

the post-war period the Government's intensive exploration and prospecting campaign was climaxed by the Beaverlodge discovery. When private industry was encouraged to join the hunt in 1948, the country-wide search which followed was rewarded by the Blind River discovery in 1953. The government-owned Eldorado Mining and Refining Limited negotiated production contracts with the private producers for deliveries to the USAEC. These contracts covered a full five-year period prior to March 31, 1962. For a few mines the final date is March 31, 1963.

Canada has signed bilateral agreements for co-operation in the peaceful uses of atomic energy with Germany and with Switzerland. In 1959 similar agreements were under negotiation with Euratom and a contract was signed with Japan. Germany purchased several tons of uranium from Canada in 1958.

At the end of 1958 the United States had over 40 bilateral agreements in effect while Canada had 2 in effect and 2 more being negotiated. However, the American advantage is not as large as these figures seem to indicate. No less than 29 of the American bilaterals are research agreements, primarily designed to cover the export of a small research reactor and the lease of the small quantity of enriched fuel for it. The important power agreements have been signed with 13 countries but these include the major uranium-producing countries (who will not be importing uranium) and the six countries now included by Euratom. In fact, Canada has agreements, or is at present negotiating, with all the countries that are expected to develop a significant uranium requirements over the next few years.

ORE RESERVES

In 1953 the world's largest uranium deposit was shown to be in the Blind River region of Canada. The combined proved and potential ore reserves at Blind River make up more than 90 per cent of the Canadian total ore reserves; though they are slightly lower grade than some other deposits, they still contain more than 85 per cent of Canadian uranium. The next important uranium area in Canada is Beaverlodge in Northern Saskatchewan where production began in 1953. With an average of 4 pounds per ton, the ore grade here is higher than at Blind River. Three other smaller uranium areas include Bancroft in Ontario; Great Bear Lake in the North West Territories; and the Kamloops area in British Columbia.

Total reserves in Canada are conservatively estimated at 392,000 tons of U308 contained in 377 million tons of ore. Considering the fact that the incentive for further exploration disappeared after 1956, it is probable that a favourable economic situation would yield new discoveries to increase these figures substantially.

PRODUCTION

The Canadian uranium industry, now firmly established as one of our largest mining industries, reached its planned capacity of about 15,000 tons per year during the fourth quarter of 1958. Production has increased from 2,280 tons in 1956 and 6,600 tons in 1957, to 13,500 tons in 1958. The planned level will be maintained while the current contracts are being fulfilled.

SUPPLY OF ELECTRICITY

In many parts of Canada the word hydro is synonymous with electricity: well over 90 per cent of all our electricity is obtained from falling water. Water power has provided us with one of the cheapest forms of energy to be found anywhere in the world. This abundant low-cost electricity has been one of the most important factors in Canadian economic development. However, the number of rivers that can be harnessed is limited, and the distance over which it is economic to transport electricity is also limited. Thus the time is gradually approaching, and in some parts of Canada has already arrived, when other sources of power must be resorted to. The alternative method of generating electricity is, of course, by means of thermal generating stations which burn coal, oil or natural gas (or indeed any fuel) to provide heat which then creates steam to turn the turbines.

North America is fortunate in that it has been, and still is, well supplied with an abundance of low-cost energy in all of its forms, coal, oil, natural gas and water power. The fuel industries in the United States are very progressive, and are able and willing to increase output. This is particularly true of the coal industry. Canada for the first time is in the midst of an oil and natural-gas boom. However, North America consumes nearly 45 per cent of the world's supply of coal, petroleum and natural gas each year - a quantity equal to one and one-half billion tons of coal. The total continues to grow larger each year - most forecasters projecting a rate of increase of 3 per cent per year well into the future. In Canada we anticipate a rate of increase in energy consumption of over 4 per cent for the next quarter century. It is inevitable that fuel reserves will soon begin to reflect this tremendous annual drain.

NUCLEAR POWER IN CANADA

Canada stands out as an important producer of electricity, generating about 5 per cent of the world's total and having the second highest per capita consumption in the world. Most provinces are well supplied with either potential water-power sites or with lower-cost fossil fuels. However, as noted previously, certain regions - principally Southern Onta-