

CANDU reactors are less than half those of other established nuclear power systems and will be kept low by taking advantage of the flexibility of fuelling methods to meet changing prices of nuclear fuel. So efficient is the fuel cycle that there is no need to finance an inventory of spent fuel from a CANDU reactor. However, since it contains a sizable proportion of plutonium, the spent fuel may be regarded as an asset which can be "banked" until such time as it is profitable to sell it or to extract the plutonium for re-cycling in Canadian power reactors.

#### HIGHLIGHTS OF THE YEAR

- The Government of Ontario approved plans by Ontario Hydro to build a 3-million kilowatt nuclear power station at Douglas Point. To be known as Bruce Generating Station, the plant will have four 750-megawatt CANDU reactors, with the first scheduled to come into service in 1976 and the others following at yearly intervals. AECL has been commissioned to be the nuclear engineer for the project.
- AECL was authorized to build at Douglas Point a heavy water production plant with a capacity of 800 tons a year. Site work has started and completion is scheduled for 1972-73.
- Effective July 1, 1968, the nuclear power design and engineering group of the Canadian General Electric Company Limited was merged with that of AECL Power Projects, under the terms of an agreement between the two companies.
- AECL's responsibilities were extended to include the export marketing of Canadian nuclear power stations. Contacts were established with a number of countries that have announced they intend to "go nuclear" and have expressed interest in the CANDU system.
- The Nuclear Power Demonstration station was converted from pressurized heavy water to boiling heavy water coolant and was declared "in-service" as a BHW reactor on January 2, 1969. Despite a new mode and new equipment, the station achieved a remarkable capacity factor of 86.8 per cent in the next three months.
- AECL and the Commissariat à l'Énergie Atomique of France concluded an agreement extending co-operation between them to include proprietary information relating to heavy water reactors cooled by water.
- A contract was signed for the sale by AECL to the French Commissariat à l'Énergie Atomique of plutonium, worth some \$1 million. The plutonium will be extracted from spent fuel from Canadian nuclear power stations.
- "Packages" of technical information relating to the Canadian nuclear power system were sold to the Japanese Power Reactor and Nuclear Fuel Development Corporation for use in developing an advanced thermal-nuclear reactor in Japan.
- Irradiation testing was completed in the NRU reactor of a full-scale prototype booster rod for the Gentilly nuclear power station. Maximum power

delivered during the test was 5.5 megawatts, making it the highest power fuel experiment ever carried out at CRNL.

- Sales by Commercial Products of Eldorado and Theratron teletherapy units increased substantially, resulting in the highest number of units sold in any year to date.

#### SCIENTIFIC EQUIPMENT FOR INDIA

India is to receive a grant of \$100,000 from Canada for the purchase of scientific and technical equipment for use in various research programs of the Indian Council of Scientific and Industrial Research (CSIR).

The aid will take the form of a \$100,000-worth of credit to be established by the Canadian International Development Agency with the National Research Council of Canada, which will enable the NRC to procure Canadian scientific equipment for its Indian counterpart organization.

The future growth of India's large industrial sector depends greatly on the research being carried out by the CSIR for the provision of new inventions and technological advances. The Council also undertakes considerable research work on medical, agricultural and related programs through its many sub-stations. Until now, lack of adequate equipment has been a limiting factor in its work.

#### MONUMENT TO AVALON COLONY

A federal monument commemorating the seventeenth century English colony of Avalon in Newfoundland was unveiled on July 12 at Ferryland, a community of about 800, half-way down the east coast of the Avalon Peninsula, about 50 miles south of St. John's, the provincial capital.

The little fishing colony was founded in 1621 by Sir George Calvert, later Lord Baltimore. In the conviction that he was strengthening Christianity in America, Baltimore called the colony Avalon, the ancient name for Glastonbury, according to legend the place where Christ's message was first preached in Britain. The Avalon Peninsula was one of the earliest refuges for Englishmen fleeing religious persecution; several settlements of Puritans had been established before Calvert's arrival.

The monument, contemporary in design and symbolizing Baltimore's "mansion house" of stone and timber, stands near the site of the original structure. Two bronze plaques, one in French and one in English, are fastened to a backing of three white oak timbers upheld by a concrete and stone support at each end. Commissioned by the National Historic Sites Services of the Department of Indian Affairs and Northern Development, the monument will replace a temporary plaque erected on the outside wall of St. Joseph's Central High School two years ago.