

Asian and Latin American customers, as the AtomFair and the Nuclear Congress brought visitors from many overseas countries, including France, Germany, Italy, the United Kingdom, Greece, Japan, Burma and Brazil. France was represented by a 25-man mission from French industry and the Commissariat à l'énergie atomique. The Canadian group paid particular attention to meeting all members of the French mission because of the traditional ties between France and Canada and the possibility of developing further trade links in the atomic energy field....

Equipment and services shown fell into three broad groups: power reactors and reactor components; uranium compounds; radioisotopes and equipment utilizing radioisotopes, and radiation detection equipment.

Among the power reactors was the NPD-2 (Nuclear Power Demonstration) 20,000 kw. reactor, a three-way co-operative effort between industry, public utilities and Atomic Energy of Canada, at present under construction at Rolphton, Ontario, near the Des Joachims plant of Ontario Hydro, about 15 miles from Chalk River. A model of NPD-2, prominently located in a section of the exhibit, was the object of many questions dealt with by company representatives.

In addition to the power reactor now under construction, there were three proposed and privately-sponsored reactor designs on display: a model of a horizontal tube, heavy water-cooled and moderated 185 thousand kw. reactor; a model especially built for the exhibit showing OADR, an organic liquid-cooled heavy water moderated 150 thousand kw. reactor offering reduced capital and operating costs; and a well illustrated graphic display explaining a nuclear steam generator employing helium gas for cooling and graphite as a moderator to produce 400 thousand kw. electrical output. The two latter were discussed in technical papers presented at the Nuclear Congress by Canadian authors.

#### REACTOR EQUIPMENT AND SERVICES

The requirements of the Chalk River research establishment in control equipment, fabricated components, and reactor construction have given a number of Canadian firms an opportunity to develop useful know-how, fabricating facilities and engineering services. Several such suppliers displayed by means of charts the equipment and services available. In the main, it was not possible to have actual equipment on hand because it is specially made and any spares must be kept at the reactor in case of operating failures. However, lack of equipment was in part made up by attractive graphic displays, photographs and take-away literature. The reactor components exhibited included a neutron-flux control system for the Canada-India reactor, a xenon gas computer installed at Chalk River, reactor control consoles, beta monitors, an

aluminum calandria--to mention a few of the items that to the layman's ear will sound exotic and fortunately need no explanation here....

#### DISPOSING OF ATOMIC WASTES

Closely allied to the reactor component group were the experiments undertaken on behalf of the Atomic Energy of Canada research establishment at Chalk River in the disposal of radioactive waste through incorporation in glass. The exhibit centering around this experimental work aroused much interest, not only in reactor-waste disposal but also in other possible applications of the special glass. A high volume air sampler, a device developed by the same organization (a research institute) for the collection of large samples of air-polluting substances, was examined closely by a number of visitors who felt that it might solve some of their air-contamination problems. Another exhibitor--a consulting engineering organization--with a close relation to reactor supply showed graphically the special services available in the field of reactor-construction inspection, a task requiring experts because of the high precision and close tolerances needed.

#### URANIUM COMPOUNDS

Uranium compounds were simply but effectively displayed with a model of the Port Hope refinery where they are produced. This model served to illustrate the design and construction services available in Canada from the engineering firm responsible for it. By its size and intriguing detail, the model also drew attention indirectly to the availability of the uranium compounds that otherwise might have been difficult to display. Questions about both were effectively answered by staff from the refinery and the engineering firm.

Canada produces a wide range of uranium compounds of high purity at competitive prices. These compounds include sodium diuranate, uranyl nitrate hexahydrate, triuranium octoxide, uranium dioxide ceramic, and uranium metal--a range matched by few other suppliers in the world....

#### RADIOISOTOPES OFFERED

Because of Canada's early start in the atomic field, we have developed an active industry--one of the most active anywhere--based on the production and use of radioisotopes. Canada has been in the unique position of offering radioisotopes of extra-high activity because of the facilities available at the NRX and NRU reactors at Chalk River. (The latter is the most powerful of its type in the world today.) These isotopes are used in therapy units for the treatment of cancer and in industrial irradiation units. Such high-intensity radioisotopes permitting sources approaching point size--an important feature in cancer therapy--were offered by one