

microwave relay telecommunications system for the next 5, 10, 15, 20 years?

3. Is the proposed satellite system less expensive or more than the present microwave setup and over what distances?

**Hon. Eric W. Kierans (Postmaster General):** In so far as communications is concerned: 1. There are currently two main terrestrial national microwave radio relay telecommunication systems in operation: the Trans-Canada Telephone System; and the CN/CP Telecommunication System.

The capacity varies; however, there is a working minimum of five, two-way broadband radio frequency (TV equivalent) channels in use today throughout the major portion of these coast-to-coast systems, including their many spurs.

The above systems are located south of the 55th parallel. In addition, CN/CP have placed in operation a broadband microwave route from Alberta through Northern British Columbia and the Yukon to Alaska. This system has one two-way working channel (300 circuits) at present.

2. Forecasts of additional utilization for the microwave systems for several years into the future are very difficult to make because other technological forms of communication may become more attractive and because the total demand for service is difficult to predict. Using present growth rates the total utilization of all systems might double every five years, but it does not necessarily follow that this growth rate would continue in future.

The additional potential capacity of these national microwave systems if and when augmented, coast to coast, could be up to 23 two-way broadband channels, of which 11 would extend for approximately 2/3 of the route length.

Each of these channels would have a capacity in both directions of one television signal or a varying quantity of 600-1200 voice-data circuits per channel. The CN/CP Alberta-Yukon system could be augmented to carry 4 additional channels.

3. A direct comparison of costs of a satellite system and a terrestrial microwave relay system is very difficult to make because the two systems are not directly comparable. In general, the cost of a terrestrial microwave system is proportional to distance, whereas

### Questions

satellite system costs are independent of the distance between earth stations.

### AIR CANADA AIRCRAFT

Question No. 1,006—**Mr. Paproski:**

1. (a) What is the current number of aircraft owned by Air Canada, by type (b) of this total, how many are in operation on scheduled services, by type (c) are any of the aircraft currently owned by Air Canada not in operation and, if so, for what reason?

2. Have any sales of aircraft been completed by Air Canada to date in 1968 and, if so, what aircraft have been sold, to whom and at what price?

3. Of the aircraft owned by Air Canada, how many have been offered for sale, by type?

4. (a) What aircraft does Air Canada have on order, by type, and what are the expected delivery dates for these aircraft (b) of the aircraft Air Canada presently has on order, what parts of each type are being manufactured in Canada (c) what is the value of the orders, by type of aircraft and by manufacturer, referred to in Part (b)?

**Mr. Yves Forest (Parliamentary Secretary to President of the Privy Council):** I am informed by the Departments of Transport and Industry, Trade and Commerce as follows: The management of Air Canada advises as follows: 1. (a) 39 Viscounts; 23 Vikings; 29 DC-9s; 28 DC-8s. (b) 33 Viscounts; 18 Vikings; 29 DC-9s; 28 DC-8s. (c) 6 Viscounts and 5 Vikings are retired.

2. During 1968 6 DC-9-14 aircraft were sold back to McDonnell Douglas Company, at a price arrived at during confidential negotiations for replacement aircraft.

3. Six Viscounts and five Vikings.

4. (a) 9 DC-9s, 1 in late 1968, 5 in 1969, 3 in 1970, 13 DC-8s, 6 in 1969 and 7 in 1970, 3 747s in 1971. (b) It is anticipated that structural components, electronic equipment and auxiliary power units for L-1011 aircraft will be manufactured in Canada. (c) Since contracts are at present under negotiation, it is not possible to define the value of the orders resulting from the L-1011 program. However, it is anticipated that the following Canadian manufacturers will be major participants: Northwest Industries Limited, United Aircraft of Canada Limited, Fleet Manufacturing Limited, Bristol Aerospace Limited, Canadair Limited, Canadian Aviation Electronics.

### \*NATIONAL PARKS—POINTE FORILLON, GASPÉ

Question No. 1,020—**Mr. Cyr:**

Does the Department of Indian Affairs and Northern Development plan to create a national