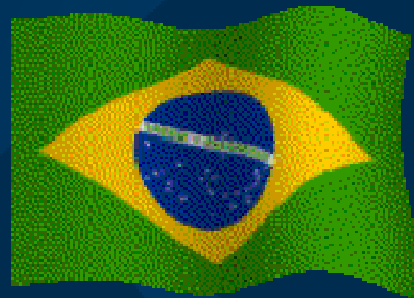


International atomic energy agency

***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

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:

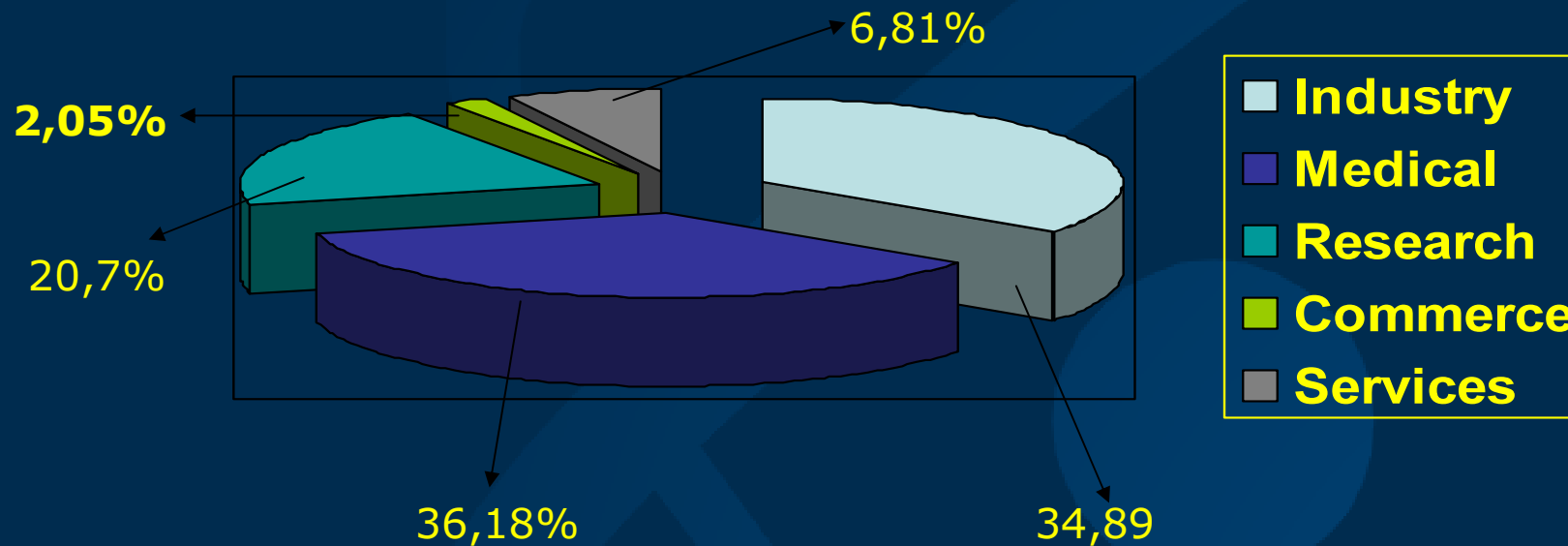
✓ Implementation of regulatory inspections, control of import and export of sources and regulation of occupational exposure.

✓ 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.



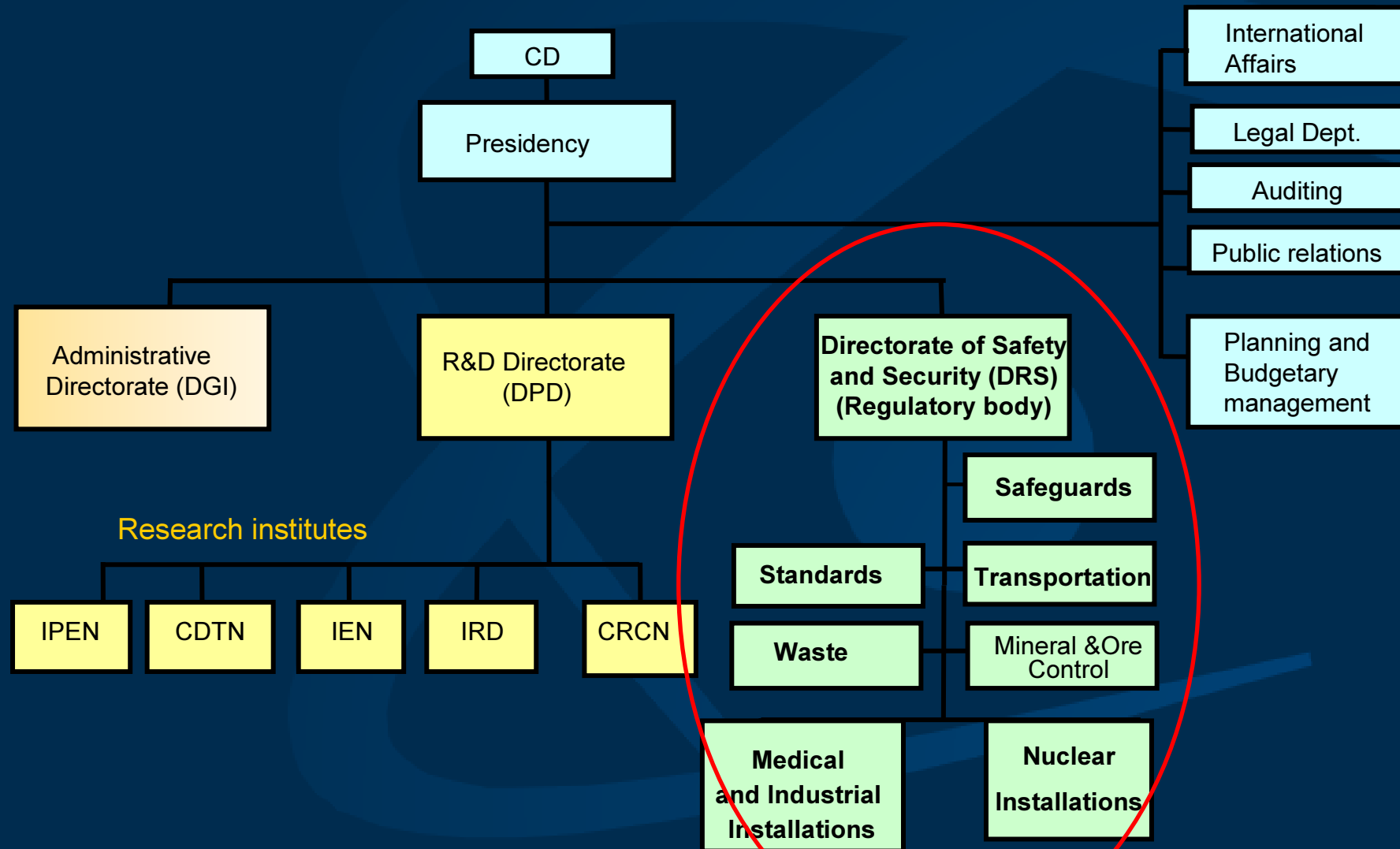
Overview of the Radioactive Installations in Brazil

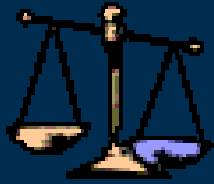


Total of Radioactive Facilities: 3657

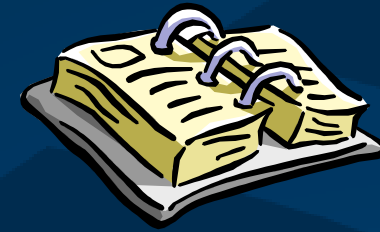
Almost 300 facilities operate Category 1 or Category 2 radioactive sources (radiotherapy, gamma irradiators and industrial radiography)

CNEN's ORGANIZACIONAL STRUCTURE





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 Assistance (SAER) division receives and attends to around 70 notifications per year (average of last five years)



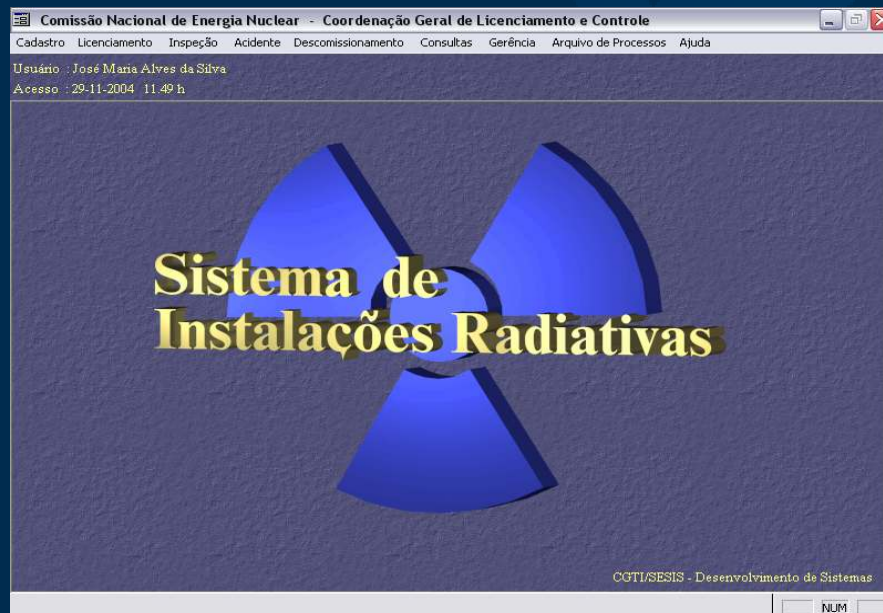
Exercício de Emergência-2005

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.

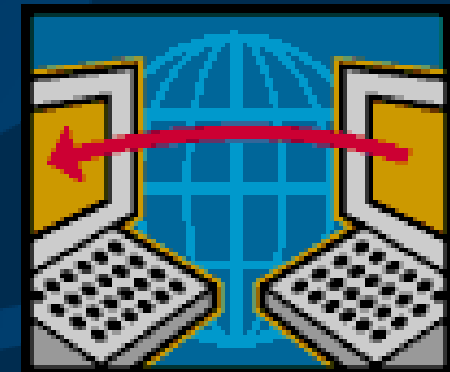
The Brazilian RaSSIA Report dated November 2006 suggests that some good practices could be used as a reference in the region, for example, the Brazilian import and export control system of radioactive source.



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

1-CGMI-Licenciamento : - Windows Internet Explorer

OnBase

Documentos: 1-CGMI-Licenciamento : Assinando Ofício (CO)

Documentos

Visualização do ci... Pasta de Trabalho (DICOM) (0)

- Despachando para Técnico (CD) (0)
- Analizando Documentação (CGMI) (0)
- Distribuindo para Técnico (CD DIREJ) (0)
- Analizando Documentação (DIREJ) (0)
- Em Análise Externa (0)
- Aguardando Inspeção (CGMI) (0)

Visão de Gráfico -- Caixa de diálogo Página da Web

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graph TD; A[Aguardando Complementação [DICOM] 0] --> B[Checagem da TLC [DICOM] 3]; B --> C[Assinando Ofício [CO] 0]; B --> D[Recebendo Documentação [SECR] 2]; D --> E[Despachando para Técnico [CD] 0]; E --> F[Encaminhando Processo [ARQ] 0]; E --> G[Aguardando Complementação [SECR] 38]; E --> H[Em Análise Externa 0]; E --> I[Analizando Documentação [DIREJ] 0]; F --> J[Aguardando Inspeção [CGMI] 0]; G --> J; H --> J; I --> J; J --> K[Pós-análise Técnica [CD] 0]; K --> L[Assinando Ofício [CO] 0]; L --> M[Enviando ao Solicitante [SECR] 1]; M --> N[Arquivando Processo [ARQ] 32]; N --> O[Finalizados [ARQ] 32]; O --> P[Solicitando Abertura de Processo [ARQ] 0]; P --> Q[Abertura de Processo [SECSEG] 0]; Q --> R[Aguardando Resposta a Pendência [CD] 0]; R --> S[Descartados [CD] 101]; R --> T[Arquivando Processo [ARQ] 32];
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The diagram illustrates a process flow for document management. It starts with 'Aguardando Complementação [DICOM]' (0) leading to 'Checagem da TLC [DICOM]' (3). From there, it branches to 'Assinando Ofício [CO]' (0) and 'Recebendo Documentação [SECR]' (2). 'Recebendo Documentação [SECR]' (2) leads to 'Despachando para Técnico [CD]' (0), which then branches to 'Encaminhando Processo [ARQ]' (0), 'Aguardando Complementação [SECR]' (38), 'Em Análise Externa' (0), and 'Analizando Documentação [DIREJ]' (0). 'Encaminhando Processo [ARQ]' (0) leads to 'Aguardando Inspeção [CGMI]' (0). 'Aguardando Complementação [SECR]' (38) and 'Em Análise Externa' (0) also lead to 'Aguardando Inspeção [CGMI]' (0). 'Analizando Documentação [DIREJ]' (0) leads to 'Aguardando Inspeção [CGMI]' (0). 'Aguardando Inspeção [CGMI]' (0) leads to 'Pós-análise Técnica [CD]' (0), which then leads to 'Assinando Ofício [CO]' (0). 'Assinando Ofício [CO]' (0) leads to 'Enviando ao Solicitante [SECR]' (1), which leads to 'Arquivando Processo [ARQ]' (32). 'Arquivando Processo [ARQ]' (32) leads to 'Finalizados [ARQ]' (32). 'Finalizados [ARQ]' (32) leads to 'Solicitando Abertura de Processo [ARQ]' (0), which leads to 'Abertura de Processo [SECSEG]' (0). 'Abertura de Processo [SECSEG]' (0) leads to 'Aguardando Resposta a Pendência [CD]' (0), which leads to 'Descartados [CD]' (101) and 'Arquivando Processo [ARQ]' (32).

Windows taskbar: Iniciar, Caixa de entrada - O..., Conferencia-Geral-se..., Microsoft PowerPoint..., OnBase - Windows I..., 1-CGMI-Licenciamen..., PT, 17:41

Logos: CNEH Comissão Nacional de Energia Nuclear, Ministério da Ciência e Tecnologia, BRASIL UM PAÍS DE TODOS, CDED

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