and more. The Canadian design of nuclear power reactor appears capable of expansion to keep pace, and will yield even more benefit than the conventional plant in the resulting reduction of unit power cost.

It is also significant that since lower unit power costs result from larger stations there is a new incentive for large utilities to export power from their systems and Canadian policy is changing to allow such export from Canada. Since the planning and construction of major power plants takes many years, these trends are not expected to be extensively realized before the 1970's. However, the prospect has already had its effect on atomic energy research and development.

Three Federal Government organizations have the basic responsibilities for atomic energy in Canada:—

(1) The Atomic Energy Control Board, responsible for all regulatory matters concerning work in the nuclear field.

(2) Eldorado Mining and Refining Limited, with a double function as a producer of uranium and as the Government's agent for the purchase of uranium from private mining companies.

(3) Atomic Energy of Canada Limited, concerned with nuclear research and development, the design and construction of reactors for nuclear power, and the production of radioactive isotopes and associated equipment, such as cobalt-60 Beam Therapy units for the treatment of cancer.

The Atomic Energy Control Board does not itself conduct research, but it gives substantial grants to universities to further independent studies and to provide the equipment without which the universities would find it difficult to train the nuclear research workers of tomorrow. In the 1961-62 financial year its grants totalled $700,000.

Eldorado operates research and development laboratories in Ottawa and uses them to support its uranium mining and processing at Beaverlodge in northern Saskatchewan and its refining plant at Port Hope, Ont. Eldorado co-operates with the Department of Mines and Technical Surveys, which carries out background research on the production and use of uranium, and with the Canadian Uranium Research Foundation, an organization which is supported by the industry and which is particularly interested in developing the non-nuclear uses of this metal.

Atomic Energy of Canada Limited (AECL) has an eleven-man Board of Directors, including individuals from private industry, public and private power companies and the universities. The Company's major plant is near Chalk River, Ont., and its Head Office and Commercial Products Division in Ottawa. A new research centre is under construction at Whiteshell, Man. The Nuclear Power Plant Division in Toronto directs the engineering of power reactors and nuclear generating stations. The first project was NPD, a nuclear power demonstration plant to produce 20,000 kw. of electricity, now in operation at Rolphton near the Chalk River establishment; its design and construction were carried out in collaboration with the Canadian General Electric Company Limited and The Hydro Electric Power Commission of Ontario. The Nuclear Power Plant Division of AECL, with the assistance of Ontario Hydro, is also designing and constructing a full-scale nuclear power plant, known as CANDU, which will supply 200,000 kw. of electricity to the Ontario Hydro system. This plant is being built at Douglas Point near Kincardine on Lake Huron. By agreement, Ontario Hydro will purchase the plant when it is in satisfactory operation. An Advisory Committee on Atomic Power Development keeps all other utilities fully informed of the progress being made. This Committee, which was set up by the Federal Government in 1954, meets periodically at Chalk River to assess the economic prospects of nuclear power throughout the country.

Because of the great pace of technological development in nuclear power throughout the world, AECL devotes a major effort to collaboration with many organizations. These include industrial firms and the scientific and engineering departments of universities in Canada and, through foreign government agencies and several international organizations, many technical groups in other countries. For example, the Canadian General Electric Company is under contract to design and construct WR-1, an organic-cooled experimental reactor, for the Whiteshell Nuclear Research Establishment. AMF Atomics Division of