

The cost of power produced by this station is not expected to be competitive with that produced by hydro-electric or conventional thermal stations that burn coal, oil or natural gas. The main objectives of such a station of low power rating are to prove economic feasibility, to gain practical data on the economics of power production with nuclear plants, to gain experience in design and operation, particularly on those aspects which differ from research reactors, and to train personnel, both in plant design and in operation.

The estimated cost of a 20,000 kilowatt station of the NPD design presently envisioned is just over \$11,000,000. This figure does not include the cost of development work at Chalk River nor the cost of the land. Atomic Energy of Canada Limited will pay the major portion of the cost of the reactor, which has been estimated at about \$8,000,000, will provide nuclear data and will be responsible for the nuclear performance of the plant. This company will provide the fuel (natural uranium) and the moderator (heavy water) and will process used fuel elements at Chalk River.

Canadian General Electric Company Limited is responsible for the detailed design and engineering of the reactor and for all construction, and will contribute \$2,000,000 toward its cost. The conventional part of the plant (turbine, electrical generator, and transmission gear) will be designed and paid for by the Hydro-Electric Power Commission of Ontario, an agency of the government of Ontario, which will also operate the plant and feed the electricity produced into its Ontario power network. The Commission will buy steam from Atomic Energy of Canada Limited at an agreed rate and A.E.C.L. will reimburse the Commission for the operating costs of the reactor.

LARGE-SCALE POWER REACTOR

While the design and construction of NPD goes forward, a preliminary design study for a 100,000 kilowatt (electric) station will be carried out by a group composed of engineers and scientists from various power companies throughout Canada and from the staff of Atomic Energy of Canada Limited. The detailed design and construction of such a station, and of future atomic power stations in Canada, will be the joint responsibility of private industry and of the various power companies.

ADVISORY COMMITTEE ON ATOMIC POWER

Complete information on the design and performance of the demonstration power station and on the preliminary design study for the larger station will be made available to the Advisory Committee on Atomic Power, on which are represented the various privately and publicly owned power companies throughout Canada. This committee has held two sessions at Chalk River where it studied the existing Canadian reactors and the preliminary plans for NPD.