

Mountaintop repeater stations bring TV, radio to valleys

Each area in Canada has its own special communications problems. In British Columbia and the Yukon, the problems are big but beautiful: they're called mountains.

But development of the VHF (Very High Frequency) mountaintop repeater, which receives and retransmits radio and television outside the range of the operating station, has made communications possible over high mountain chains.

With many repeater sites accessible only by helicopter, portability, weight and protection of the repeaters are critical when repeaters are to be installed at high altitudes. The weather at mountaintop sites can vary considerably. Temperatures range from 30 degrees C to -60 degrees C and winds up to hurricane force can be expected. Snow and ice buildups place tremendous stress on equipment, antennae and structures.

Some repeater sites planned by Parks Canada for Kluane National Park call for installations on some of Canada's highest peaks. Among them: Mount Logan (6,050 metres), Mount St. Elias (5,485 metres) and Mount Vancouver (4,785 metres).

Equipment reliability essential

Equipment must be reliable because of the cost of reaching the site to service the equipment and to make repairs. Power is usually supplied by batteries, each with a capacity of 2,000 ampere-hours, good for three to five years. Each site has about 30 of the batteries.

Fibreglass domes, 8.5 metres high, have been designed to shelter the mountaintop repeaters. The domes are anchored to bedrock. A repeater station usually has, in addition to an antenna system, two or three transmitter/receiver combinations and a mobile drop repeater. (A drop repeater is a repeater station equipped for local termination of one or more circuits.)

Mountaintop repeaters have to be placed so that they serve the required coverage area and are in a line-of-sight path to the station from which they receive the signal. Some repeaters also have other radio equipment installed.

Low-power television stations (LPTV), or relay translator stations,



Photo: B.C. Hydro

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are also located at mountaintop sites. A translator is a television receiver and low-power transmitter which receives television signals on one channel and retransmits them on another channel to areas which cannot receive the direct signals.

In north central B.C., one main TV station serves the entire area by a system of 35 low-power translators. Total coverage area — approximately 27,145 square kilometres — is believed to be one of the largest in North America. The system reaches into the Alaskan panhandle to provide the only available television to Canada's United States neighbours in Ketchikan, Alaska.

Canada/Portugal fisheries agreement

The Secretary of State for External Affairs, Allan J. MacEachen, recently announced the conclusion of a fisheries agreement between Canada and Portugal, which was negotiated at meetings held in Ottawa in January and in March 1976.

The agreement, which will come into force upon ratification, sets out the terms and conditions that will govern continued fishing by Portuguese fishing vessels in areas to be brought under Canadian jurisdiction beyond the present limits of the Canadian territorial sea and fishing zones off the Canadian Atlantic coast. It will permit Portuguese vessels to fish in the area concerned, under Canadian authority and control, for resources surplus to Canadian requirements.

This agreement is the fifth to be signed in recent months between Canada and nations having major fishing operations off the Canadian coast.

International health educators meet in Ottawa

Canada's capital city will welcome over 1,000 delegates from 70 nations to the ninth International Conference on Health Education, August 29 to September 3.

The conference will discuss various aspects of the main theme: Health Education and Health Policy in the Dynamics of Development. Participants will include representatives of health professions and voluntary associations, as well as of government agencies.

Marc Lalonde, Minister of National Health and Welfare, will address the opening session in the National Arts Centre on Sunday evening, August 29. Conference chairman is Professor Raoul Senault of Paris, France, president of the International Union for Health Education.

Michael E. Palko of Ottawa, first vice-president of the Union, notes that two issues of prime importance at the conference are the effective use of preventive measures in health care, and increasing public participation in the planning and provision of health services.