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World's longest submarine cable links Canada with regions in Pacific Ocean

Canada, Hawaii, Fiji, Norfolk Island in the South Pacific Ocean, Australia and New Zealand were officially linked on November 7 with the inauguration of the world's longest submarine cable. The cable was opened for commercial service between the countries on October 1.

The 15 000-kilometre ANZCAN undersea cable, one of the largest telecommunications projects of its kind, is at present capable of carrying 1 380 simultaneous telephone conversations on the one copper and steel conductor. This is made possible by using a technique known as "multiplexing" which enables more than one signal to be carried on the same transmission path.

In a few years from now, as the demand for circuits increases, the terminal multiplex equipment will be augmented and the system will then carry nearly 2 000 conversations. If still more capacity is needed, another technology, "circuit multiplication equipment", can be added, increasing the capacity to nearly 4 000 conversations.

Major contributor

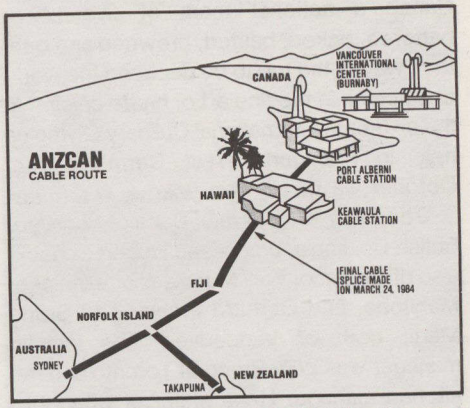
The ANZCAN cable is a $500-million facility, owned and operated by a consortium of 22 telecommunications carriers including Teleglobe Canada, which is the second largest investor in the system with a 13 per cent interest. Canada's contribution includes some $20 million for processed copper, polyethylene, steel and multiplex equipment for direct use in the system and about $40 million for indirect offsets such as high technology equipment, manufactured materials and semi-processed materials.

The new cable replaces the old Commonwealth cable. It has been in the planning stages since 1978, and is expected to play a major role in expanding the range and quantity of international telecommunication services to countries in the Pacific region.

Increased capacity

Some 40 million calls were carried by the older COMPAC cable in the 20-year period from 1963-1983. This works out to 6 000 calls per day or four calls a minute. The ANZCAN cable is expected to handle about 129 000 calls per day or 90 calls per minute.

The cable system is powered at every land terminal station. In between these stations, "repeaters" are used to keep the signal up to its proper strength and specifications. Each repeater is housed in a torpedo-like casing and joined to the cable approximately every 7.2 nautical miles. An "equalizer" was also used while laying the cable for any final adjustments necessary to make sure the signal is just right. In all, the ANZCAN system has 1 124 repeaters and 75 equalizers.



Artist's drawing of the ANZCAN submarine cable route.

The cable and the repeaters have been engineered to work, undisturbed on the seabed, for 25 years. They are not expected to corrode or break down.

While maintenance of a routine nature will not be required, any unforseen difficulties will be handled by the maintenance authority for the system. The ANZCAN partners have appointed Teleglobe Canada and the Australian, Fijian and New Zealand cable administrations as the members of the authority.

Inauguration ceremonies were held simultaneously in Vancouver, Fiji, Australia, New Zealand and England. Queen Elizabeth II gave a televised inaugural message and Canada's Minister of State for Science and Technology Tom Siddon and Australian Minister of Communications Michael Duffy spoke together in a ceremonial telephone call.

Canadian launch

The Canadian ceremony took place in Teleglobe Canada's new Vancouver International Centre in Burnaby, British Columbia.

The centre is linked to the Port Alberni Cable Station, the Canadian landing point of the ANZCAN cable on Vancouver Island, by a microwave network.

Speaking at the inaugural ceremony, Teleglobe Canada President Jean-Claude Delorme pointed out that "the ANZCAN project has been a huge collaborative effort benefiting Canada in many ways. Besides providing improved telecommunications capacity with countries in the Pacific region where traffic is growing at a rate of about 8 per cent per year, ANZCAN has either directly or indirectly provided Canadian industry with some $60 million worth of business."

Canapress

Queen Elizabeth II accepts a piece of cable presented to her by the chairman of the ANZCAN Management Committee, Derek Rose of New Zealand, after the inauguration ceremonies of the longest underwater cable.