

Extensive microwave systems are utilized within the respective provinces for civil and military communications or television relay purposes. Major expansion has taken place in each province, greatly increasing the number of areas served and system capacity for all types of communication requirements. Tropospheric scatter systems are employed to provide beyond line-of-sight transmissions especially to the Far North areas which are used for both civil and military applications.

Hydro.—The British Columbia Hydro and Power Authority, the Calgary Power Corporation, The Hydro-Electric Power Commission of Ontario, the Quebec Hydro-Electric Commission, the Saskatchewan Power Corporation and Manitoba Hydro use a considerable number of microwave relay systems for important control and communication purposes. The Quebec Hydro-Electric Commission has greatly expanded its power generating plants and new microwave routes have been added to permit a central control of the various power generating stations through the use of microwave communication.

Television.—The two main television interests in Canada—the CBC and CTV—lease private microwave facilities for the relay of television programs from coast to coast. In addition, studio transmitter links are used by various television stations where the television transmitter is situated some distance from the studio and interconnection is required. In sparsely populated areas, off-the-air pick-up signals from primary television stations are sometimes relayed via microwave to rebroadcasting sites. Microwave facilities are also used in connection with portable and mobile television pick-up where program material is intended for the main studio.

There has been a great increase in television coverage areas during the past year and the ensuing need for English and French program feeds via microwave relay has caused an expansion in the number of leased microwave circuits and new communication routes.

Industrial.—Many firms utilize existing public communication facilities on a lease basis; however, some organizations have installed private microwave systems to provide voice, teletype and control data for various purposes.

Subsection 7.—Miscellaneous Radio Communication Services

In addition to radio communication services provided by the Federal Government, extensive radio communication systems have been established in the provinces, mainly for police, highway and forestry protection purposes. Municipal government departments have steadily increased their use of radio to facilitate operations, particularly as a medium of communication with vehicles—police, fire, engineering, hydro, etc. Such services as taxi, heavy construction, ready-mix concrete, oil pipeline construction and operation, veterinarian and rural medical participate extensively in the use of radio.

Public utilities, power companies, provincial power commissions, oil exploration and mineral development organizations have expanded considerably their use of radio in both mobile and point-to-point radio fields.

The telephone companies provide an extension of land telephone service, by radio, to suitably equipped vehicles. This service is available in all major cities in Canada and along many of the nation's arterial highways. Restricted common-carrier mobile radio service (this service to vehicles does not permit interconnection with the over-all telephone system but only with specific dispatchers) is available in most major cities in Canada as well as in a number of smaller urban centres. The latter service is provided by telephone companies as well as by other organizations. Low-power radio stations may be licensed to permit short-distance personal and private business radiotelephone communications; since the inauguration of this service in 1962, more than 24,000 licences have been issued.