

## Brazil Starts Enriching Uranium for Its Nuclear Power Plants

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The INB, state-owned Brazilian Nuclear Industries, is going to enrich uranium in Resende, in the southeast of Rio de Janeiro state, starting next month. Up to the end of the year, production should reach 12 tons of the raw material for the fuel used in nuclear power plants.

The INB expectation is to produce all the enriched uranium used by Angra I power plant and 20% of the uranium used by Angra II power plant by 2012.

"The great advance is that in future we are not going to depend on foreign services for this important technology. We will have no problem with somebody closing a gas valve," said the Nuclear Fuel Production director at INB, Samuel Fayad Filho, referring to the closing of Russian gas supplied by Gazprom to the Ukraine and other European countries, last week. According to him, dominating the entire process of uranium enrichment is "a leap."

Fayad Filho added that national production of enriched uranium should bring Brazil an economy of US\$ 25 million, which corresponds to what the country spends a year on enriching the ore abroad.

Up to now, Brazil had the ore, but as it did not have the technology to enrich the product, it was exported in bulk and enriched uranium was bought from a consortium of European companies.

The technology for enriching uranium was developed in the Navy Technological center in São Paulo (CTMSP) and by the Nuclear and Energy Research Institute (IPEN). Brazil is the ninth country in the world to own technology for enrichment of the ore.

To start industrial production of enriched uranium, the factory in Resende already has cascade centrifuges in series (equipment developed by the Germans during the Second World War) used to separate the uranium particles that liberate energy. The forecast is that in three years, ten cascade centrifuges should be operating.

Since November 2006, INB has had an environmental license from the Brazilian Environment and Renewable Natural Resource Institute (Ibama) to enrich uranium, but authorization for operation of the factory, valid for one year, was only granted by the National Nuclear Energy Commission (CNEN) this January 5.

According to Fayad Filho, the INB should request extension of the permit until they can get permanent authorization, "after showing that the work is safe." The Ibama operation license also expires next year and renewal should also be requested.

The Federal Constitution grants to the Union monopoly of mining, enrichment, reprocessing, industrialization and trade of nuclear ores and their products (Article 21). According to the law, all nuclear activity on the national territory is peaceful and approved by the National Congress.

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