

## 'Gronchi inaugurates the Ispra reactor' from L'Unità (14 April 1959)

**Caption:** On 14 April 1959, the Italian Communist daily newspaper L'Unità reports the opening of the Joint Research Centre (JRC) in Ispra and considers Italy's role in Community nuclear energy.

**Source:** L'Unità. Organo del partito comunista italiano. dir. de publ. LAJOLO, Davide. 14.04.1959, n° 89; anno XXXVI. Milano. "Gronchi ha dato il via al reattore di Ispra", auteur:Pavolini, Luca , p. 1; 2.

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[http://www.cvce.eu/obj/gronchi\\_inaugurates\\_the\\_ispra\\_reactor\\_from\\_l\\_unita\\_14\\_april\\_1959-en-b33b4fbb-d0f3-4938-ae6d-32130afbd6a8.html](http://www.cvce.eu/obj/gronchi_inaugurates_the_ispra_reactor_from_l_unita_14_april_1959-en-b33b4fbb-d0f3-4938-ae6d-32130afbd6a8.html)

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## Gronchi inaugurates the Ispra reactor

### Italy has taken its first, belated steps in the field of modern atomic technology — scientific applications for peaceful purposes

From our correspondent

ISPRA (Varese), 13 April

The atom has chosen a nice spot, nestling among the woods and hills surrounding Lake Maggiore. Here in Ispra, this morning, the President of the Republic inaugurated the Centre for Atomic Studies of the National Committee for Atomic Research (CNRN). President Gronchi pressed a button, and switched on Italy's first atomic research reactor. It was not long before the reactor (christened 'Ispra-uno') reached its critical phase.

So what exactly is 'Ispra-uno'? It is a big concrete, graphite and aluminium cylinder with a concrete cap, which itself weighs eight tonnes. Uranium rods (uranium enriched with the famous U-235 radioactive isotope) are inserted into the reactor core from the 19 holes in the cap. When irradiated, the uranium emits neutrons and heats up. The heavy water that circulates around the uranium rods acts as both 'moderator' of the speed of the neutrons and as a 'coolant'. And so the heavy water absorbs the heat produced by the nuclear reaction and becomes heated in its turn. The heavy water circulates in a number of large pipes, transmits the heat to other water (normal water this time), and then circulates once more.

The Ispra reactor is not intended for industrial purposes. In 'power reactors' — as yet, there are none in Italy; the first to come on stream will probably be the SENN reactor in Latina — the heat generated is used to power turbines, as in any thermoelectric power station. 'Research reactors', like the one inaugurated this morning, are actually used solely for research purposes. The range of activities includes: staff training; testing the way materials behave; chemical procedures for the separation, purification and use of the products of nuclear fission; safety measures; resolving technological problems involved in the production of energy for industrial purposes; the production and use of radioisotopes and so on.

The reactor is equipped with control machinery to stop the reaction whenever it reaches excessive speed and produces too much heat. It is housed in a huge cylindrical metal container, 24 metres high and 26 metres in diameter. The housing is watertight, has double doors and is air-conditioned, and, when the reactor is in operation, the pressure is lower than external pressure. Near the main body of the reactor are the control rooms, since the operation of the reactor is regulated and controlled from a distance.

The main components of 'Ispra-uno' were manufactured in the United States, but the control systems and ancillary equipment were for the most part built in Italy. Technicians from the Ispra Centre assembled the reactor under the supervision of American experts. All the other units were designed and built in Italy.

Although the reactor is, clearly, the main element, it is not the sole objective of the Centre for Atomic Studies or the only reason why it is important. The research laboratories (the real hub of experimentation and computation), the small residential blocks and the facilities make the Ispra Centre a real 'atomic village', built on pleasing and functional architectural lines. A village where, for the benefit of us all, the atom will be used solely for peaceful and scientific purposes. There are currently 250 technicians, including graduates and other specialist staff, 130 administrative staff and 60 manual workers working in the Centre. The number of scientists and technicians employed is set to increase in the near future.

One last word of explanation. The 'Ispra-uno' research reactor should not be confused with scientific facilities like the Frascati electro-synchrotron that has also recently been inaugurated. The electro-synchrotron is an 'accelerator' used to study the structure and behaviour of atomic particles when propelled at high speeds. But reactors are used to study the effects of the radioactivity of a number of minerals, exploiting them in industrial applications.

This morning's inauguration ceremony passed off swiftly. The Head of State was accompanied by

Mr Cesare Merzagora, President of the Senate, and Mr Ferdinando Targetti, Vice-President of the Chamber of Deputies. Cardinal Montini blessed the installation. Senator Basilio Focaccia, President of the CNRN, spoke a few words of explanation, making a point of mentioning the 'lack of continuity in funding' that had made it so difficult to launch and develop scientific research in this key atomic field. With a fine flourish, an American produced a cheque for US\$ 350 000 out of his pocket and handed it to the President of the Republic, extolling at length the 'generous' US contribution to the Ispra Centre. The gift itself was appreciated, less so the Yankee lack of discretion. Finally, Minister Emilio Colombo undertook to table a law in parliament in the very near future regulating the whole subject of research and the use of atomic fuels. If my calculations are correct, that is the 27th time a Christian Democrat Government has entered into a commitment of the kind.

Then President Gronchi pressed the button, the loudspeakers broadcast the rhythmic sounds of the reactor starting up, and the authorities, guests and press were taken on a visit of the installations, shown around by the Centre's patient and courteous technicians.

Italy has taken its first step in the world of modern atomic technology. It has done so late, hugely and scandalously late — which is a disgrace to our scientific traditions and has left us in a position where we lag seriously behind in the international contest to conquer new forms of energy. There is a simple explanation for the indifference, miserliness and obscurantism with which the clericalist governments have tackled this problem: the opposition and hostility of the private electricity monopolies to initiatives that threaten their comfortable position of absolute privilege in the energy field. All the more praiseworthy, then, is the tenacity shown by the management and scientists of the CNRN in their struggle for progress. Now that we are finally on the way, I hope progress will be rapid. The civil future of Italy — and this is no exaggeration — is at stake here.

Luca Pavolini