

able materials, and (3) it had the power to make and administer security regulations required by the Canadian atomic energy programme. The Chalk River project was operated on behalf of the Atomic Energy Control Board by the National Research Council until 1952 when Atomic Energy of Canada Limited was established.

In 1954 the Atomic Energy Control Act was so amended that Atomic Energy of Canada Limited reports directly to the Cabinet Minister who is Chairman of the Committee of the Privy Council on Scientific and Industrial Research. The Control Board continues to report to the same Minister, and its control and security functions remain unchanged.

The next stage in the Canadian programme, following the creation of a separate United Kingdom programme, consisted mainly of carrying on fundamental research at Chalk River, using the facilities of the two natural uranium-heavy water reactors. The need for a source of higher neutron flux for fundamental research and for engineering studies resulted in a decision in 1951 to build another natural uranium-heavy water reactor known as NRU (National Research Universal). This reactor is expected to have a neutron flux about five times that of the NRX reactor and a power output of 200,000 kilowatts, five times that of NRX. It will produce significant quantities of plutonium and will have advanced research and experimental facilities.

Early in 1954 a power reactor feasibility study was begun at Chalk River in collaboration with the Hydro-Electric Power Commission of Ontario and the following companies: The Montreal Engineering Company Limited, Shawinigan Water and Power Company, British Columbia Electric Company, and Brazilian Traction, Light and Power Company Limited. As a result of this study it was decided to design and construct a small atomic power station, known as NPD--Nuclear Power Demonstration--and at the same time to carry out a preliminary design study for a large power station.

Canada developed a radioactive isotope production programme and pioneered in the use of radioactive cobalt-60 in therapy units for the treatment of cancer. The high flux of NRX enabled Atomic Energy of Canada Limited to produce relatively large quantities of cobalt-60 with a high specific activity. Two types of beam therapy units, the "Theratron" and the "Eldorado", have been placed in 42 hospitals in Canada, the United States, the United Kingdom, France, Italy, Brazil and Switzerland. Many more units have now been ordered by various countries.

Atomic Energy of Canada Limited now has about 2,300 employees. This total does not include employees of the construction and consulting companies working on the NRU reactor. There are more than 100 structures within the 100-acre fenced-in area of the project proper, which lies within a 10,000-acre area controlled by the company.

NEW SEAWAY PROJECT: The Hon. Lionel Chevrier, President of the St. Lawrence Seaway Authority of Canada, and Mr. Lewis G. Castle, Administrator of the Saint Lawrence Seaway Development Corporation of the United States, have announced plans for major dredging and excavation in the channels south and north of Cornwall Island.

The (United States) Saint Lawrence Seaway Development Corporation will undertake the dredging in the south channel between mile 107.5 and mile 110 involving work both upstream and downstream of the existing Roosevelt (International) Bridge. This channel enlargement, which will include dry excavation at Raquette Point on the United States mainland, will provide a seaway channel of 27 ft. depth, leading to the Grasse River Lock at the lower end of the Long Sault Canal.

The (Canada) St. Lawrence Seaway Authority will undertake dry excavation on the south part of Cornwall Island in the vicinity of Roosevelt Bridge and dredging in the south channel from below mile 109 to mile 112.5 to complete the 27 ft. seaway channel. The Canadian Authority will also carry out dredging and dry excavation in the north channel to maintain the natural distribution of flow in the channels north and south of Cornwall Island. This provides for the carrying out of the work which has been under discussion for some time between Canada and the United States.

It was also announced that the two toll committees representing Canada and the United States are rapidly approaching agreement on principles pertaining to toll rates.

There is a possibility of the two Seaway entities negotiating for the purchase of the assets of the Cornwall International Bridge Company and thus providing joint control of highway facilities and services between Cornwall, Ontario, and the United States mainland.

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MINERAL PRODUCTION: Production of 12 of Canada's 16 leading minerals was greater in the January-August period than in the corresponding months of 1955. Output of asbestos, gold, lead and silver was lower, but there were increases in cement, clay products, coal, copper, gypsum, iron ore, lime, natural gas, nickel, petroleum, salt, and zinc.

Comparative totals were: asbestos, 669,634 tons (675,440 tons a year ago); cement, 19,842,990 barrels (16,969,701); clay products, \$24,922,482 (\$21,802,623); coal, 9,157,656 tons (8,648,011); copper, 234,819 tons (211,025); gold, 2,939,924 fine ounces (2,985,216); gypsum, 3,376,369 tons (2,709,742); iron ore, 12,947,264 tons (9,203,593); lead, 124,312 tons (139,663); lime, 867,940 tons (860,130); natural gas, 106,797,930,000 cubic feet (90,887,083,000); nickel, 119,589 tons (117,707); petroleum, 108,864,509 barrels (81,108,857); salt, 937,353 tons (714,392); silver, 17,971,779 fine ounces (18,437,357); and zinc, 286,708 tons (281,667).