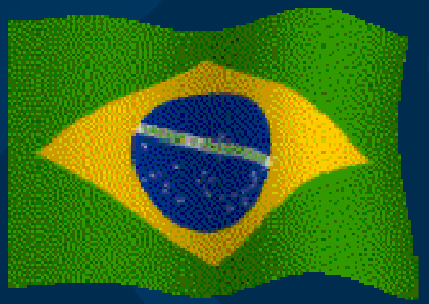
International atomic energy agency

Senior regulators' meeting
17 september 2009

Long Term Strategies for Disused Radioactive Source

Improvements and Remaining Challenges in the Cradle to Grave Management of Sources After Goiânia Accident



National Nuclear Energy Commission - Brazil

Maria Helena Maréchal

Executive summary

- ***General remarks***
- ***Facilities and services available to the Users***
- ***Present Actions***
- ***Remaining Challenges after the Goiânia Accident***

General remarks

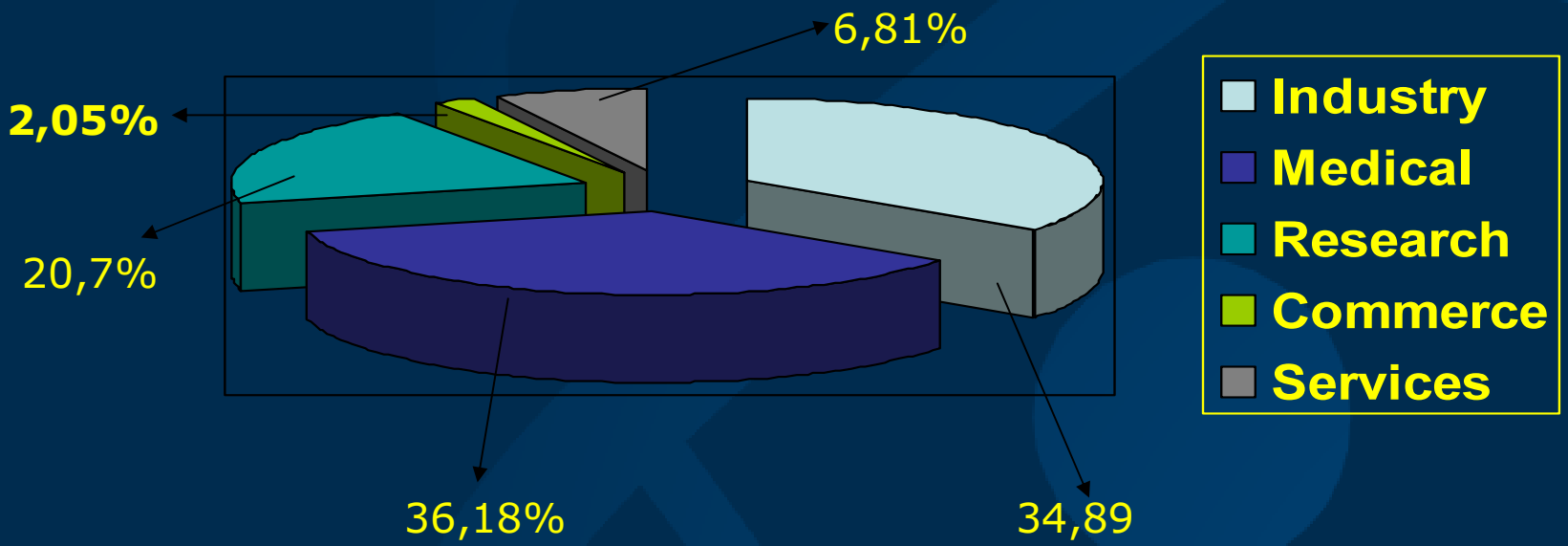
- After the Goiania accident, CNEN has implemented a set of control actions:

✓ Implementation of regulatory inspections, control of import and export of sources and regulation of occupational exposure.

✓ Improvements on the source control with implementation of the National Data Base of Radioactive Sources (1989).

- The Code of Conduct and the Guidance on the Import and Export of Radioactive Sources issued by IAEA have been a milestone for the improvement of the national regulatory system in Brazil.

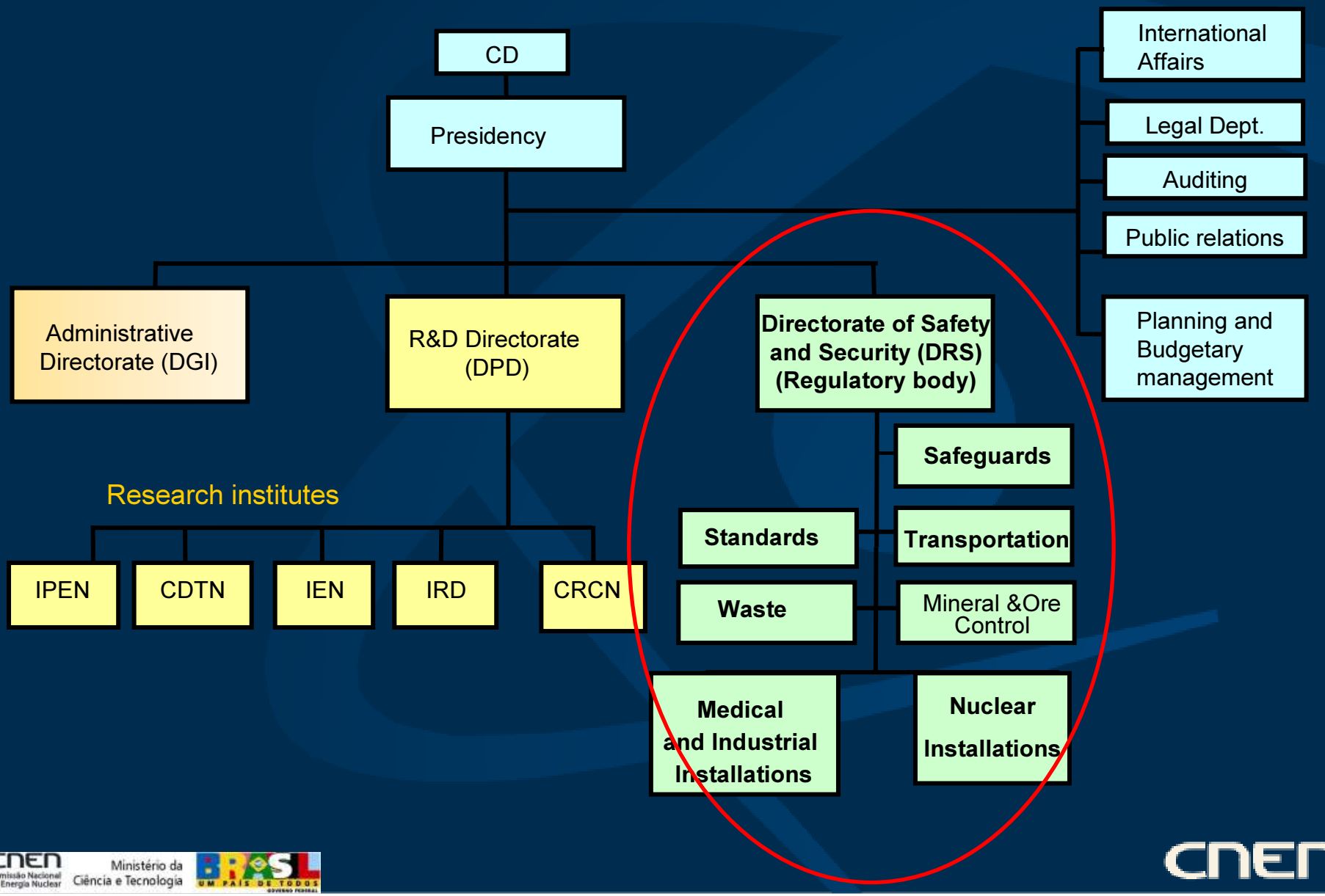
Overview of the Radioactive Installations in Brazil

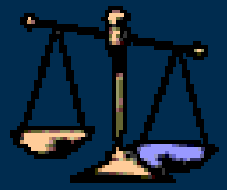


Total of Radioactive Facilities: 3657

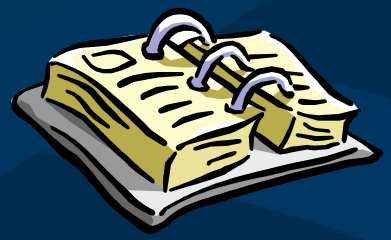
Almost 300 facilities operate Category 1 or Category 2 radioactive sources (radiotherapy, gamma irradiators and industrial radiography)

CNEN's ORGANIZACIONAL STRUTUCTURE





Legislation



- Constitution, laws, and decrees

- Regulation

• 41 regulations of CNEN (12 currently used in the licensing of radioactive facilities)

- Main regulations reviewed and harmonized with the IAEA Standards

➢ NN-3.01 – Diretivas Básicas de Radioproteção – *Basic Safety Standards*

➢ NE-6.02 – Licenciamento de Instalações Radiativas – *Licensing Requirements for Radioactive Facilities*

➢ *Others regulations of specific practices are being reviewed*

Facilities and services available to the Users

Personal dosimetry and calibration of monitors are carried out by several laboratories in Brazil.
These activities are controlled and authorized by CNEN through the IRD institute which relies on a Secondary Standard Dosimetry Laboratory facility. CNEN also provides the picking up and temporary storage of disused radioactive sources.

Facilities and services available to the Users

CNEN has three temporary deposits for the disposal of disused radioactive sources, ensuring the full control of the sources during their life cycle. They are placed in the CNEN's institutes.
One of them provides services of collecting and transport of disused radioactive sources to the temporary deposits.

Facilities and services available to the Users

The Radiological and Nuclear Emergency Assistence (SAER) division receives and attends to around 70 notifications per year (average of last five years)

Exercício de Emergência-2005

Present Actions

National register of radioactive sources

In 2004 a new data base , "*Radioactive Information System*" – SIR (Sistema de Informações Radiativas), was introduced.

Web Version

Present Actions

National strategies for detecting orphan sources

Control activities have been implemented by steel industries and include the operation of special monitoring systems such as gate and portal monitors, to identify potential contaminated scrap metal materials.

Present Actions

Implementation of the import and export provisions of the IAEA code of conduct and the guidance on the import and export of radioactive sources

Import/Export – Cooperative action with the Brazilian Customs

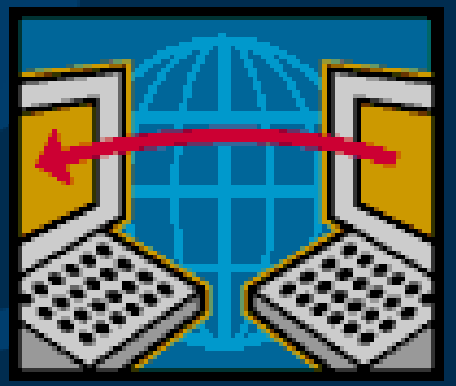
The items of all radioactive or ionization radiation sources under the Mercosul Common Nomenclature (NCM) are controlled by CNEN.

The Brazilian RaSSIA Report dated November 2006 suggests that some good practices could be used as a reference in the region, for example, the Brazilian import and export control system of radioactive source.

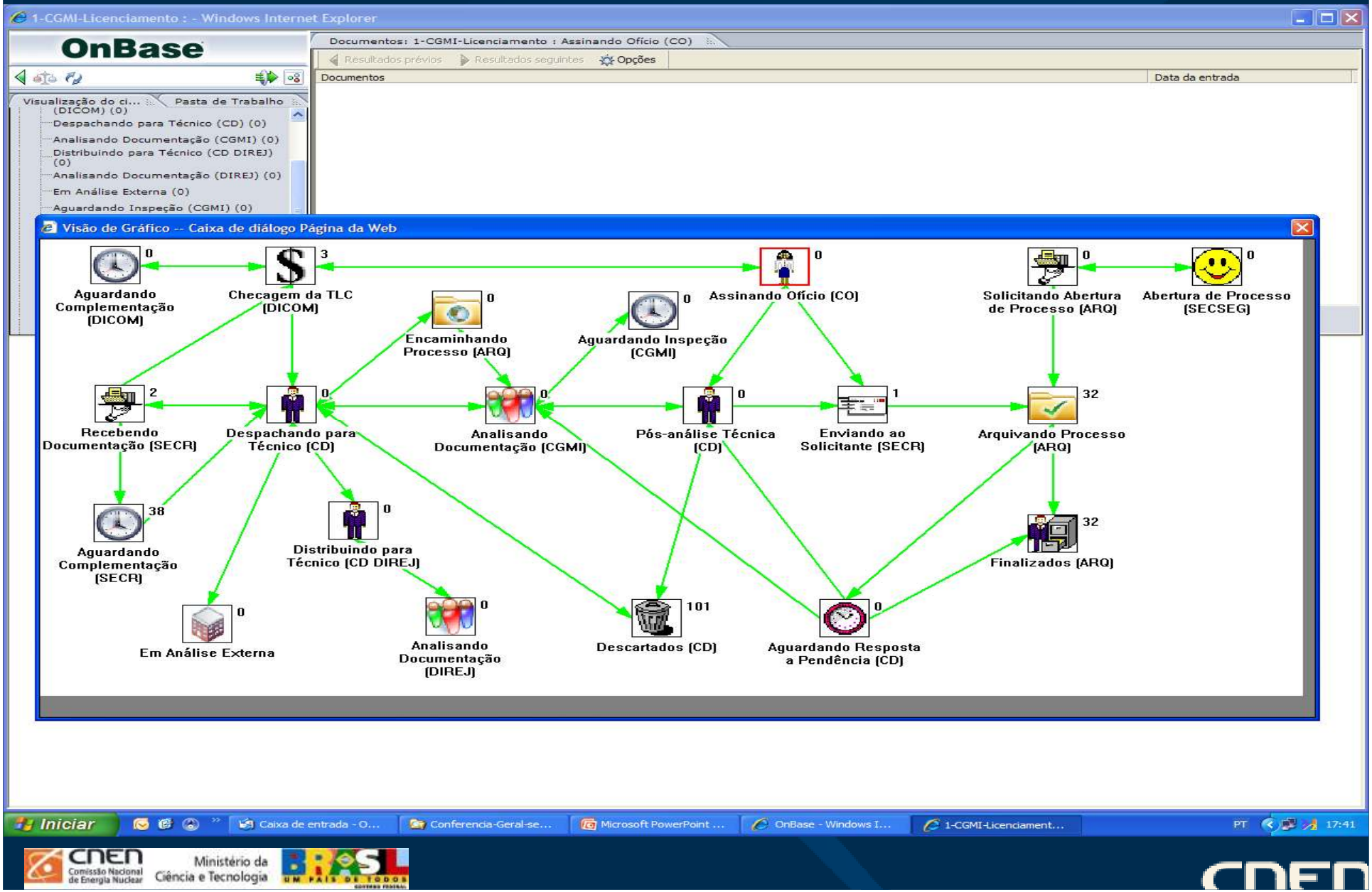
Present actions

CNEN has implemented an online management system for licensing, inspection, import and export control of radioactive sources that includes data management and workflow control fully integrated in just one tool.

The system is linked to the national registers allowing automatic data update



Integrated Management System



Challenges

- A New Nuclear Legal Structure

✓ CNEN is proposing a revision of the legal structure to be examined by the Federal Government and the Congress, which includes:

- The creation of the Brazilian Nuclear Regulatory Agency separated from CNEN
- Financial Guarantee in case of facility´s bankruptcy
- A set of penalties for no compliance

- To create a national waste management company to deal with the radioactive waste and to implement repositories in 10 years

International cooperation

CNEN has established several agreements with, for example, the IAEA, United States, Argentina, France and Spain, among others.

CNEN has an "Administrative Arrangement" agreement with Canada, that establishes harmonized procedures for mutual consulting in order to authorize the import or export of radioactive sources.

CNEN is discussing with the USA a Memorandum of Understanding establishing harmonized procedures for mutual consulting in order to authorize the import or export of radioactive sources.

Implementation of a new tool in the Ibero-American network for the exchange of relevant information and request of consents for radioactive source import and export control


Thank you for your attention!
www.cnen.gov.br
mhelena@cnen.gov.br
Fernando de Noronha Island by Marc Maréchal