

In 1951 work was started at Chalk River on a new natural uranium heavy water reactor which will be called NRU and will have an even higher neutron flux than the NRX Reactor. The primary object of the Canadian atomic energy programme is the development of economical electrical power from nuclear energy. One of the recent studies carried out in Canada suggests that electric power can, perhaps within a few years, be produced using heat from the burning of uranium in an atomic reactor at a cost which would compete with coal at \$8.00 per ton.

It is sometimes forgotten that the generation of large amounts of electricity at low cost by the application of atomic energy is as much dependent on an adequate supply of uranium as upon the availability of efficient reactors. Eldorado Mining and Refining Limited, the Canadian Crown company responsible for the raw material side of our atomic energy programme, has carried out a successful programme to increase the supply of uranium. At present the production of uranium in Canada is three times what it was at the end of the Second World War and it has been estimated that by 1956 it will be eight times as great. The drive to find new sources of uranium got into full stride in 1947 and late in that year a large number of radioactive occurrences were found in the vicinity of Beaverlodge Lake in northern Saskatchewan. Construction of a mining plant and concentrator at Beaverlodge was started in April 1952 and by May 1953 the plants were in operation. Late in 1952 a privately owned company discovered a second major property in the Beaverlodge area. Today private companies are producing uranium ore in that region and are planning production of ore from the important discoveries that have been made in the Blind River area of Ontario near the northern shore of Lake Huron.

On the way towards the development of economical atomic power, Canadian scientists have developed a unique type of bomb -- one that has brought hope in place of fear to the hearts of many victims of cancer. In my country, cancer is still the second leading cause of death. Because of diagnostic aids for earlier detection, advances in surgery, the wider use of radium and the development of the cobalt bomb, thousands of cancer victims in Canada and elsewhere are still alive today who would have had little hope of recovery a few years ago.

As Minister of National Health and Welfare, I have followed with particular interest the applications of radio-isotopes not only to cancer but to a wide range of uses in the diagnosis and treatment of disease and in medical research.

It is just three years since the first cancer patient was treated with Cobalt 60 radiation in London, Ontario, where the first installation of this equipment was made. As compared with x-rays, the cobalt bomb can do the work of a two-million volt x-ray machine, which would cost almost three times as much. This development is therefore bringing radioactive therapy within the reach of all sufferers.