

Island—and isolated communities in the northern parts of Ontario and Quebec and other inaccessible points.

Wireless telephone or radio is assuming increasing importance in the economical development of the telephone system. Developments in recent years have progressed rapidly and there is every likelihood that wireless telephone or radio systems capable of handling large numbers of communication channels over long distances may, in many cases, prove to be an economical alternative to the use of wire lines. Since the economical development of the Company's system involves the use of such new developments as they become available it is planned to use wireless telephone and radio systems as an alternative to wire lines where such use is indicated to be the proper procedure.

While, as already stated, the Company has no intention of engaging itself in radio or television broadcasting, it is clear that the telephone companies have played an important part in the development of radio broadcasting by providing connecting links between studios or pick-up points and broadcast transmitters and between radio stations at widely separated points to permit simultaneous broadcasting of program material over a wide area. A large number of program circuits provided by wire facilities are now permanently established by telephone companies for the existing broadcasting stations, and country-wide wire program networks are also in constant use.

This use of telephone facilities has been essential to the growth and expansion of radio broadcasting. In the absence of such facilities, it would have been necessary for the broadcasting organizations to provide their own inter-connecting links and this would have been prohibitively costly. Since, however, pole lines, conduits, cables, etc., already established for telephone use are readily adaptable for radio program purposes, they provide a relatively inexpensive means of furnishing required inter-connecting wire links. The fact that such facilities have been readily available has made possible the present high development of radio broadcasting.

Television broadcasting is, in many respects, similar to radio broadcasting and in its development there is no doubt that provision will have to be made for many connecting links of a similar nature. Thus studio-transmitter circuits and networking facilities will be required. Such connecting links, while different to those for radio broadcasting because of the much wider frequency bands involved, can still be provided by wire and other facilities now available or which will be provided by the telephone systems in the development and expansion of their facilities. It may be pointed out further that television transmission usually involves sound transmission as part of the same program. Both sound and television transmission links are required for simultaneous use in giving this service.

Television has not as yet been introduced in Canada. In the United States and other countries, however, a number of television broadcasting stations are in operation and experimental work on development of this new service is proceeding rapidly. The telephone industry is playing an important part in the development of television by making available suitable wire and radio facilities to link up program pick-up and telecasting stations and to transmit program material for simultaneous broadcast at several points. Briefly, these facilities are as follows:

#### *Wire Facilities*

For television studio-transmitter circuits, ordinary telephone cable pairs are being employed. These are made suitable by employing special types of amplifiers along the cable route. While this type of facility has a relatively high transmission loss it can be used successfully over limited distances.

To extend the range of such local circuits, special low loss pairs have been developed for inclusion under the sheath of ordinary telephone cables. Such