

NEW FISHERIES VESSEL

A 130-foot fisheries-research vessel incorporating a number of unique features is to be added to the Atlantic coast fleet of the Fisheries Research Board of Canada, Fisheries Minister H.J. Robichaud announced recently. This will aid the Department of Fisheries in the national development programme and in fulfilling Canada's international commitments in fisheries conservation.

The Department of Transport, on behalf of the Research Board, has called for tenders for a pelagic-fisheries research vessel to be equipped for stern trawling and scallop dragging, with a range of 3,000 miles at a cruising speed of 11 knots. She will have a 27-foot beam, a draft of ten feet nine inches, and a complement of 21 scientific officials and crew.

STABILIZATION EQUIPMENT

The vessel will be equipped with a passive anti-rolling "flume-stabilization" system to provide a steady platform while in operation at sea, and a bow-thruster will be installed well below the low-water line for slow-speed manoeuvring. The design is the first of its kind to have a flume-stabilization system, a bow water jet thrust system, and the absence of bilge keels.

The specifications call for all-welded construction with a steel hull strengthened for navigation in ice, and an aluminum deckhouse and wheelhouse amidships. An extended foc's'le, raked stem and reverse transom will present a very pleasing appearance. Provision is allowed for fish pounds and fishing equipment and gear to be located on the upper deck aft, which will be wood-sheathed. One of the unique features will be the installation of hinged gallows of special design for lowering and retrieving trawls. The propulsion machinery will be amidships.

The steering gear will be of the electro-hydraulic rotary-vane type with emergency hand-hydraulic operation. An electro-hydraulic anchor windlass capable of a half-ton pull at 110 feet a minute will be fitted on the forward deck.

WELLAND TRAFFIC SURVEYED

With traffic levels rising to new heights on the Welland Canal as ship movement increases along the entire Seaway system, the St. Lawrence Seaway Authority has undertaken an energetic project of surveys, experiments and modifications of operations to speed the transit of ships through the Welland. The Authority has engaged a leading firm of traffic and operations-research consultants to initiate this project in co-operation with the Authority's own staff.

The first report of the consultant firm is now being issued by the Authority to shipping companies and others concerned with the use of the Welland Canal. It indicates that shipmasters and Authority personnel share about equally in the "lockage" time of ships.

"For current traffic rates, this season, if each lockage had required about five minutes or about 10 per cent less time, most of the waiting lines and corresponding time losses to ships would have been eliminated," the report says. The minutes saved, it points out, can accumulate to savings of days.

The St. Lawrence Seaway Authority, stating that it is proceeding with a programme designed to decrease delays and increase transits, is calling on the shipping companies to co-operate with its staff to this end. It asks that companies inform masters of the findings of the report and request them to proceed as promptly in the canal as safety will permit. Ships' officers are also asked to co-operate with the project group in surveys and experiments designed to speed operations.

SHORT-SLEEVE WEATHER ALL YEAR

An office building where the temperature remains a comfortable 70 degrees the year round and the relative humidity never wavers from 50 per cent — fantastic? Shangri-La? Neither — just one of the unique features of the underground headquarters of the Northern NORAD Region near North Bay, Ontario, where computers receive and display data on aircraft in flight, keep Canadian and American personnel informed on the air situation, and direct interceptors and missiles to their targets.

Because of its highly critical operating temperature, the FSQ-7 computer must be maintained within one degree of 61 degrees Fahrenheit. To do this, each of its 58,000 tubes must be individually air-conditioned. Add to this the need to air-condition each electronic display console and room in the building, and the result is an air-conditioning system, comparable in size to the one installed in Montreal's Queen Elizabeth Hotel, that produces an ideal working climate 365 days of the year.

Air is drawn underground by huge fans at the rate of 50,000 cubic feet a minute. It is filtered, pre-heated, cooled, washed, humidified or de-humidified as required, and sent into the air-conditioning system.

To cool the air, 3,000,000 gallons of water are used a day. This is more water than North Bay's 23,000 inhabitants use in the same time. Three water chillers, capable of producing 1,200 tons of ice a day, are driven by motors 500 times more powerful than the one horsepower motor-driven conditioners most people have at home.

The relative humidity of the air entering the underground SAGE air-conditioning system is maintained at 50 per cent by a unique method. Should the humidity of the incoming air be below 50 per cent, a water spray is used to raise it to the required level. Hygrol, a type of anti-freeze, is sprayed on the recirculating air to maintain the correct humidity level.

So, Northern NORAD Region's underground air-conditioning system enables the FSQ-7 computer to do its job and, as a by-product, provides climatic comforts to personnel who watch 24 hours a day for signs of hostile aircraft.