Organizational Arrangements.—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; and (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, and large installations for the sterilization of medical supplies and other uses.

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. The National Research Council also has made grants in the atomic energy field. In 1964-65 the total of these grants was $2,450,000.

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.

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, the Chalk River Nuclear Laboratories, is near Chalk River, Ont., and a second plant, the Whiteshell Nuclear Research Establishment, is near Pinawa in Manitoba. The company's Head Office and AECL Commercial Products are in Ottawa. AECL Power Projects in Toronto directs the engineering of power reactors and nuclear generating stations and operates as consulting nuclear engineers. The design and construction of NPD, the demonstration plant, was carried out by collaboration between AECL, the Canadian General Electric Company Limited and Ontario Hydro. Power Projects, with the assistance of Ontario Hydro, designed and constructed the Douglas Point station. By agreement, Ontario Hydro will purchase the plant when it is in satisfactory operation. The large units of the Pickering station are being built by Ontario Hydro using Power Projects as consulting nuclear engineers. 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 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 has designed and constructed WR-1, an organic-cooled experimental reactor, for the Whiteshell Nuclear Research Establishment, on a fixed price negotiated contract. The Canadian General Electric and Canadian Westinghouse companies are AECL's chief contractors for fuel element fabrication, and other work related to Canada's nuclear power program is carried out in collaboration with Shawinigan Engineering, Orenda Engines Division of Hawker Siddeley Canada Limited, Dilworth, Secord, Meagher and Associates, Atlas Steel Limited and Montreal Engineering Company Limited. In general, AECL's policy is to stimulate the interest of private industry in the development of nuclear power so that these firms can take over construction of power plants when the time arrives, leaving AECL free for fundamental studies and developing new reactor concepts. For some years AECL expects to continue a consulting engineering role in the design of nuclear generating stations. AECL also lends general support to the nuclear and related studies of Canadian universities and lets contracts to the universities on specific problems.