TRANS-PACIFIC TELEPHONE

"On the invitation of the Government of Australia, a conference was held in Sydney, New South Wales, on September 28 last year, attended by representatives of Great Britain, New Zealand, Australia and Canada. The purpose of the meeting was to study the practicability of a trans-Pacific telephone cable-system between Vancouver Island, New Zealand and Australia. This was proposed as a part of a segment of the Commonwealth round-the-world telephone-cable network recommended by the Commonwealth Telecommunications Conference in 1958. The recommendations of this meeting were subsequently made to the Governments of the four countries concerned, and approval for this trans-Pacific network was granted. Detailed planning and engineering are now proceeding, and completion is scheduled for 1964.

"Several months ago, the COTC called to my attention a definite need to provide a cable-ship adequate to recover and repair submarine cables in the North Atlantic.

"The Government considered this request and a decision was taken to proceed forthwith to prepare plans for a cable-repair ship.

DUAL-PURPOSE SHIP

"During the study which was made with officials of COTC and the Department of Transport, it was decided to design a ship suitable for cable-ship operations and one that could be used as an ice-breaker, as and when her primary roll permitted.

"This dual-type ship, which has been decided upon, will be the only one of its kind in existence. The ship is at present being designed to act as a cable-maintenance and repair ship and an ice-breaker, and will have a capacity to carry 400 miles of cable.

"The estimated cost of this ship is approximately $7 million. It is hoped that the design will be completed in order to enable tenders to be called for the construction of this ship in the summer of 1961.

"Because Newfoundland is the central landing-point for the North Atlantic cables, it has been decided that the new cable repair ship will be based in St. John's."

* * * *

UNIVERSITY RESEARCH INCREASING

National Research Council support for research at Canadian universities reached a record $9.37 million in 1959-60. Figures released for the forty-third year of the Council's foundation programme show increases of $2.62 million over 1958-59 and $6.25 million over 1955-56. This rate of growth has been caused by rapidly-increasing student enrolment and the resulting expansion of staff and research facilities in the universities.

The major responsibility in deciding how and where this money can best be spent rests with university scientists sitting on NRC committees. Support for direct research amounted to $8,586,265 in 1959-60. Seventy-seven per cent of this was for studies in science and engineering and 23 per cent for medical research. The largest item in the programme was $7,263,389 for research grants to university staff members. Another $1,322,-876 financed more than 450 scholarships and fellowships for graduate students. The cost of publication of Canadian scientific journals, contributions to scientific organizations and conferences and administration of the programme - described as indirect support - amounted to $784,102.

* * * *

PEACE RIVER BRIDGE OPENED

A crowd of almost 10,000 attended the formal opening of the new Dunvegan Bridge over the Peace River on August 31, when the final symbolic bolt was fastened by Mr. E. C. Manning, Premier of Alberta.

Landing by helicopter at the south end of the bridge, Mr. Manning led a motor procession over the new structure to the north end, where the golden bolt was tightened. He was handed the torque wrench by a steelworker who had worked on the bridge from the beginning.

The giant structure, measuring 2,375 feet, spans the Peace River at a point approximately 50 miles north of Grande Prairie, Alberta. The fourth largest suspension bridge in Canada, it was built at a cost of $5 million.

The Dunvegan Bridge is comprised of an 1800-foot suspension span and 575 feet of steel girder approaches. The two towers, standing 231 feet and 201 feet high, support the suspended 900-foot centre span and two 450-foot side-spans. The bridge-deck is about 100 feet above the surface of the river.

SPECIAL ENGINEERING PROBLEMS

The characteristics of the Peace River required careful planning of the substructure. The river is subject to extreme changes in water level necessitating deep footings that will not be endangered by erosion. The north tower pier was set at 70 feet below stream bed and the south pier at 40 feet. These two piers supporting the towers required the excavation of 10,000 cubic yards of bed material and placing of an equal volume of concrete.

The north and south anchorages for the main suspension cables are firmly set 35 feet below groundline. Each anchor consists of a concrete walled cube divided into sections and ballasted. The north anchorage weighs 18,400 tons and the south anchorage 14,000 tons. Structural steel for the bridge weighs 3,300 tons.

The mounting of the cable was accomplished initially by taking one end of a small firmly-