Nuclear waste breakthrough

An important technological breakthrough with particular application to the nuclear industry has been announced by McGill University scientists, Dr. Irving W. DeVoe and Dr. Bruce E. Holbein.

Following three years of laboratory research, the Montreal doctors have developed a series of compounds specifically designed to remove virtually all hazardous radioactive metals from water and other waste materials found in nuclear power plants. Unlike conventional methods of removing radioactive material, these novel compounds represent the first technology that can extract even the smallest traces of radioactive metals.

In addition to waste clean-up in power plants, Drs. DeVoe and Holbein believe their compounds will be important in the areas of nuclear waste management, environmental monitoring for radioactive contamination and reduction of corrosion in nuclear reactor water cooling systems. Scientists and engineers of Atomic Energy of Canada Ltd. have recently expressed enthusiasm for the potential of this new technology, assuming field trials prove as successful as the laboratory tests.

Drs. DeVoe and Holbein say their compounds, for which they have several patents pending, will soon be ready for full-scale testing world-wide.

TREC on the ocean's floor

Thanks to a box-like structure loaded with cameras, floodlights and electronic equipment, video pictures can now be sent from the floor of the ocean to a ship riding the waves above.

The device called TREC – Tethered Remote Camera – is manufactured by International Submarine Engineering Ltd. (ISE) of Port Moody, British Columbia, an international high technology company that has pioneered the design and production of unmanned submarines. Of the 150 such submersibles, costing from $135 000 to $1 million, now in use throughout the world, ISE has built half of them.

TREC, which weighs some 182 kilograms, can dive to 365 metres. The structure measures 114-by-357-by-387-centimetres.

TREC is one of three other submersibles the firm designs:

– TROV, Tethered Remotely Operated Vehicle, which has a crab-like mechanical arm that can close valves, recover torpedoes or carry sonar equipment. (A TROV found the sunken ship in the North Atlantic that, for a few exciting days last summer, was assumed to be the *Titanic.*);

– DART, Deep Access Reconnaissance Television, which is a compact 101-by-45-by-30-centimetre device weighing some 40 kilograms, that can slip easily into underwater pipes and other narrow places;

– Sea MARC, Sea Mapping and Remote Characterization, which scans and maps the bottom of the sea, discovering and identifying geological hazards to shipping. (The United States Geological Survey used Sea MARC to map almost 3 000 square kilometres along the slope of the eastern continental shelf in 17 days.)

The company was created in 1974 by its president, Jim McFarlane, who retired from the Canadian Navy in 1971 when he began building manned submersibles. He formed ISE when high density integrated circuitry became available. In less than a year he had built the first TROV and sold a model to Canada's Environment Department for $100 000.

For more information, contact International Submarine Engineering Ltd., 2601 Murray Street, Port Moody, British Columbia, Canada V3H 1X1.

Computer graphics firm eyes world-wide markets

Ottawa's Omnitech Graphics Systems Inc. is making life easier for designers, draftsmen and map-makers throughout the world with its newly developed computer-aided CADD/CAM system for use in designing, drafting and manufacturing.

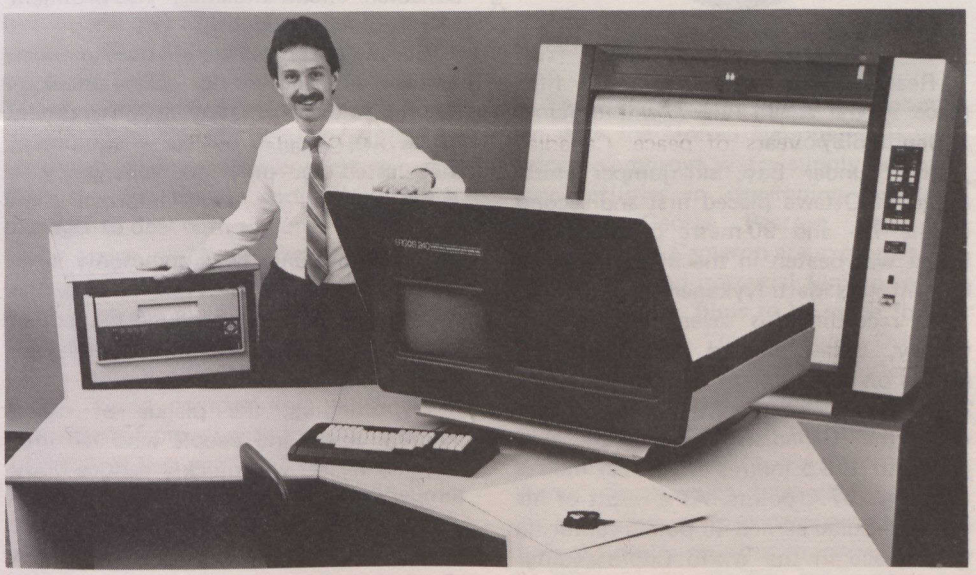
The system, trade-marked "ERGOS 240", enables designers, draftsmen and cartographers to design products and systems on a video display terminal. The system's minicomputer records the designs, allows easy alterations and prepares required materials costings and a bill of materials.

Once the drawings have been produced, another Omnitech software package lets the system be used to co-ordinate and direct the manufacture of parts and assembly.

After a period of consolidation and building its base in Canada following its founding in December 1979, Omnitech is now setting up a world-wide network of distributors.

The company has already signed agreements with distributors in England, the eastern United States, West Germany and Taiwan as well as Indonesia. Distribution agreements are being negotiated in the US, South America, Australia and other Asian countries.

At prices ranging from $125 000 to $150 000, the company's systems are competitive in price with similar US systems selling in the $250 000 to $600 000 range.



Alex McCallum, manager of software production for Omnitech Graphics Systems Inc., displays the new Omnitech CADD/CAM system for use in designing, drafting and manufacturing. Although the ERGOS was introduced only last April at the Hannover World Trade Fair, purchase orders are being received from West Germany, Britain, Taiwan, Indonesia and the United States, as well as a number of Canadian companies.