

**Brazil: National status and achievements during the R<sup>2</sup>D<sup>2</sup>P (2006 – Present)**

Subject	General Questions	Specific Questions
<p><i>Legal and Regulatory Framework (LRF)</i></p>	<p>1. Has there been any changes in the LRF of your country during the Project?</p>	<p>March 2011 - Formal nomination of a Group to elaborate a National Standard for Decommissioning of Nuclear Reactors within 12 months.                      December 2011 - public consultation of the NN-9.01: Decommissioning of Nuclear Power Plants (instead of Nuclear Reactors / focus changed after exhaustive discussion and argumentation / a request for a LRF for Decommissioning of Research Reactor was taken in place to be considered in 2012 by the Advisory Group of Standards). Bases: WS-R-5; DS 333; DS 376; SR 45.</p>
	<p>2. Is an independent regulatory body in place?</p>	<p>The Brazilian Government has assured the independency of regulatory activities in the nuclear area, in charge of CNEN, through the effective separation of assignments between its Directorate of Radiation Protection and Nuclear Safety (DRS), in charge of regulatory body functions, and the Directorate of Research and Development (DPD). Although, CNEN has assured a functional independency between nuclear regulatory activities and the others as promoting and research and development activities, the Federal Government took the political decision to create an administratively and legally independent regulatory body. It will be a federal agency independent of CNEN. The new agency will be created by a federal law.</p>
	<p>3. Are roles and responsibilities clearly outlined?</p>	<p>The National Nuclear Energy Commission (Comissão Nacional de Energia Nuclear - CNEN) was created in 1956, and is: - responsible for regulating, licensing and controlling nuclear energy utilization (Directorate of Radiation Protection and Nuclear Safety, DRS/CNEN); - in charge of research and development and production of radioisotopes (Directorate of Research and Development, DPD/CNEN). The DPD is also responsible for receiving and disposing of radioactive waste from the whole country.</p>

<p>4. Are licensing requirements/regulations in place? Is the licensing review process clearly defined and understood by the operator?</p>	<p>NE 1.4 Licensing of Nuclear Facilities  NE 1.26 Safety on the operation of NPP  Regulatory position: 1.26 / 001 - Management of Radioactive Waste in NPPs  Res 09/69 Standards for Existing Power Reactor Facilities  Res 112/11 - Licensing of Radiation Facilities  NE 6.5 Radioactive Waste Management in Radioactive Facilities  NE 6.6 Selection and Choice of Sites for Radioactive Waste Storage and Disposal Facilities  NN 6.9 Acceptance Criteria for Disposal of Low and Intermediate Level Waste  National Standards under elaboration or revision:  NN-1.03 Res 09/69 Site Approval for NPPs  New standard NN 8.01 (review of NE 6.05) Management of Low and Intermediate Level Waste; -New classification of radioactive waste: RI, RVMC, RBMN-VC, RBMN-RN, RBMN-VL, RAN (based on GSG-1); - Values of activity concentration for bulk amounts of material (based on RS-G-1.7)  New standard NN 8.02 Licensing of Radioactive Waste Storage and Disposal Facilities  NN-9.01: Decommissioning of Nuclear Power Plants</p>
<p>4. Does a decommissioning policy and strategy exist?</p>	<p>No, it is intended to be proposed by the licensee/operator based on IAEA recommendations.</p>

<i>Decommissioning Plan (DP)</i>	1. Is a standard review plan for the DP in place? Is this in line with IAEA Safety Report No. 45?	Yes, in form of a document proposed by R2D2P participants based on IAEA documents and mainly in line with IAEA Safety Report No. 45: TRIGA IPR-R1 RESEARCH REACTOR DECOMMISSIONING PLAN (DRAFT), and other internal documents: "Developed Devices for Dismantling and Maintenance of IPR-R1 Research Reactor" (NI-AT4-004/95) 1995. (under revision) "Shielding and Criticality Safety Analyses of a Latin American Cask for Transportation and Interim Storage of Spent Fuel From Research Reactors", 2003. "Characterization of Burned Fuel of the TRIGA IPR – R1 Research Reactor Using Monteburns Code ", 2002. CDTN 0023 (Radioactive Waste Management) CDTN (Radiation Protection Plan)
	2. Is a DP available for each nuclear facility?	No, there is only a draft of a Decommissioning Plan for TRIGA RPR-R1 Research Reactor and a group to deal with the decommissioning subject for the new Brazilian research reactor RMB, 50MW)
	3. Has the DP been reviewed/authorized by the regulator?	No, there is no DP available to be reviewed/authorized by the regulator.
	1. Has a safety assessment been prepared? Reviewed, approved or authorized?	There are safety assessment documents: "Developed Devices for Dismantling and Maintenance of IPR-R1 Research Reactor" (NI-AT4-004/95) 1995. (under revision) "Shielding and Criticality Safety Analyses of a Latin American Cask for Transportation and Interim Storage of Spent Fuel From Research Reactors", 2003. "Characterization of Burned Fuel of the TRIGA IPR – R1 Research Reactor Using Monteburns Code ", 2002. But they are not reviewed, approved of authorized.

<p><i>Supporting Documents to the DP</i></p>	<p>2. Has a cost estimate been prepared? Reviewed, approved or authorized?</p>	<p>No, it has been given priority to the decommissioning of NPPs in Brazil. The standard NN-9.01: Decommissioning of Nuclear Power Plants is under final review. The elaboration of a new standard for Decommissioning of Research Reactors should be started next year. Although the facilities of CNEN's institutes are under a licensing process after issue of this new standard, a deadline will be given to the Institute holders to submit a decommissioning plan for each RR in Brazil in which will be included the cost estimate.</p>
	<p>3. Has an environmental impact assessment been prepared? Reviewed, approved or authorized?</p>	<p>No, it has been given priority to the decommissioning of NPPs in Brazil. The standard NN-9.01: Decommissioning of Nuclear Power Plants is under final review. The elaboration of a new standard for Decommissioning of Research Reactors should be started next year. Although the facilities of CNEN's institutes are under a licensing process, after issue of this new standard a deadline will be given to the Institute holders to submit a decommissioning plan for each RR in Brazil in which will be included the invironmental impact assessment.</p>
<p><i>Other items</i></p>	<p>1. Please report on any other major achievement/items.</p>	<p>Advices and suggestions for member states based on the Brazilian experience:</p> <ul style="list-style-type: none"> <li>- It is necessary to have well established LRF to get real improvements on the decommissioning planning for theirs RR;</li> <li>- A clear request for a DP by the regulators is essential to support the development of a DP for the RR on the institutes;</li> <li>- It is necessary to have a group on operator site engaged on the Decommissioning subjects, supported by the institute holder.</li> </ul>