations.

NEW APPROACHES AND ADVANCES IN THE APPLICATION OF SAFEGUARDS

SHORT-NOTICE RANDOM INSPECTIONS

The new inspection regime for the nuclear fuel fabrication plants of Argentina and Brazil came into force on 31 July 2008 after a number of field tests and final approval of the procedures by the respective parties involved.

The approval of the new inspection regime in a relatively short time was very much due to the collaboration obtained from CNEN, ARN and the operators of the fuel plants in implementing the new procedures and the operational changes that became necessary. ABACC sincerely thanks all the parties for their collaboration.

ALTERNATIVES FOR VERIFYING NUCLEAR MATERIAL IN URANIUM CONVERSION PLANTS

According to what was agreed at the meetings of the Liaison Sub-committee of September 2006 and January 2008, ABACC, IAEA and the member-states have been analyzing safeguard measures that improve the verification of nuclear material in the conversion plants, within the legal framework of the Quadripartite Agreement and which allow the implementation of the Short-notice Random Inspections regime.

Regarding the uranium dioxide conversion plant in operation at the *Complejo Fabril Córdoba,* Argentine after technical visits of ABACC to the installations and meetings for the analysis of the question, declared the position to maintain the declaration of the UO_2 as the starting point of the nuclear material under safeguards and to provide operational data about the uranyl nitrate with nuclear purity at a specific stage of the process. This, with a Physical Inventory Verification in the whole process is a reasonable improvement in the effectiveness of safeguards in conversion installations and facilitates the implementation of the short-notice random inspections.

In response to the ARN's proposal, the IAEA sent a preliminary version of the Safeguards Approach to ABACC, which specifies the starting point of the nuclear material under safeguards the uranyl nitrate when this reaches in the process a nuclear purity and uranium concentration of 400g/L. Other important safeguard measures were also suggested in the proposal.

The measures included in the last document sent by the IAEA changed the safeguard approach proposed by ABACC in 2007.

In spite of the advancements already obtained,

during the Liaison Committee in December 2008, the IAEA insisted in implementing the verification from the beginning of the conversion process, as in their opinion it was simpler and cheaper. Argentine requested IAEA to prepare a cost-benefit study, to be evaluated by ARN, on the technical convenience to extend the safeguard procedure.

CNEN is being informed of the discussions between ABACC, IAEA and ARN at the Liaison Sub-committee meetings.

APPLICATION OF SAFEGUARDS IN URANIUM ENRICHMENT FACILITIES

Regarding the enrichment facility of the *FCN – Enriquecimento* of *INB*, ABACC has been acting jointly with CNEN, IAEA and the operator so that the safeguard measures provided for in the negotiated safeguards approach can be fully implemented. Among the main topics, special mention should be made of the development of the image verification system in the cascade area.

ABACC and IAEA are evaluating this system, considering whether it is effective in terms of its application and efficient in terms of inspection effort.

Another system under development is that of verifying UF_6 masses in the cylinders connected to the feed and withdrawal process. Following negotiations between CNEN, the operator and ABACC, the proposal was that the Agencies obtain the data from the operator's process control system itself. The technical requirements of the system are awaiting approval from CNEN and the operator. Parallel to this, the safeguards procedure for acquiring these data is being discussed by the parties.

ABACC has a planning target to make this system operational in 2009.

UNATTENDED SYSTEM FOR SPENT FUEL DRY TRANSFERS TO THE SILOS IN THE CENTRAL NUCLEAR EMBALSE

During 2008, ABACC, IAEA, ARN and the operator of the *Central Nuclear Embalse* discussed the proposals for the safeguards approach, inspections regime and the technical requirements of the safeguards systems and equipment to be installed for the use of the Unattended Monitoring System – UMS, in the dry transfers of spent fuel.

The project agreed on by the parties can be sub-divided into 3 sub-systems, of which the responsibility for supplying and maintaining is the following:

- transfer between the pool and the welding cell, IAEA,
- transfer from the welding cell to the silo, ABACC,
- final storage in the silo, IAEA.

These sub-systems are in the detailed design stage and should be ready for installation in the plant in 2009.

As for the safeguards approach and inspection regime, there are still a number of questions to be discussed. It is hoped that agreement on the approach will have been reached by March 2009.

The current forecast is that the system will have been installed by the fist half of 2009 and verification of its operation and the application test of the approach will be evaluated in the transfer campaign in the second half of the year. If the system test is successful, the agencies plan to implement this system in the interin inspections that verify the dry transfers in the *Central Nuclear Embalse* after approval by the operator and the ARN.

TRANSMISSION OF THE OPERATIONAL STATUS OF SAFEGUARDS EQUIPMENT

Based on the decisions of the meetings of the Liaison Sub-committee held in September 2006 and January 2008 for implementing the technique for the transmission of the operational status of safeguards equipment in certain specific surveillance systems in Argentina and Brazil,

ABACC has been negotiating implementation proposals with the national authorities that meet the requirements presented by the parties.

At the technical meetings that took place between ABACC and the IAEA, it was discussed the technical requirements for the elaboration of a proposal that covers the points requested by the countries and which takes advantage of the IAEA's experience in implementing such systems. ABACC and IAEA presented a proposal to the countries that encompasses the conditions required by the national authorities without undermining the system in relation to safeguards.

ABACC is awaiting the position of Argentina and Brazil concerning this proposal and should it be approved, plans to commence a test period in 2009.

COORDINATION BETWEEN ABACC AND IAEA

A channel of communication using video-conferencing equipment was implemented between ABACC and IAEA. It will be used mainly for staging pre-inspection meetings, optimizing the time availability of the inspectors during the safeguard missions and providing a more efficient means for discussing inspection activities. The system will also be used in videoconferenes with institutions that ABACC maintains cooperation agreements or joint undertakings.

The discussions between IAEA and ABACC concerning the application of the joint use of equipment continued, motivated by the new requirements established in the IAEA's Policy Paper 20.

At the technical and coordination meetings between ABACC and IAEA, the director of IAEA's Division of Operations B (SGOB) recognized that the IAEA/ABACC Joint Use Procedures for Common Use of Equipment are the approved procedures and are fully in force. However, technical support sectors of the IAEA have expressed the view that independent authentication mechanisms need to be implemented, allowing each agency to conclude that the system has not undergone any alterations.

ABACC maintains its position of using the current procedures for the common use of equipment and approving the pending ones according to the procedures in force, until there is a technical solution to solve the problem.

With the approval of the new generation of surveillance equipment, which will have more advanced authentication mechanisms this problem can be solved. The approval of such equipment for use in safeguards is scheduled for mid-2009.

At the Liaison Committee meeting held in December 2008, it was proposed that temporary solutions be adopted, applied case by case, until a definitive technical solution has been found.

NEW TECHNOLOGIES, EQUIPMENT AND DEVELOPMENTS FOR SAFEGUARDS

DESIGN INFORMATION VERIFICATION IN FACILITIES USING 3-DIMENSION LASER OPTICS

ABACC has always been mindful of new technological developments that can increase the effectiveness and efficiency in applying safeguards. Laser technology is being applied successfully in verifying design information in plants with a large number of pipes and accessories.

This technique allows Design Information Verification in a faster and more precise way and with less intrusion. It can be applied to any type of facility, but in those where the piping structure is more complex, as in enrichment and reprocessing plants, the increased

efficiency provided by the technology is greater. IAEA has applied this technique in Japanese nuclear facilities.

With a view to promoting a wide discussion on the potential use of this technology in future joint ABACC-IAEA inspections in Brazilian and Argentine facilities, ABACC, in cooperation with CNEN, staged a seminar in Rio de Janeiro, from 17 to 19 November 2008, attended by CNEN's representatives of the *Coordenação de Salvaguardas e Proteção Física* and of the *Instituto de Engenharia Nuclear*, the *Autoridad Regulatoria Nuclear*, INB and CTMSP operators and a representative of the OB3 Section of Operations of the IAEA's Department of Safeguards.

The seminar was conducted by specialists from EURATOM's Joint Research Centre and the subject theme was "Application of 3D Laser technology for Design Information Verification in nuclear facilities."

The seminar consisted of theoretical presentations, at ABACC headquarters, and practical applications for safeguards purposes in the facilities of the *Instituto de Engenharia Nuclear.*

SYSTEMS AND EQUIPMENT FOR NEW FACILITIES

Central Nuclear Atucha II – As part of the safeguards approach for the *Central Nuclear Atucha II*, it is planned to install a movement control system for the spent fuel elements (VIFM), to be supplied by IAEA and a surveillance system for the spent fuel storage pool, to be supplied by ABACC.

As for the VIFM, a preliminary project developed by the two agencies has been submitted to the ARN which provides for the installation of the detectors in the spent fuel transfer channel. ABACC and IAEA are studying the best way of installing the detectors to facilitate the maintenance of the system.

ABACC is preparing the preliminary project for the surveillance system to be submitted to the national authority, which should be equipped with what is known as the "Next Generation Surveillance System," currently under IAEA's qualification process.

Expansion of the Surveillance System at the FCN–Enrichment facility – With the ongoing assembly of new units in the plant, ABACC is expanding the present surveillance system, which it is responsible for supplying. ABACC has been making the adaptations and supplying the accessories for the application of seals that use optic fiber, of the VACOSS or EOSS type, provided for in the safeguards approach.

NEW METHODOLOGIES

UF_6 sampling - ABACC concluded the evaluation of the test results of the UF_6 sampling method known as the "ABACC-Cristallini Method," which is based on the adsorption capacity in aluminium oxide pellets. The tests were carried out, at the request and under the supervision of ABACC, by the *Unidad de Actividad Química* of the *Comisión Nacional de Energía Atómica*. Additional studies were conducted by technicians from the CTMSP and the results were satisfactory. This method replaced and improved on by a wide margin (lower costs and quantity of wastes) the traditional technique of sampling in ASTM ampoules.

The ABACC submitted this methodology to the IAEA, which initiated a qualification process conducted by a third party.

Presented at the Workshop "Demonstration of Safeguards Technologies for Uranium Enrichment Plants," held in 2008, the methodology was considered to be very promising by international specialists who work with uranium enrichment.

Gamma measurement in difficult access areas – To increase the efficiency of inspections in the *Depósito Central de Material Fisionable Especial Irradiado* (DCMFEI) in Ezeiza, Buenos Aires, tests were carried out to develop new gamma detection systems that allow one to

verify the content of the wells where the spent fuel elements are stored, in order to obtain a reliable measurement, with no damage to the nuclear material and minimizing the exposure of inspectors and operators to radiation during the measurements.

This system will optimize the inspection effort in the transfers of spent fuels and filters, resulting from the production of molybdenum, to the storage pools. The results of the tests were already sent to the *Autoridad Regulatoria Nuclear*. The ARN informed that although the results are satisfactory under the safeguard point of view, the exposition level is unacceptable under the radiological point of view which implies that the proposal is not so viable.

SURVEILLANCE SYSTEM WITH SHORT PICTURE TAKING INTERVAL

With a view to replacing the Euratom Multi-Camera Optical Surveillance System installed in the enrichment plants of the *Centro Experimental Aramar*, the supply of which was discontinued by the manufacturer, ABACC began a project to develop an alternative surveillance system, which satisfies the requirement of having a short picture-taking interval – PTI.

During 2008, considerable progress was made in the project stages with the acquisition of the components and the assembling of the first prototype. The first tests of the prototype are scheduled for March 2009. This development is being carried out in cooperation with the US Department of Energy (US/DOE) and has been given the name Secure Video Surveillance System. ABACC has been keeping the IAEA informed in respect of the progress being made in developing this system.

As another line of action for replacing the Euratom Multi-Camera Optical Surveillance System, the IAEA suggested the use of the camera known as the Hawk Digital Imaging System. This system, after being delivered to ABACC for initial laboratory tests, presented limitations in terms of the proposed application and was returned to the manufacturer for modification.

IAEA has been overseeing the modifications being made by the manufacturer, while ABACC has been operating as the qualification agent of the system and has provided technical assistance in computing support and resources for reviewing the images, with a view to its future installation in the field.

MANAGEMENT OF THE QUADRIPARTITE AGREEMENT AND THE COMMON SYSTEM OF ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS (SCCC)

COORDINATION MEETINGS WITH THE NATIONAL AUTHORITIES

In response to the request of the Argentine national authority, a meeting was held between ABACC and ARN in Buenos Aires on 21 January 2008.

The main subject on the agenda was the ARN's presentation of its position concerning the verification of the starting point in the natural uranium conversion plant of the *Complejo Fabril Córdoba*. The ARN stated its position to maintain the declaration of UO_2 as starting point of the nuclear material under safeguard and would supply operational data concerning the uranyl nitrate with nuclear purity at a specific stage of the process. ABACC and ARN established a common position to discuss the question with the IAEA at a tripartite meeting. On this occasion, other questions related to the implementation of safeguards and the inspection programs were also discussed.

During 2008, three meetings were held between ABACC and CNEN. The main topics on the agenda were the implementation of the safeguards systems at the *Planta de Enriquecimento Comercial* of INB, bearing in mind the entry into operation of new cascades, and the preparation of a safeguards scheme to be implemented during the replacement of the steam generators of the *Central Nuclear Angra 1*.

One of the meetings took place at the INB facility, where the discussions focused on the verification methodology, on the part of the agencies, of the balances in the feed and withdrawal process at the *FCN-Enriquecimento*, as well as the number and qualification of the inspectors designated for carrying out the unannounced inspections. The entry into operation of the image system to be used in verifying the cascade area, as provided for in the safeguards approach at the *FCN-Enriquecimento,* was also discussed at the meeting.

At all the meetings the operating data of the facilities in relation to the planning and programming of inspections were brought up to date.

COORDINATION MEETINGS WITH THE IAEA

In March 2008, a technical meeting was held at ABACC headquarters with the participation of representatives from IAEA's Technical Support Sector. The meeting discussed the new systems of surveillance and the non-destructive analysis measurements under development by the IAEA, which can be used in future inspections. Procedures were agreed on for the dispatch of samples for destructive analysis from Brazil and Argentina to Viena, as well as for the receipt and shipment of equipment belonging to the IAEA for subsequent installation.

In September 2008, the 23rd Coordination Meeting between IAEA and ABACC was held. The main items on the agenda were as follows:

- The IAEA/ABACC Joint Use Procedures for Common Use of Equipment and the Policy Paper 20 applied to the joint use of equipment;
- Analysis of the new EOSS type seals, which will replace the present VACOSS seals. These seals incorporate advanced authentication features. ABACC will be receiving a set of EOSS seals from IAEA for tests and training purposes. Only after the approval of these seals by ABACC, and notification to the national authorities, will the seals be used in the field
- Provision of new systems and equipment for nuclear facilities. It was agreed that:
    - ABACC will be responsible for the surveillance system of the storage pools for spent fuel elements and IAEA for the fuel counter for the *Central Nuclear Atucha II*;
    - ABACC will be responsible for the system of surveillance and nuclear detection to be installed to monitor the transport of the transfer container between the irradiated elements storage pool and the storage silo at the *Central Nuclear Embalse*; the IAEA will be responsible for the systems to be installed in the spent fuel storage pool and in the silos.

The responsibility encompasses the supply, maintenance and performance of the equipment.

The representatives of ABACC took the opportunity to visit the IAEA's Technical Support Sector, where they were shown the new generation of the surveillance systems to be used by the IAEA. These systems represent a technological advance in relation to the present systems, having open architecture suited to future modernizations and the development of modular systems, important characteristics when one considers the complexity of the facilities.

These systems also incorporate special features in terms of integrity and authentication.

During 2008 three technical meetings were held between ABACC and IAEA. The main objective of these meetings was to review the different activities in progress, to establish new targets and resolve any outstanding items. The meeting that took place in September was used as a preparation for the Liaison Committee Meeting.

JOINT MEETINGS WITH THE NATIONAL AUTHORITIES AND THE IAEA

On 28 and 29 January 2008 the 11thMeeting of the Liaison Committee between CNEN, ARN, ABACC and IAEA was held. The main objective was to prepare for the 10th Meeting of the Liaison Committee of the Quadripartite Agreement, which took place in December 2008. The participants discussed the Safeguards Implementation Report, the agenda proposal for the 10th Meeting of the Liaison Committee and the preparation of the information bulletins to be handed out to the members of the Liaison Committee.

In addition to these questions, there was a request from the IAEA for the number of inspectors designated for Brazil and Argentina to be increased.

On 8 December, a tripartite meeting took place between ABACC, IAEA and CNEN. The focus of this meeting centered on questions related to the implementation of the safeguards approach at the INB enrichment plant in Resende, Rio de Janeiro.

On 10 December, the 10th Meeting of the Liaison Committee of the Quadripartite Agreement was held at CNEN headquarters, a meeting which is the highest level provided for in the Quadripartite Agreement. The 9th Meeting was held in June 2003. Various items were discussed with the parties and there was a general consensus that significant progress had been made in implementing the Quadripartite Agreement.

Among the main topics discussed one can highlight the following:

- Design Information Verification procedures and their relations with the legal aspects of the Quadripartite Agreement;
- Transmission of the operational status of safeguards equipment, for which the States considered it was necessary to have an evaluation of the applicability of the technique by type of installation and fulfillment of the technical and legal requirements inherent to each Member-State;
- The acceptance of the States to accept the proposal of the IAEA to increase the number of inspectors designated for Argentina and Brazil to 85, maintaining the present approval procedure;

In this opportunity Argentina and Brazil presented information on the updating of their nuclear programs and the cooperation in the nuclear area existing between the two countries.

FOLLOW-UP OF THE DESIGN INFORMATION QUESTIONNAIRES AND THE FACILITY ATTACHMENTS

Regarding the revisions of the Design Information Questionnaires required by ABACC and IAEA, and considering the information obtained during the Design Information Verification inspections together with information from the operator itself, the following initiatives were taken:

- Request for a revision and/or updating of the Design Information Questionnaire for the Brazilian facility *Armazenagem*.

- Request for a revision and/or updating of the Design Information Questionnaire for the Argentine facilities *Facilidad Experimental de Conversión por Vía Seca* and *Unidad de Actividad Química*.

- Analysis of the revisions to the Design Information Questionnaires for the Brazilian facilities *Laboratório de Materiais e Combustível Nuclear* (CDTN/CNEN-MG), *Laboratório de Desenvolvimento de Instrumentação e Combustível Nuclear* (LADICON), *Laboratório de Materiais Nucleares* (LABMAT), *Fábrica de Combustível Nuclear – Enriquecimento* of *INB, Laboratório de* UF_6 (CDTN/CNEN-MG), *Coordenadoria de Desenvolvimento e Tecnologia de Combustíveis* (IPEN/CNEN-SP) and *Projeto Reprocessamento* (IPEN-CNEN/SP).

- Analysis of the Design Information Questionnaires for the Argentine facilities *Laboratorio Facilidad Radioquímica* (LFR), *Central Nuclear Atucha I, Central Nuclear Embalse, Reactor Argentino 6* (RA-6), *Reactor Argentino 3* (RA-3), *Laboratório Alfa* and *Depósito de Material Nuclear*.

Having satisfied all the requirements, the agencies agreed to remove from the list of facilities subject to the Quadripartite Agreement, taking effect from December 2008, the Brazilan facilities *Laboratório de* UF_6 and *Material Nuclear em Uso Não Nuclear*. The same occurred with the Argentine facilities, *Procesos y Protótipo* and *Depósito de Uranio Enriquecido* (DUE).

As for the safeguards Facility Attachments for Brazilian installations, the situation was the following at year-end 2008: twelve in force (four were undergoing revision), nine in the negotiation stage and four in the elaboration stage.

In the case of the safeguards Facility Attachments for Argentine installations, the situation was the following at year-end 2008: twenty-seven were in force (four were undergoing revision), eight in the negotiation stage and seven in the elaboration stage.

During the meeting of the Liaison Committee of the Quadripartite Agreement, which took place in December 2008, and after an analysis of the situation of the Facility Attachments in force, the Committee requested all the parties to give priority in the coming year to approving the ones under negotiation.

PARTICIPATION IN INTERNATIONAL EVENTS

From 27 to 30 May 2008 two officials of the ABACC took part as observers in the annual meeting of the European Safeguards Research and Development Association (ESARDA), held in Luxemburg and the discussions that took place in the Working Groups "Integrated Safeguards (IS-WG)" and "Containment and Surveillance (C&S-WG)".

At the meeting of the IS-WG, around 40 participants, including operators, national authorities and regional inspectors of the European Community, reported on the current situation of implementing the Additional Protocol and the application of the integrated safeguards. They related their experiences with the exercises being carried out with the IAEA for complementary accesses and the work of EURATOM in joint activities with the IAEA in the sphere of the respective Safeguards Agreements. The representatives of Norway, Switzerland and the USA, who took part as observer, presented the situation in their respective countries. The Spanish representative related the experience with the application of the Short-notice Randon Inspections regime at the *Planta de Fabricação de Juzbado*, after the period of tests. ABACC, in turn, reported on the situation of implementing safeguards under the Quadripartite Agreement in Argentina and Brazil, and the stage of implementing the regime of these inspections in the nuclear fuel plants in both countries.

In July, three officials and the Secretary of the ABACC took part in the "49th INMM Annual Meeting" held in the United States in Nashville, Tennessee. The following papers were presented: "Application of the Differential Peak Absorption Method as an Auxiliary Tool in Enrichment Measurements of UF_6 Cylinders for Safeguards Purposes," "UF_6 Sampling Method Using Alumina" and "ABACC Experience in Applying Surveillance at Centrifuge Enrichment Facilities." In connection with this event, two ABACC officials participated in the workshop "Demonstration of Safeguards Technologies for Uranium Enrichment Plants," held at Oak Ridge National Laboratory, in Knoxville, from 10 to 11 July. There, the ABACC representatives had the opportunity to exchange experiences concerning equipment and technology applied to safeguards in enrichment facilities and demonstrate the UF_6 sample collection system using alumina developed by ABACC.

In September, the Secretary of ABACC took part in the 52nd General Conference of the International Atomic Energy Agency. The Secretary had the opportunity to affirm the commitment of the governments of Argentina and Brazil to retake their national nuclear programs and the importance of the cooperation between ABACC and the IAEA, in addition to presenting an outline of the major events concerning the execution of ABACC's functions.

In October, the Deputy Secretary and two officers of ABACC were present at the 6th Joint INMM/ESARDA Workshop, in Tokyo, the theme of which was "Meeting Safeguards Challenges in an Expanding Nuclear World." ABACC presented two papers: "Regional Safeguards Systems: Past Contributions and Perspectives for Future Safeguards Implementation" and "A Comparative Study between the IAEA Policy Paper 20 and the ABACC-IAEA Joint Use of Equipment Agreement." The presence of the ABACC was important in highlighting the role of regional and national safeguards systems vis-à-vis the international safeguards community and the need for a more active role on the part of the IAEA in using the results and equipment developed and used by these systems.

After this event, the ABACC representatives visited South Korea to take part in the "7th Annual Meeting in Accordance with Technical Cooperation Arrangement between KINAC and ABACC in Nuclear Material Accounting and Controls," in Daejeon. The ABACC officers visited the headquarters of the Korea Institute of Nuclear Non-proliferation and Control (KINAC) with the aim of giving continuity to the activities related to the Agreement signed between ABACC and KINAC. Various visits were made to the CANDU type reactors in Wolsung, particularly Unit 1, which was carrying out the dry transfer of spent fuels, using the unattended system, similar to what is being negotiated for the *Central Nuclear Embalse*. They also visited the construction site of a temporary deposit for spent fuels and two nuclear Pressure Water Reactors (PWRs) that are being built in Wolsung.

Also in October, ABACC took part in two events: the "12th International Congress of the International Radiation Protection Association," in Buenos Aires, Argentina, and the "International Workshop on Nuclear Energy, Environment and Security" held at the *Universidade de Campinas*, São Paulo.

From 3 to 7 November, two officers participated in the "International Workshop on Gamma Spectrometry Analysis Codes for U and Pu Isotopics," in Oak Ridge, Tennessee. ABACC presented a paper on training in non-destructive methods, fruit of the cooperation between ABACC, Brazil and Argentina and the US-DOE and the subject of Action Sheet 14 between US-DOE and ABACC.

Following this event, two officials from ABACC and representatives of CNEN and ARN took part in the "Workshop for ABACC Inspectors

on Integration of Quality Assurance into an NDA Measurement Program," held in Portsmouth, Ohio, USA.

TRAINING

Three courses were held on "Software Training for Joint ABACC-IAEA Auditing of Accounting Records (SJAR)" at the following locations: in São Paulo, in the offices of the IPEN/CNEN-SP, at the headquarters of ABACC and in Buenos Aires, at the headquarters of ARN. The accounting officers of ABACC took part as instructors in the theoretical and practical part of the training.

In the practical exercises for using SJAR, twenty-seven inspectors and one official from ABACC had the opportunity to review the use of Code 10/Annex 1 of the SCCC in preparing accounting reports and apply the joint ABACC-IAEA auditing procedures revised for some categories of facilities.

From 14 to 18 April 2008 the "Course for ABACC inspectors on NDA Measurement Techniques and Equipment for Verification of Nuclear Material" was held in Rio de Janeiro, where seven Argentine and eight Brazilian inspectors were trained. The course received special support from the *Laboratório de Salvaguardas* of CNEN, where practical activities were carried out with the various systems of non-destructive tests used by ABACC. This course was given by instructors from ABACC, CNEN and Oak Ridge National Laboratory (ORNL).

From 18 to 20 August the "Workshop on the integrated system of monitoring spent fuel or an irradiated item in a CANDU-type reactor (VIFM)" was held at ABACC headquarters, where ten Brazilian inspectors and three officers from ABACC received training. This workshop was conducted by an ABACC officer and a senior inspector from the IAEA, familiar with the application of the VIFM in joint safeguards inspections in reactors in Argentina. Different theoretical and practical aspects of the VIFM system were dealt with, including its installation and setting up, as well as the application of the software specially developed for evaluating system performance, analysis and review of the data obtained.

From 8 to 12 September eight Argentine ABACC inspectors and four inspectors from IAEA were trained in the joint application of the inspection procedures to the Brazilian uranium enrichment facilities of the CTMSP and INB. Promoted by ABACC, in cooperation with IAEA, CNEN, CTMSP and INB, instructors from ABACC and IAEA took part in the event along with specialists from Oak Ridge National Laboratory, *Laboratório de Salvaguardas* of CNEN, the CTMSP and INB's *Fábrica de Combustível Nuclear – Enriquecimento*. The first part of the training was carried out on the premises of the *Centro de Engenharia Nuclear* of *IPEN/CNEN-SP*, followed by a technical visit to INB's enrichment facility in Resende. The inspectors of the two agencies have the opportunity in this type of course to perfect the joint inspection procedures for safeguards applied within the scope of the Quadripartite Agreement.

The "Workshop on Containment and Surveillance" was held in the cities of Rio de Janeiro, from 20 to 24 October, and Buenos Aires, from 27 to 31 October. The program included a technical review of the containment and surveillance system used by ABACC in terms of their conceptual aspects, followed by training in the operation of the COBRA and VACOSS seals, and in the ALIP, DMOS, GARS, SDIS, HDIS and SVSS surveillance systems. These workshops enjoyed the support of the Cooperation Agreement with the US-DOE, Action Sheet 16: "Cooperation on Training". Seventeen inspectors, both Argentine and Brazilian, and one ABACC officer were trained. As instructors, there were four officials from ABACC and a specialist from the Sandia National Laboratories.

TECHNICAL COOPERATION

Cooperation with EURATOM

An agreement signed with EURATOM for "Action Sheet 01-01: JRC Seminar – 3D Laser Range Finder (3DLR) for Design Information Verification," led to the visit of specialists from EURATOM's Joint Research Center to conduct a seminar held in November on 3D Laser technology applied to DIV activities.

With the aim of providing ABACC with greater experience in applying 3D Laser technology for DIV purposes, Action Sheet 20 was signed with EURATOM and US-DOE: "Investigation of Combined Measurements with Three Dimensional Design Information Verification System and Gamma-Ray Imaging Systems for International Safeguards Applications," the object of which is to apply the 3D Laser Scanning system coupled with nuclear measurements (initially gamma measurements), which is being developed by US laboratories in partnership with the Joint Research Center, through a bilateral US-DOE/EURATOM project. In this project ABACC will manage the field tests and assist in defining the requirements for applying the technique in the field for safeguards purposes.

Cooperation with KINAC

On the occasion of the "7th Annual Meeting in Accordance with the Technical Cooperation Arrangement between KINAC and ABACC in Nuclear Material Accounting and Controls," mentioned in item 2.5, the representatives of ABACC had the opportunity of exchanging experiences on important questions related to the application of safeguards, and were able to:

- witness the direct application of the unattended system in the dry transfer of spent fuels from the pool to the storage silos. The officers of ABACC witnessed in the field, the transfer of two fuel containers, observing the associated safeguards equipment and activities,
- exchange information in the application of the Short-notice Random Inspections in fabrication facilities and,
- discuss new types of collaboration between the parties.

Cooperation with US-DOE

Within the scope of Action Sheet 11: "Laboratories Q.A.Through Standards & Samples Exchange Program," samples were received for the next stage of the intercomparison program of analytical results 2008/2009, which evaluates Brazilian and Argentine laboratories belonging to the ABACC's network of destructive measurement support laboratories (Safeguards Measurement Evaluation Program 2008). The possibility of training Argentine and Brazilian technicians in US-DOE laboratories, such as the New Brunswick Laboratory, is being appraised by ABACC.

From 26 to 28 February, within the scope of Action Sheet 13: "Management of Safeguards Data," the "Workshop on Computer Networks Security" was held at ABACC headquarters, with a special emphasis on the use of the tool "Open Source Network Intrusion Detection System" (SNORT), which is designed to detect intrusions. This system will be important for implementing security measures in the ABACC's computer network and unifying and integrating the different databases.

This workshop was organized by ABACC and conducted by specialists from US-DOE's Pacific Northwest National Laboratory with the participation of various ABACC officers, in addition to technicians from CNEN, ARN and CNEA. The topics covered will be useful in implementing secure conditions for the transmission of the operational status of safeguard equipment in nuclear facilities.

Staff members from different laboratories of US-DOE and from laboratories in Argentina and Brazil, participants in Action Sheet 15:

"Development of Environmental Sampling Capability in Support of the Regional Agreement between Argentina and Brasil," took part in meetings held in Buenos Aires and Rio de Janeiro. At these meetings, the results of the exercises carried out were discussed and various recommendations were made for improving the laboratories and for the future development of this collaborative effort. One laboratory in Brazil reached international performance standards for "bulk"-type measurements, and it was agreed by the parties that the analytical methodology used in this laboratory will be employed for the training of other Argentine and Brazilian laboratories in the ABACC's environmental sampling laboratory network.

In the context of Action Sheet 17: "NDA Measurement Systems," officers and representatives of the ORNL met at the headquarters of ABACC to define the lines of action to be followed in the program for improving the systems and equipment used in NDA measurements. Various targets for improvements to the software employed and measurement procedures in the field were established.

As part of this project the "Workshop for ABACC Inspectors on Integration of Quality Assurance into an NDA Measurement Program" was held in Portsmouth, USA, the program of which gave emphasis to the techniques of gamma spectrometry and uranium enrichment measurements. The discussions covered different aspects related to the quality of the results obtained by the inspectors during the measurements made in the safeguards inspections and the need to develop quality guarantee tools and procedures in the NDA systems that allow an evaluation in the field of the results obtained.

Through Action Sheet 18: "Development of Fast PTI Surveillance Equipment," the assembly and tests of the prototype of this new surveillance system got under way. This is known as the Secure Video Surveillance System and is being developed by ABACC with the support of US-DOE.

On 14 November a meeting was held in the United States in Washington DC of the Permanent Coordination Group of the Cooperation Agreement between ABACC and US-DOE (PCG Meeting). A presentation was made of the activities carried out and the results achieved since the last meeting in November 2007 and the planning for the forthcoming activities to be carried out in the action sheets was discussed. In this respect it was decided to terminate certain projects and an agreement was signed for the following action sheets:

Action sheets 19 - "Investigation of UF6 Cylinder Tracking Technologies for International Safeguards Applications" in the area of validation and tests of seals based on radiofrequency signals;

Action sheets 20 – "Investigation of Combined Measurements with Three Dimensional Design Information Verification System and Gamma-Ray Imaging Systems for International Safeguards Applications" in the area of 3D Laser application and non-destructive analysis and,

Action sheets 21 - "Laboratory Quality Assurance through Analytical Standards and Samples Exchange Programs" in the area of destructive analysis.

PROSPECTS FOR 2009

Among the main activities that ABACC plans to carry out in 2009, a special mention should be made of the implementation of the unattended system for dry spent fuel transfers to the silos in the *Central Nuclear Embalse* in Argentina and the approval of new surveillance systems which satisfy the technical requirements for application of the safeguards and authentification between ABACC and IAEA.

In relation to safeguards in Argentina, of particular importance is the analysis of the safeguards approach to be applied in the *Planta de Conversión a UO_2 de Córdoba* and the ongoing construction of Atucha II, for which ABACC will provide the surveillance system. It is worth remembering that the receipt of the fuel for this plant is scheduled for mid-2009.

ABACC will continue its work of verifying nuclear facilities in Brazil, focussing particularly on the application of the safeguards approach in the *Usina de Enriquecimento de Urânio* of *INB*. This activity will involve an investment in equipment and an increase in the inspection effort as the new cascades come into operation.

ABACC will monitor the developments in the negotiations for the construction of Angra 3, for which ABACC is expected to supply the surveillance system. The growing activities in the Brazilian nuclear sector indicate that a greater effort will be required of ABACC in applying the safeguards.

In terms of the technical evolution of the safeguards area, the ABACC Secretariat will be mindful of any new developments that come about on the international scene, always seeking to continually update and improve its work. For 2009, a number of projects in the technical cooperation area, such as those for 3D laser and surveillance, represent important challenges for the agency.

As for the training of inspectors, it is planned to expand activities in the coming year, particularly in view of the number of inspectors who joined ABACC in 2008 from Argentina and Brazil.

ABACC will continue its work of accounting and control of nuclear materials in Argentine and Brazil installations, disseminating the objectives of exclusively peaceful use of nuclear energy adopted by the two countries.

INSTITUCIONAL ACTIVITIES

Various delegations visited ABACC during the year with the aim of learning more about the activities carried out by the Agency. Such contacts were important as they gave ABACC the opportunity to demonstrate the work it has been undertaking in relation to international safeguards in Argentina and Brazil.

ABACC was invited to participate as an international observer agency in the "Second Session of the Preparatory Committee for the 2010 NPT Review Conference," held in Geneva. The Secretary, Mr Antonio Abel Oliveira, presented the paper "Creation and Development of the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials" and made a statement to the delegates reaffirming ABACC's commitment to continuously improving the application of safeguards in Argentina and Brazil.

The 52nd General Conference of the International Atomic Energy Agency was also attended by the Secretary of ABACC. In his speech, he highlighted the institution's success in applying the Common System of Accounting and Control of Nuclear Materials in the seventeen years of existence of ABACC and the recognition, in international forums, of its role as an inspector and certifier of the peaceful use of nuclear energy in the region.

The Head of the IAEA's Technical Support Section, Sr. Julian Whichello, visited ABACC to present the project "Novel Techniques and Instruments for Detection of Undeclared Nuclear Materials and Activities." This project aims at developing safeguards methods and instruments for specific needs in controlling nuclear materials identified in the non-proliferation sphere. Although they

do not have immediate application, these new methods and instruments will provide ABACC with knowledge about future proposals in safeguards.

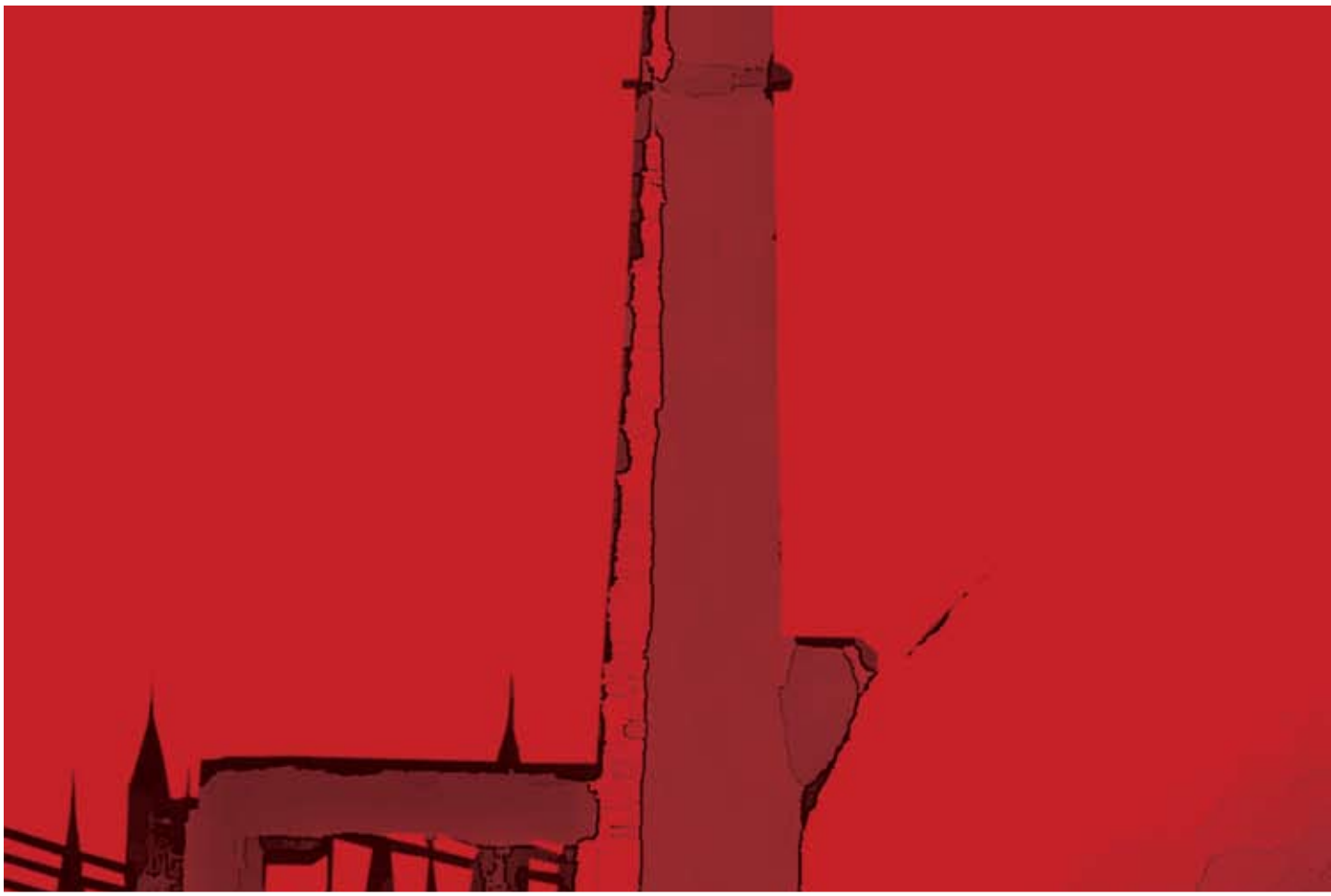
At the invitation of the *Comité de Asuntos Nucleares do Consejo Argentino para las Relaciones Internacionales - CARI*, the Secretary and Deputy Secretary were present at CARI's 30th anniversary celebration. In the paper presented, the Secretary spoke about the background history to the creation of the ABACC, the activities it performed and the results of the Agency's work in terms of the number of inspections carried out.

ABACC received a number of diplomatic missions during 2008, including among them a visit from the American Ambassador to the International Atomic Energy Agency, Mr Greg Schulte.

ABACC, IAEA and the national authorities of Brazil and Argentina gathered in December for the 10th Meeting of the Liaison Committee of the Quadripartite Agreement, the previous meeting of which had been in 2003. At this meeting, various important questions related to the application of safeguards in the two countries were defined.

The 2007 Annual Report, the most important means for disseminating the work of ABACC, was distributed to institutions in Brazil, argentina and abroad and had a significant repercussion. It was noted, however, that there was considerable scope for publicizing the activities of ABACC to a wider audience. With this in mind, a complete review was carried out of the distribution list of the Report.

The ABACC's website is being redesigned and should be launched in the near future. It will be updated so as to adapt to the new trends in usability and ergonomics required for the Internet.



ABACC BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS

ADMINISTRATIVE AND FINANCIAL ACTIVITIES

The year 2008 provided a satisfactory result for the ABACC in terms of the administration of resources and absence of any unforeseen occurrences in the financial situation

The administrative-financial sector endeavored itself to fulfill the functions of the institution and optimize the use of resources.

In this respect, it maintained daily contact with the sectors of ABACC that requested capital and consumer goods and services, in order to verify jointly the justification for said acquisitions, to analyze costs and check the qualification of the multiple suppliers involved.

Taking care not to jeopardize the results of the targets established in the Work Plan and Budget, the administrative-financial sector also put great emphasis on austerity in the use of general services, the impact of which was significant in the budget, due to the combined effects of inflation and the exchange rate.

With the aim of protecting the institution's financial resources from inflationary pressures, a financial strategy was adopted of seeking to maximise yields and eliminate risks.

The administrative-financial activities were executed in accordance with the norms in force, both in ABACC and in Brazil. These activities were carried out under the direct and permanent supervision of the secretaries, with all important aspects being systematically made available to the ABACC Commission, the institution's governing body.

The following facts deserve particular mention:

The operations of the Agency used 96% of the budgetary resources scheduled for the financial year.

The disbursements coincide almost exactly with the budgetary provisions, while investments were approximately a third of these provisions due to the cost reduction of equipment used for safeguards systems as a consequence of considerable technological innovations and the delay in the implementation of new facilities.

The favorable report of the external auditors, carried out by the company HBL Audilink, which audited the accounts, the financial operations, the internal controls of ABACC and compliance with the norms in force.

The new increase in the cost of the majority of the budget items, paid in local currency, is the result of the appreciation of the Brazilian currency against the dollar in the first ten months of the year.

STATEMENT OF ACCOUNT

at 31 of December 2008
(amount in US$)

REVENUES	**3.379.774,60**
Contribution of the Governments of Brasil and Argentina	3.362.500,00
Other revenues	17.274,60
EXPENSES	**3.609.850,51**
With resources from ABACC	3.261.301,12
Personnel	2.008.237,49
Expenses with staff substitution	128.565,16
Operations and inspections	283.203,92
Technical support	186.937,82
Coordination for safeguards application and implementation of the Quatripartite Agreement and the SCCC	90.933,27
Strengthening of the technical capacity	105.701,25
Technical cooperation	38.542,60
Institutional relations	49.543,70
Administrative expenditures and infraestructure	430.116,97
Balance of financial operations	-60.481,06
With external resources	77.584,36
Technical cooperation agreements	35.817,66
Financial operations balance	41.766,70
Depreciation and drops of the patrimonial inventory	270.965,03
DEFICIT OF THE FISCAL YEAR	**-230.075,91**
INVESTMENTS	**92.245,79**
With ABACC resources	82.067,87
With external resources	10.177,92
CREDITS AND ADVANCED PAYMENTS	**20.110,03**
OTHERS	**317.146,69**
Pending contributions from the Governments	316.600,00
Insurance Credits	546,69
PENDING PAYMENTS	**146.433,47**
PROPERTIES	**2.965.472,59**

ABACC BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS

INSPECTORS

ARGENTINEAN INSPECTORS

INSPECTORS

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ABACC BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS

ARGENTINE FACILITIES UNDER THE QUADRIPARTITE AGREEMENT

NAME	ABREVIATION	PLACE
Bunker de Almacenamiento		CAE
Central Nuclear Atucha I	CNA I	LIMA
Central Nuclear Atucha II (under construction)	CNA II	LIMA
Central Nuclear Embalse	CNE	Embalse
Circuito Experimental de Alta Presión	CEAP	CAE
Circuito Experimental de Baja Presión	CEBP	CAC
Daño por Radiación		CAC
Depósito Central de Material Fisionable Especial	DCMFE	CAC
Depósito Central de Material Fisionable Especial Irradiado	DCMFEI	CAE
Depósito de Material Nuclear		CAC
Depósito de Uranio Enriquecido	DUE	CAE
División Productos de Fisión	DPF	CAE
División Materiales Nucleares	DMN	CAB
Fábrica de Elementos Combustibles Nucleares	FECN	CAE
Fábrica de Elementos Combustibles Reactores de Investigación		CAE
Facilidad Experimental de Conversión por Vía Seca		Pilcaniyeu
Instrumentación y Control		CAE
Laboratorio Alfa		CAC
Laboratorio Analítico		CAE
Laboratorio de Física Nuclear	LFN	CAB
Laboratorio de Nanoestructuras	NANO	CAC
Laboratorio de Química Analítica	LABAN	CAB
Laboratorio de Recuperación Uranio Enriquecido	LUE	CAE
Laboratorio de Salvaguardias	LABSAL	ARN
Laboratorio Facilidad Radioquímica	LFR	CAE
Laboratorio Materiales Fabricación Aleaciones Especiales	LMFAE	CAE
Laboratorio para Ensayos Post-Irradiación	LAPEP	CAE
Laboratorio Triple Altura	LTA	CAE
Material Nuclear en Usos No Nucleares	ARN	
Planta de Conversión a Hexafluoruro de Uranio	PEMIN	Pilcaniyeu
Planta de Conversión a UO2	PCUO2	Córdoba
Planta de Enriquecimiento de Uranio		Pilcaniyeu
MBA 1: almacenamiento		
MBA 2: proceso		
Planta de Fabricación de Elementos Combustibles para Reactores de Investigación	ECRI	CAC
Planta Experimental de Materiales Combustibles y Pulvimetalurgia	PEMaCoP	CAC
Planta de Fabricación de Polvos de Uranio	PFPU	CAC
Procesos y Protótipos	PyP	CAC
Reactor Argentino 0	RA-0	Córdoba
Reactor Argentino I	RA-I	CAC
Reactor Argentino 4	RA-4	Rosario
Reactor Argentino 6	RA-6	CAB
Reactor Argentino 8	RA-8	Pilcaniyeu
Reactor Argentino 3	RA-3	CAE
Tecnología Nuclear Innovativa	TECNIN	CAB
Unidad de Actividad Química		ARN

ABACC BRAZILIAN-ARGENTINE AGENCY FOR ACCOUNTING AND CONTROL OF NUCLEAR MATERIALS

BRAZILIAN FACILITIES UNDER THE QUADRIPARTITE AGREEMENT

NAME	ABREVIATION	PLACE
Arranjo Grafite-Urânio Subcrítico	ARGUS	Rio de Janeiro
Armazenagem MBA1- estocagem MBA2- transferência gasosa	ARMAR	Iperó
Central Nuclear Almirante Álvaro Alberto – Angra-1	Angra-1	Angra dos Reis
Central Nuclear Almirante Álvaro Alberto – Angra-2	Angra-2	Angra dos Reis
Central Nuclear Almirante Álvaro Alberto – Angra-3 (em construção)	Angra-3	Angra dos Reis
Coordenadoria de Desenvolvimento e Tecnologia de Combustíveis (IPEN/CNEN-SP)		São Paulo
Fábrica de Combustível Nuclear - Enriquecimento MBA1- estocagem MBA2- processo	FCN – Enriquecimento	Resende
Fabrica de Combustível Nuclear – Reconversão e Pastilhas / Componentes e Montagem	FCN – Reconversão e Pastilhas / Componentes e Montagem	Resende
Laboratório de Desenvolvimento de Elementos de Separação Isotópica MBA1- estoc., purif. e transf., trat. rejeito MBA2- laboratórios MBA3- processo	LADESI	São Paulo
Laboratório de Desenvolvimento de Instrumentação e Combustível Nuclear	LADICON	São Paulo
Laboratório de Enriquecimento Isotópico da Unidade de Enriquecimento Almirante Álvaro Alberto	LEI	Iperó
Laboratório de Espectroscopia a Laser MBA1- estocagem, laboratórios MBA2- processo	AR/LAS	S. José dos Campos
Laboratório de Geração Núcleo-Elétrica	LABGENE	Iperó
Laboratório de Materiais e Combustível Nuclear (CDTN/CNEN-MG)		Belo Horizonte
Laboratório de Materiais Nucleares	LABMAT	Iperó
Laboratório de Salvaguardas		Rio de Janeiro
Laboratório de UF6 (CDTN/CNEN-MG)		Belo Horizonte
Laboratório de Nuclear em Uso Não-nuclear		Rio de Janeiro
Planta Piloto para Enriquecimento de Urânio MBA1- estocagem MBA2- processo	USIDE	Iperó
Produção de UF6 (IPEN/CNEN-SP)		São Paulo
Projeto Reprocessamento (IPEN/CNEN-SP)		São Paulo
Reator Argonauta (IEN/CNEN-RJ)		Rio de Janeiro
Reator de Pesquisa IEA-R1	IEA-R1	São Paulo
Reator IPR-R1	IPR-R1	Belo Horizonte
Subcrítica Universidade Federal de Pernambuco	RESUCO	Pernambuco
Unidade Critica IPEN/MB-01		São Paulo
Unidade de Produção de Hexafluoreto de Urânio-UF6	USEXA	Iperó

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Dr. Raúl Racana

President of the Nuclear Regulatory Authority
Alternate: Gabriel Terigi

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Director of the Department of International Agencies of the Ministry of Foreign Affairs
Alternate: Santiago Irazabal Mourão

Dr. Odair Dias Gonçalves

President of the Brazilian Commission of Nuclear Energy
Alternate: Maria Cristina Lourenço

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Technical Support
Erwin Gaspar Galdoz and Geraldo Renha

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Rúben Gerardo Novo

Institutional Relations
Selma Chi Barreiro

Administrative Staff – at the headquarters
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Collaborators – at the offices in Buenos Aires
Osvaldo Alberto Cristallini and Leonor Onorati