

and another, Anik III, in May 1975. The lifespan of these Anik A satellites is expected to be seven years.

These satellites, locked in a geostationary orbit about 35 900 km above the equator, are comparable to enormous microwave towers. Signals sent to them can be relayed anywhere in Canada, and especially to areas too remote to be economically served by terrestrial networks.

Initial commercial service to Telesat customers began in January 1973 through a network of earth stations — facilities for picking up satellite signals and sending signals to satellites — strategically located across Canada. There are now about 100 earth stations in all parts of Canada.

In December 1978, Telesat Canada launched its Anik B satellite. This operates in the same 6/4 Gigahertz (GHz) band used by the Anik A satellites and will replace one of the latter in the Canadian commercial satellite network. Anik B will also send higher-powered beams on the 14/12 GHz band, and its four spot beams will cover virtually all of Canada. The federal communications department leased up to four 14/12 GHz channels for two years starting in early 1979, to continue exploring and developing new communications services by satellite.

Telesat Canada planned to launch its Anik C and Anik D series in the early 1980s. The Anik C series, operating in the 14/12 GHz band, will have four spot beams and provide heavy route (east-west) message services, TV distribution to cable head ends and other new commercial services. Because the 14/12 GHz band is reserved for satellites, there is no danger of interference with terrestrial networks. Earth terminals can therefore be located in urban centres. As a result, new satellite services will become available which simply were not possible with earlier satellites using the 6/4 GHz band.

The Anik D satellites will operate in the 6/4 GHz band and will cover all Canada with their signals. These satellites will take the place of the remaining Anik A satellites and provide new capacity in the 6/4 GHz band.

Teleglobe Canada provides the global connection for Canada's domestic telecommunications networks. There are two submarine cables across the Atlantic, with 80 and 1,840 circuits. Negotiations are proceeding for the construction of a third with over 4,000 circuits. One cable across the Pacific terminates in Canada, and discussions have been held for constructing a second.

Teleglobe Canada participates in INTELSAT, an international consortium which provides satellite communications between countries. INTELSAT has three satellites in orbit, and a fourth was scheduled for late 1979. Teleglobe Canada operates three ground stations, and decided to proceed with construction of a fourth. About 35% of Teleglobe Canada's traffic travels by satellite and the rest by submarine cable.

Telecommunications in the North

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Anik is the Inuit word for brother, and Telesat Canada's Anik satellites have opened a new world of communication in the North. These satellites, able to reach easily into remote areas where surface systems encounter difficulties, have improved the efficiency and flexibility of existing telecommunications services in the North and have provided new and effective links with the populous South. They have also brought new services, including television broadcasting, into remote communities beyond the reach of terrestrial networks.

Some appreciation of the expansion in telecommunications services in the North is indicated by the growth in telephone service. Between 1967 and 1977 in the western part of Northwest Territories, the number of communities with local and long-distance facilities grew from 18 to 31. The number of telephones rose from 2,800 to 9,300, an increase of 300%, and the number of long-distance calls through the Hay River toll centre grew nearly 650%.

In the western Arctic, 93.9% of Canadian National Telecommunications subscribers can dial long distance directly. Before 1961, radios operated by business, government and missions constituted the only public communications service.

In January 1977, the communications department announced a northern communications assistance program, aimed at providing every community in the Northwest Territories with basic local and long-distance service by 1982. The federal