
Interview: Alberto Costantini

Argentina's nuclear program will remain a national priority

We publish below the interview conducted on May 11, 1985, with Mr. Alberto Costantini, president of Argentina's National Atomic Energy Commission (CNEA).

In the early 1950s, the government of Argentina under Gen. Juan Domingo Perón, committed itself to the construction of a nuclear energy industry. Perón viewed the nuclear sector, and the scientific capabilities and trained personnel connected to it, as a question of vital national security. Argentina today occupies the privileged position of having the most advanced nuclear program in Ibero-America, because of Perón's pursuit of this goal. Under the administration of its previous president, Vice-admiral (R) Carlos Castro Madero, who retired in 1983, the CNEA announced that it had achieved the full fuel cycle with the functioning of a pilot uranium enrichment plant located at Pilcaniyeu, in southern Argentina.

Today, the future of the nuclear program is in doubt. The assault on it launched by former U.S. President Jimmy Carter, and his Federal Reserve chief Paul Volcker, continues today. Argentina's national budget, shaped by the austerity conditionalities of the International Monetary Fund, has drastically reduced funds required to maintain all aspects of the CNEA programs. Dr. Costantini himself has expressed concern over the ability of the CNEA to continue basic research within the existing \$420 million budget for 1985.

In an April 16 statement, the Argentine Association of Nuclear Technology expressed "profound concern over the future of nuclear development" in the country, and predicted that "unrealistic budgets and inadmissible delays in the transfer of funds," could create "difficulties in continuing to work responsibly in this field." The nuclear sector, it said, "can and should effectively contribute to the solution of current economic problems, and to especially prevent these problems from occurring in the future."

EIR: In view of the fact that Argentina has the most advanced nuclear program on the continent, can you tell us about the process of education and training of scientific cadre that allowed this program to develop?

Costantini: In the year 1950, the process of training our country's human resources was begun in a rigorous way. The atomic center at Bariloche was founded and within this center a training institute was created, with a view toward giving

the institute a quality of excellence in the study of theoretical and practical physics. This institute today is named after Carlos Balseiro, one of its most brilliant directors, who died much too young, and it has developed throughout these 30 years, graduating more than 300 nuclear physicists from its classrooms.

This institute is very special, because it is far from the major urban centers, because it provides scholarships to promising students, and because it makes available to these students the laboratories of the atomic center itself so that they can pursue their research . . . as they have done for the past 30 years, such that they have been able to graduate having attained more of a scientific culture than even just professional training. This scientific culture, by permeating the different activities of the commission and through its participation in industry, has allowed for the creation not only of an important core of scientists in the different branches of our Atomic Energy Commission, but also for the formation of an auxiliary industry with the quality control and specialization necessary for the construction of nuclear plant components, as well as the electro-mechanic assembly of their various parts.

We began first with the construction of a small research reactor, then a reactor for radioisotope production. Thus we entered the field of nuclear medicine. At the same time, we created a department of research and development in our commission, putting a lot of emphasis on the entire field of metallurgy and the problem of corrosion, which has been one of our greatest concerns. Finally, in 1960, we began work on our nuclear plant projects. With these three steps, we were able to achieve the creation of a scientific-technological capability, which today includes nearly 2,500 professionals and scientists, and, which has enabled us to develop technological and scientific innovations that have won for Argentina a privileged position in the development of nuclear activity in Latin America.

EIR: Have there been programs of cooperation with other countries, or the influence of scientific circles from other countries during these 35 years?

Costantini: We have joined international organizations such as the International Atomic Energy Agency, also the Organization of American States, and through these we have signed

cooperation agreements. We have obtained the participation of experts from both these institutions, and we in turn have sent our experts to almost every Latin American country, as well as to some European and African countries, something which we are involved in at this very moment.

This interchange has been so intense that during this past April—and I say this with a certain pride—we have been able to hold here in Buenos Aires five very important meetings, a course sponsored by the International Atomic Energy Agency, with the participation of a good number of Argentine experts and some foreigners, on radiological protection and security. We have also been able to develop other courses, also with the IAEA here in Argentina, on energy planning, on radioimmunoanalysis, a very important conference on pure physics, involving a heavy-ion electrostatic accelerator that we have, which is only the fourth of its kind in the world, and finally, we have held a meeting of all the presidents of the Nuclear Medicine Societies of Latin America (Lalavid) to discuss the development of nuclear medicine in Argentina. All of this reflects our permanent activity in the international arena and, of course, the training of our people abroad, as well as the confidence in Argentina that exists abroad.

EIR: What is the leadership role that Argentina is playing continentally in this area? What kind of agreements exist?

Costantini: We have an agreement with Bolivia, for example, in the field of the peaceful use of atomic energy, signed in 1970; we have agreements of cooperation with the government of Brazil for the development and application of the peaceful use of atomic energy. Also with the same stipulation, we have agreements with Colombia, Chile, Ecuador, Paraguay, Uruguay, and Venezuela. The countries with which we are carrying out these agreements most effectively are Chile, Uruguay, and Brazil.

But we also have a very important agreement with Peru. In the region of Huarangal, some 30 kilometers from Lima, we are building a 10-megawatt reactor for the production of radioisotopes, and also a plant for producing and splitting these radioisotopes, in addition to a series of laboratories for radiological protection and security and other infrastructural and service facilities.

I should add that in Lima itself, we constructed an atomic facility which began operating in 1978. One of the basic characteristics of our contract was to give broad participation to the Peruvian personnel, such that all civil engineering and conventional infrastructural works remained entirely their responsibility, while our job was not only the development of nuclear activity, but also the training of Peruvian personnel who were going to take over the operation and maintenance of the facility. Thus, we have succeeded in developing an important technical capability in Peru, and carrying out a broad and generous technology transfer to a brother nation.

EIR: There is a theory stating that economic and scientific development is a key prerequisite for the defense and national

security of any sovereign nation. One of the proponents of that theory in Argentina was Gen. Juan Guglielmelli. Are these ideas applicable in Argentina today; and what is the legacy left by General Guglielmelli?

Costantini: I would say these ideas are quite relevant today. But I would say further, that given the current situation in which the Latin American countries find themselves, and, in particular, the economic difficulties and restrictions, the stagnation of our development in Argentina, I believe that research, education, and reasonable investment to be able to improve our infrastructure, constitute three fundamental parameters for the development of the country. I think we can only overcome the stagnation of our development to the extent that we dedicate and turn our best resources to research, education, and investment. Not only do I share General Guglielmelli's view that these naturally [guarantee] the defense of nations. I would say that to the extent that we dedicate nuclear energy more to the welfare of the people than to the power of the governments, we will succeed in making nuclear energy a determining factor in the progress of the country.

EIR: Isn't there a contradiction in what you have just told me? The economic austerity programs that are being imposed on the debtor countries of Latin America have, in countries like Mexico, Brazil, and Argentina, affected the most advanced sectors in scientific terms, such as the nuclear sectors.

Costantini: I would say that our countries are full of contradictions in their political leadership, such that it would not be strange that my viewpoint offers some contradiction with respect to the common focus. I believe that one of the ways of overcoming our countries' stagnation is to give priority to this type of activity, among which is nuclear energy. By giving this priority, we are using nuclear energy for health through medicine, we are using nuclear energy for production, the application of radioisotopes in agriculture, cattle-raising or industry, that is, to improve our economy. At the same time, we should maintain continuity in developing this technology as a departure for other development processes. Naturally, I believe that in times of economic restrictions, we may have to advance more slowly in search of these solutions, but the priorities must be maintained if we want to provide the nations of Latin America a harmonious means of achieving their development.

EIR: Can you tell us about Argentina's food irradiation program, and how far advanced it is?

Costantini: We have an irradiation program which at this time is in the process of full technological development. For example, we have mobile irradiation equipment, cobalt isotope sources mounted on trucks. We are carrying out exact studies from dosimetry [measuring the absorbed levels of radiation—ed.] to the characteristics of the containers to determine the behavior of different fruits. For example, we had been working until a short time ago, when the harvest in San Juan province ended, on the irradiation of grapes, to prolong

the period during which they can be marketed. . . . We are working . . . in the province of Mendoza on the peach, also to extend the marketing period. In southern Argentina we're trying to determine the exact dosage to be applied to onion, that is, to the vegetables—onion, garlic and potato—and we are also doing some experiments with fish and meat as well.

We already have a certain degree of experience in irradiation of medicinal products, with sterilization, and currently we are conducting research to learn the exact effect of irradiation on the sugars in products, on types of containers, on flavor, etc. . . . Next year we hope to go from the pilot plant to the industrial plant; some of our experts have traveled already to countries such as France, Holland, Italy, the U.S., and even Japan to study existing factories in those countries and to do comparative studies. . . .

EIR: One last question: We have seen reports on budget cuts for 1985 that are going to affect certain aspects of the nuclear program in your country. Has there been a significant reduction and which are the most affected sectors? How will the entire program be affected?

Costantini: Well, evidently we have had some budget cutbacks. We have given the President of the nation the order of our priorities, and we have maintained our human resources and all the technological and scientific developments. Re-

garding the nuclear program, it will not be affected at all in this sense. The second priority will be the maintenance, within the modest but dynamic path we have been following of the application of the radioisotopes to medicine and to production: agriculture, cattle-raising, industry, and engineering. . . . Where we will perhaps have to see some cutbacks is in the construction of nuclear plants and corresponding parts. For example, the nuclear plant Atucha II or the heavy water plant that we are building in Arroyito. With fewer funds this year as a result of budget cuts, their work schedule will be prolonged from six months to one year. That is, we will suffer a small slowdown in the completion of these projects. But the nuclear plan will not be affected by the cutbacks.

EIR: And what about the uranium enrichment process and the Pilcaniyeu plant?

Costantini: These we will continue. These I consider within the nuclear plan. It is still virtually a pilot program with a low-level functioning. The enrichment process is not yet very large, but has a certain importance because it will provide us fuel. . . . These are going to continue. What may suffer a bit more from the consequences of the cutbacks, is the heavy uranium processing plant that we have. This plant will possibly take a longer to complete because, although more advanced, it is less necessary than the enriched uranium.

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