



THE CAREM REACTOR: "A BRIDGE TO THE NUCLEAR GENERATION OF ELECTRICITY"

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All estimates of the future worldwide energy need indicate that the demand for electric power will continue to increase strongly. Looking at the means to satisfy this demand, it becomes quite clear that while in the immediate future, in most developing countries, requirements might be met by conventional methods, in a not so far future the use of nuclear power to generate electricity will become unavoidable. According to the projections, the rate of increase of the demand for electric power in developing countries will make the availability of nuclear plants mandatory around 2010.

Developing countries, where the main demand for nuclear power for the generation of electricity will occur, should prepare in time for this future. The concretion of any energy plan requires long time spans. The complexity of nuclear plants emphasizes this need for foresight. Clearly it would not be prudent to wait till the year 2010 to broach the subject.

In the "first nuclear era", most developing countries followed a standard path to nuclear energy: applications of radiation, installation of a research reactor, and finally, a commercial nuclear power plant was purchased on a turnkey basis. This process was frequently unsuccessful, because the technological gap between a research facility and a full-fledged power plant is too wide to be bridged in a short time.

This leads us to propose an intermediate step between the second and the third of the classical stages towards full command of nuclear power as the best means to avoid many of the pitfalls and frustrations which are otherwise quite likely to occur. We call it the "bridge project".

Such a proposal is not such a novelty as it might seem at first glance, because it follows the same path designed by the developed countries on their own way toward the commercially mature nuclear generation of electricity. A small nuclear power reactor, similar in size to modern research reactors ("Nuclear Demonstration" facilities), was their intermediate step.

The CAREM reactor, at present under development by the Argentine Atomic Energy Authority and INVAP, is designed to fill this gap between a research reactor and a full-scale commercial nuclear power reactor. It can be used for the domestic development of nuclear energy, and will be offered on the international market as a product fulfilling all of the conditions described above.

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