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Brazil nuclear leader's arrest may stymie its atomic ambitions



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RIO DE JANEIRO | BY JEB BLOUNT



The arrest of the longtime head of Brazil's nuclear energy utility on corruption charges could disrupt a plan to revive Brazilian nuclear ambitions whose roots go back to its atomic-bomb program in the 1980s.

Othon Luiz Pinheiro da Silva, a retired admiral, was arrested on Tuesday for allegedly taking 4.5 million reais (\$1.35 million) in bribes from engineering firms working on the long delayed Angra 3 nuclear power plant.

While its constitution commits Brazil to the peaceful use of atomic power, Pinheiro, 76, has for three decades been a central player in plans to finish Angra 3, build eight additional reactors and even a fleet of nuclear-powered submarines.

"The arrest is a tragedy for the industry," said Luiz Pinguelli Rosa, a Brazilian nuclear physicist and Eletrobras' chief executive from 2003 to 2005.

"The industry was already in crisis, but now the corruption concerns are bound to delay Angra 3 further and cause costs to rise even more."

Pinheiro, an atomic engineer, was tasked by Brazil's military dictatorship in the 1980s to find a way to build a nuclear reactor small enough for a home-built submarine and the means to process enough enriched uranium to fuel it.

His work eventually led to a secretive, but UN-sanctioned, uranium-enrichment plant outside of Rio de Janeiro. The plant, which reprocesses fuel from Angra 1 and 2, does much the same thing as Iran's controversial military-civilian facilities.

In 1990, five years after the end of military rule, Brazil publicly renounced its bomb-making plans with the implosion of tunnels in the Amazon that had been dug to test thermonuclear devices.

For the past decade, Pinheiro ran Eletronuclear, the nuclear energy unit of state-controlled utility Eletrobras that has been trying to complete the long-delayed Angra 3 reactor 100 km (60 miles) west of Rio de Janeiro.

But with the economy shrinking, environmental fears growing, public anger over corruption, and delays and cost overruns on government projects, Pinheiro's arrest could lead to a scaling back of Brazil's nuclear plans.

SCANDAL

As with a widening corruption scandal at state-run oil company Petroleo Brasileiro SA, or Petrobras, the allegations of graft are causing a slowdown at Eletronuclear.

Areva SA, a French government-controlled nuclear reactor builder, was hired by Eletronuclear to assemble the pieces of Angra 3 that have been sitting in storage since the 1980s, but it has struggled to get financing for the project. It recently reduced work at the site as a result.

Since construction restarted in 2010, the Angra 3 budget has nearly doubled to 14 billion reais (\$4.2 billion) and the completion date has been pushed back several times.

"The goal of 2019 will be very hard to meet. And the other plants, who knows?" said Claudio Salles, president of Instituto Acende, a Brazilian energy-research group in Sao Paulo. "These plants take 10-15 years to build and as time goes on they become less viable."

The same applies to the nuclear submarine program, Pinguelli said.

Pinheiro led the submarine program in the 1980s after Brazilian military planners were surprised by the ease with which a single British nuclear sub helped beat Argentina in the 1982 war over the Falkland Islands.

Brazilian police are now investigating a shipyard being built with French help near Rio de Janeiro, according to media reports. The yard is supposed to deliver an attack submarine with a Brazilian nuclear reactor and a hull and weapons systems designed with French help by 2023.

Nuclear supporters who mistrust the program's grandiose designs hope the problems will speed reform.

The energy ministry this year said Angra 3 will be the last nuclear plant built by the government and it plans to have private contractors build future plants and lease them to Eletronuclear.

"Hydroelectric potential is running out, and wind, solar and biomass won't meet our needs," said Nivalde de Castro, an energy economist at the Federal University of Rio de Janeiro. "Unless we want to use fossil fuels, we will have to use nuclear."

Brazil relies heavily on hydropower but dams have already been built on many of its largest rivers and a recent drought has raised doubts about the once-reliable power source.

But Eletrobras and Eletronuclear have a constitutional monopoly on all nuclear power projects in Brazil. Any changes to reduce state control of oil and other energy projects will likely meet stiff resistance.

Ildo Sauer, a nuclear physicist who worked under Pinheiro in the late 1980s, says Brazil's nuclear program is too expensive and has been co-opted by politicians and major construction and engineering firms.

"The problem is the lobbyists who see nuclear as a chance to build expensive megaprojects with little regard for cost," said Sauer, a former head of natural gas at Petrobras. "It's no longer about science or energy. It's about politics and money, and that brings corruption."

(\$1 = 3.33 Brazilian reais)

(Reporting by Jeb Blount; Editing by [Christian Plumb](#) and [Kieran Murray](#))

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