

~~Top Secret~~



# Latin American Trends

## Annex STAFF NOTES

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January 21, 1976

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Chile: An Embryonic Nuclear Program

Among the ABC countries of South America (Argentina, Brazil, Chile), Chile ranks third--a very distant third--in nuclear energy development. But Santiago is pushing ahead with its infant program and in all likelihood is intent on emulating its larger and more advanced neighbors. Chile's largely European character, like that of Argentina, has helped foster a more progressive level of scientific education than that found in most of the southern hemisphere. This pool of trained personnel is being augmented by persons who have received advanced training outside the country, especially in the United States and Europe.

Although Chile now is concentrating its technological efforts on developing energy for peaceful uses, it can be expected to acquire a capability to produce plutonium by about 1985 when its first nuclear power plant is scheduled to begin operation. The door to the nuclear weapons route would then be open.

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Chile has one operative nuclear research reactor, La Reina, and another, Lo Aguirre, is under construction. Both are located near Santiago. The newest project, which is scheduled to be completed by June 1976, will employ a reactor purchased from Spain and utilize 90 percent enriched uranium fuel purchased from France but processed in Spain. For all practical purposes, it will be operated under military auspices. The two facilities are expected to produce radioisotopes for nuclear research and use in medicine, mining, and hydroelectric production. Although these research reactors

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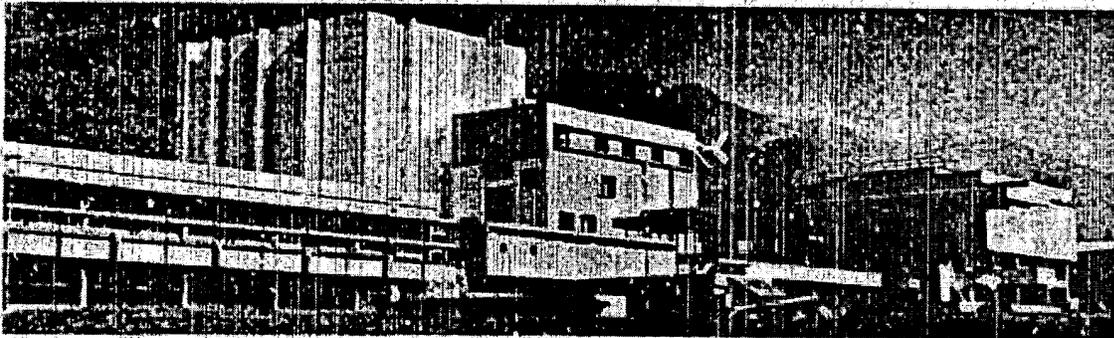
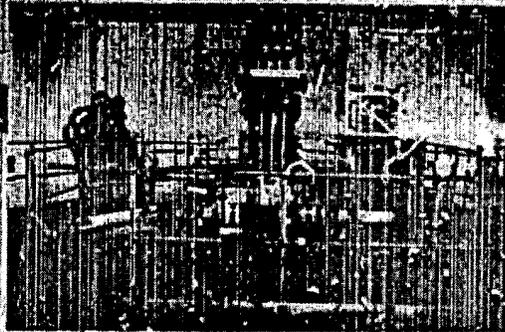
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## La Reina National Nuclear Research Center



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are considered too small to produce plutonium, the technical and scientific progress that will flow as a by-product will take Chilean scientists and engineers a long stride toward eventual propagation of this element--an essential ingredient in crafting a nuclear device.

The principal existing deterrent to Chile's attempting to produce The Bomb is adherence to the Tlatelolco Treaty, which prohibits the manufacture and use of nuclear weapons and declares Latin America a nuclear free zone. Chile is not a signatory to the Nonproliferation Treaty.\*

Officials of the Pinochet government have stated emphatically that Chile does not plan to acquire the capability to develop nuclear weapons, but this sentiment is likely to be conditioned by how Chileans perceive what their neighbors are doing. Sensitivity toward Argentine and Peruvian intentions would figure prominently in Chile's determination of what is in its own national interest.

Peru already has shown apprehension about Chile's nuclear program,

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[REDACTED] Mutual suspicions based on long-standing historical animosities, of course, will only spur both

\*The Nonproliferation Treaty, signed in 1968, is the central agreement concerning international nuclear weapons control policy. Under its provisions, the signatory states possessing nuclear weapons (US, UK, and USSR) agree to provide nuclear material or technology only to non-nuclear states that accept safeguards on their development programs.

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sides toward more sophisticated military ventures. Economic considerations will certainly limit resources available for nuclear expansion, but the Argentine example seems to suggest that this would not be an insurmountable obstacle.

Chile is currently obtaining most of its technical assistance and equipment from Spain. Chile signed a nuclear technical cooperation agreement with Brazil in early 1974, but not much appears to have come from it. With Spanish assistance, Chile has undertaken feasibility studies for construction of a nuclear power plant by 1985. The executive director of the Chilean Nuclear Energy Commission, Commander Marmaduque Abarzua, stated recently that specialists from Spain, Argentina, and Chile are working to "coordinate the rational and commercial utilization of reactors existing in all three countries." It is very doubtful that Argentina will share its technology freely with its Andean neighbor, however.

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One program under UN auspices involves a more concerted effort to uncover new sources of uranium in the country. Chances of locating significant deposits are rated favorable given Chile's known mineral wealth. Like Argentina, Chile would like to be independent of outside sources for this strategic material.

While a Chilean decision to manufacture a nuclear weapon is not an imminent concern, Santiago's pursuit of broader technological achievement along this line is indicative of the trend among growing numbers of Third World nations that view entry onto the nuclear stage as a sign of prestige and, in cases where potential adversaries are situated next door, as a necessity.

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