

Brazil achieves uranium enrichment and closes nuclear fuel cycle

by Silvia Palacios and Lorenzo Carrasco

On Sept. 4, Brazilian President José Sarney announced that the country had, despite foreign pressures and impediments, conquered the complete nuclear fuel cycle. Enrichment of uranium by means of ultracentrifuge, was achieved at the Institute of Nuclear Research in São Paulo, under absolute secrecy and naval supervision. The project, known as the Parallel Nuclear Program, took eight years of intense work to realize the dreams of former President Getulio Vargas who, together with Adm. Alvaro Alberto, attempted a similar enrichment program by ultracentrifuge in 1952.

"The country has conquered a decisive stage on the path to autonomy in science and technology," declared President Sarney. "The enrichment of uranium represents one of the most advanced technologies in the field of human knowledge." He also pledged, "My government is committed to the scientific and technological development of Brazil. . . . This effort should serve to encourage the Brazilian scientific community to [pursue] increasingly dense and broad interchange with advanced centers of scientific production. It should lead to creative cooperation with countries in the developing world, which, like ourselves, know that progress and development cannot be achieved without the help of science and technology."

Despite the fact that Brazil's nuclear breakthrough was accomplished over two months ago, the announcement was only made now, as Brazil restarts its debt negotiations with international financial institutions. With the announcement, the Brazilian government made clear that it is not prepared to hand over its sovereignty to "the strategic conditionalities of the superpowers." In fact, Brazil's announcement must be taken as a declaration of war in defense of its sovereignty, against the policies of appeasing the superpowers with respect for "international safeguards."

A definition of Brazil's policy was established by Foreign Minister Roberto Abreu Sodre, following lengthy discussions within the foreign ministry on Aug. 12. There, Abreu Sodre confirmed that Brazil would never submit to "theories like that of deterrence, which subordinate international security to the strategic conditionalities of the superpowers,

and which legitimize possession of nuclear weapons."

The foreign minister further emphasized, "The central point is that nuclear energy for Brazil is not an abstraction. We have important uranium reserves [the fifth largest in the world], a growing domestic demand for energy, industry capable of competing on the world capital goods market. . . ." Therefore, "in international forums, we fight for access by the developing nations to nuclear technology, and we denounce the traps set by nations developed in the nuclear field. We fight against economic trade rules that impose on the developing nations, the perpetuation of their status as mere consumers of sophisticated nuclear equipment and technology, and of mere suppliers of raw materials. . . . In the strategic political sector, we must not be confused, for we do not believe that proliferation of nuclear technological knowledge *ipso facto* represents proliferation of nuclear bombs."

This same sentiment was elaborated by the president of the National Atomic Energy Commission (CNEN), Rex Nazareth Alves, when he criticized the nuclear cooperation deals between the United States and Germany. "They will never give us full access to sensible technologies. . . . We favor disarmament and non-proliferation of atomic weapons, but we repudiate the imposition of mechanisms which discriminate and inhibit peaceful technological development of nuclear energy."

Following the Sept. 4 presidential announcement, the CNEN president explained to the press the reason for the secrecy that surrounded the enrichment procedures. It was, he said, "a shield that the country used to divert international intrigues that sought to prevent a client from entering into competition in a market of more than \$50 billion a year. . . . The national program goes against the interests of the international technology cartel, which would have boycotted it, either by imposing restrictions on Brazilian imports, or by accusing the program of having bellicose ends."

He added that there are cases in which "an intransigent rebel is at least patriotic. Enough of foreign dependency. A country like Brazil, with such problems in the area of health, agriculture, and industrial development—problems that could

be solved through use of nuclear energy—cannot continue to permit uncertainties in satisfying these demands. . . . Brazil doesn't need a Hiroshima or Nagasaki to announce its conquest of nuclear fuel production."

After this achievement, concluded Nazareth, "The sky's the limit."

So that no doubt remained as to Brazil's policy on the question, the head of the joint chiefs of staff of the Brazilian Armed Forces, Gen. Paulo Campos Paiva, told a conference at the Superior War College: "Every decision must be made with the awareness that we are dealing with a sovereign nation." The developed nations are accustomed to "projecting their power over the interests of the developing nations, which generally are in no condition to neutralize" such power. Such "projections of power," said the Brazilian military chief, "are inadmissible when they represent prejudice against Brazil."

The vengeance of Getulio Vargas

In his Sept. 4 speech, President Sarney did not fail to pay homage to "the men who pioneered the Brazilian nuclear program. Among these are Adm. Alvaro Alberto, who was responsible in the 1950s for purchasing the first ultracentrifuge machines for enrichment of uranium. Admiral Alberto's initiative did not advance, for a variety of reasons linked to the environment in which the debate on use of nuclear energy was taking place, both internationally and inside Brazil. His machines were deactivated, but his ideas remained alive."

President Sarney's reference to Admiral Alberto is of major political significance. It was the admiral who conspired, together with German physicist Otto Hahn, against the colonial policies of technological limitations. Hahn and Alvaro Alberto coordinated a project for the design and construction in Europe of three ultracentrifuges for Brazil. When the machines had been tested at the University of Gottingen in Germany, under the direction of Prof. William Groth, and were already being dismantled preparatory to their delivery to Brazil in mid-1953, news of the operation—until then conducted under absolute secrecy—made its way to Itamaraty, the foreign ministry, when that ministry was headed by Standard Oil agent João Neves de Fontoura. Within 24 hours, American troops acted on information provided by Itamaraty to enter all German ports and confiscate the boxes of equipment. That action was followed by a slander campaign against Alvaro Alberto, run by Foreign Minister Neves de Fontoura.

It was this same Neves de Fontoura who took personal charge of sabotaging the efforts of President Getulio Vargas to achieve economic integration with Argentina and Chile, by encouraging supposed rivalries with Argentina.

This time, the Parallel Nuclear Program, launched by the government of President Geisel in response to political provocations from the Carter administration, not only achieved uranium enrichment but honored the memory of Vargas and Alberto.

State Department cry-babies

Brazil's achievement, despite the fact that it silenced the U.S. embassy in Brasilia, nonetheless triggered the fury of U.S. State Department networks. The correspondent for *Gazeta Mercantil* in Washington, D.C. reported that an unidentified State Department official declared that Brazil's announcement would cause tremendous irritation in sections of the Reagan administration, which already had a highly negative attitude toward the country because of the Brazilian debt moratorium.

An official of the State Department's office of non-proliferation said: "Our reaction is similar to that when Argentina announced its conquest of the nuclear fuel cycle. We said then, and we repeat now, that these countries had better open up all their nuclear installations and materials to inspection by the International Agency for Atomic Energy. If they don't, suspicions will arise that they are using nuclear technology for other than peaceful purposes."

Prof. Leonard Spector of the Carnegie Endowment for International Peace in Washington said that the Brazilian program is "reason for concern, since there is no oversight. . . . The State Department should express its displeasure to the Brazilian government for having a program without adequate international safeguards."

But even though the State Department has not issued an official statement, it is already busily deploying its substantial networks inside Brazil, especially through the magazine *Veja* and the daily *Folha de São Paulo*, which, according to some sources, receives much of its material against nuclear energy and in favor of environmentalism, from U.S. offices and consulates.

The individuals that make up this network include Enio Candotti, vice president of the Brazilian Society for Scientific Progress; Luis Pinguelli Rosa and Fernando Souza Barros, two charlatans from the Brazilian Physics Society; and on a higher level, José Goldemberg of the University of São Paulo.

But the most hysterical reaction against the parallel nuclear program has come from Liberal Party congressman Guilherme Afif Domingos, who, in a letter to the president of the National Constituent Assembly, demanded that the government "no longer hide" the secret funds allocated to the nuclear policy. Afif also demanded a "hearing" on controlling the expenses of the nuclear program: "The members of the Constituent Assembly must do a review . . . of the secret programs . . . to learn the cost-benefits. . . . They don't know, for example, how much the government is spending to import material for nuclear plants. And this is all above board. Imagine the secret side!" protested Congressman Afif.

In view of these pressures, domestic and foreign, a healthy response was offered by CNEN president Rex Nazareth: "If there should be reprisals on the international level, I will not remain quiet. I am a person who reacts to these kinds of things."