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DOMESTIC SATELLITE COMMUNICATIONS SYSTEM

The following excerpts are from a White Paper dated March 28, 1968, released by the Minister of Industry, Mr. C.M. Drury:

...Because of the intense interest which was developing in the potential of a domestic satellite communication system for Canada, the Prime Minister announced, in July 1967, the creation of a task force, under the Science Secretariat. It was to advise the Government on satellite policy in general and, in particular, on the use of satellite technology for domestic communications. In the course of its work, the task force interviewed representatives of relevant private and Government interests in Canada, representatives of other countries, and of some international organizations....

The task force reported certain conclusions to the Government regarding the kind of domestic satellite system that would be most appropriate to meet the needs of Canada in the short term....

NATURE OF THE SYSTEM

The system envisaged would have two "synchronous" satellites in stationary orbit over the equator. The second satellite would ensure continuity of service by providing complete duplication, in orbit, of the functions of the first. A third satellite would be held in reserve on the ground. Each satellite would have a beam covering the whole of Canada. The satellites would be replaced in orbit after five to seven years.

It is expected that each initial satellite would have at least four, and perhaps a maximum of 12, television equivalent channels. (Each television equivalent channel can handle one television transmission or up to 600 two-way telephone circuits.) The exact number of channels would have to be specified at the outset. It would depend upon the estimated demand for service, consisting of television transmission, and telephone and message traffic.

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The task force concluded that the capital costs of the space segment, would be between \$40 million and \$75 million for three satellites, including research and development....

At least three major types of earth station are envisaged, namely large terminals to transmit and receive all types of signals (television, telephone, data), smaller terminals for more remote areas to perform essentially similar functions, and receive-only terminals, smaller still, for the reception of television transmissions only.

An initial system might well have two terminals of the first type, five of the second type and up to 30 of the third type. Present rough estimates would indicate costs in the region of \$3-5 million, \$1-2 million and \$100,000 respectively, for the three types of terminal. The numbers and costs would only be determined accurately as the design of the system progressed. A tracking, telemetry and command facility would also be required to keep the satellites in position and to monitor their performance. This facility could be an integral part of one or two of the main stations, resulting in an additional cost of those stations of approximately \$1-2 million....