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1. A RADIO LICENSING POLICY

INTRODUCTION

This paper reports on the review of licensing and regulatory policies for earth stations operating in conjunction with satellite systems for services originating and terminating in Canada.

BACKGROUND

SATELLITE EARTH STATIONS

The question of earth stations has been a long one in the public discussion of the role to be played by the telecommunications system in a domestic satellite system. Subsequent to the report issued by the Task Force on Satellite Systems, the Government has issued a report that serves as the basis for the White Paper on a Domestic Satellite Communications System for Canada.

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THE CANADIAN SATELLITE SYSTEM = >

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INTRODUCTION:

This paper reports on the review of licensing and ownership policies for earth stations operating in conjunction with Telesat satellites for services originating and terminating in Canada.

BACKGROUND:

The question of earth station ownership first arose in 1966 during public discussions on the role to be played by the telecommunication carriers in a domestic satellite system. Subsequently, the issue was addressed by the Task Force on Satellites appointed in 1967 which submitted a report that became the basis for the White Paper entitled "A Domestic Satellite Communications System for Canada". In the White Paper it was stated that "a domestic satellite system is of vital importance for the growth, prosperity and unity of Canada and should be established as a matter of priority". On the specific matter of earth station ownership the Paper went on to say, "the satellites and earth stations together would form a single system under the control of a single management", and "the Government will propose that a corporation be formed by special statute of Parliament to develop, own and operate both the satellites and the earth stations of the system consistent with relevant international agreements".

Telesat Canada was incorporated in September 1969 by an Act of Parliament which permitted the corporation to establish a satellite system to provide telecommunication services between locations in Canada. In the legislation, the system was defined as one which would include two or more earth stations and a satellite space station. These actions led to the successful implementation of the first operational geostationary domestic satellite system in the world.

Many important events have taken place in the decade that followed; events that are significant to a review of the Canadian policies which have limited earth station ownership to Telesat Canada. Considerable advances have been made in satellite technology. Satellites are now operating in the 12/14 GHz bands with the effect that earth stations can be readily located in and around major urban centers without the problems of radio interference inherent with the 4/6 GHz systems. Advances in engineering have led to small economical earth stations for both 4/6 GHz and 12/14 GHz systems. Furthermore, there is clear evidence of the capability of satellites to provide mobile radio services and direct-to-home broadcasting services.

In the United States of America, domestic satellite systems were introduced and now have been operational for a number of years under an "open skies" policy. Earth stations operating in conjunction with these satellites are not necessarily owned by, or licensed to, the owners and operators of the satellite space stations.

In 1977, an agreement was reached under which Telesat became a member of the Trans Canada Telephone System (TCTS). This had a first order effect on the relationship between Telesat and the other members of that Association as well as implications for non-TCTS telecommunication carriers.

This latter factor led to a statement by the Minister of Communications on 3 November 1977 that the Government had concluded it should review the matter of ownership of satellite earth stations to identify instances where non-Telesat ownership of earth stations could be in the public interest. An invitation was given to the public, through a notice in the Canada Gazette Part I in December 1977, to express their views on the subject by a submission to the Department of Communications.

RESPONSES FROM THE PUBLIC

Forty-nine responses were received from a wide range of interested persons and organizations who are listed in Annex A.

Eleven briefs were received from telecommunication carriers. The Telesat Canada brief argued that there should be no change in the current policy of Telesat ownership of all earth stations. Telesat suggested that the "...real choice is between two opposite positions, that of either preserving the status quo or allowing any user to own earth stations...". Furthermore, "It is Telesat's belief that relinquishing ownership of earth stations would produce neither a reduction in charges for services, nor an increase in use of the satellites".

Bell Canada recommended that only regulated telecommunication carriers should be allowed earth station ownership. They contended that lower costs and more effective integration of satellite and terrestrial facilities would result. In their view any further liberalization would increase the risk of new carrier entry with consequent diseconomies from market fragmentation.

CNCP Telecommunications also recommended ownership for the regulated common carriers and proposed that licensing should be on the same basis as terrestrial microwave. Independent ownership was seen by CNCP as important because their service requirements differed from those of the telephone companies.

The brief by Edmonton Telephones suggested that the purpose and use of the satellite should be the basic criteria for earth station ownership. Furthermore, they proposed that the user should have the option of payment to Telesat by a capital contribution.

The remaining seven briefs from telecommunication carriers recommended no change in Telesat ownership, although in some cases ownership by the regulated carriers was recommended if a policy change should occur. There was some variation in the reasons for supporting an essentially similar position but the major factors considered by the carriers were cost, integration of satellite with terrestrial facilities, new carrier entry, separation of carrier and broadcaster functions and cross-subsidization of services.

Three briefs were received from off-air broadcasters and thirteen from CATV operators. There was considerable consistency among the briefs; therefore a broad generalization of the positions put forward is possible. There was universal support for ownership of earth stations by potential users of satellite transponders leased from Telesat. The view put forward argued that diversified ownership would increase operational flexibility, stimulate new earth station design and lower costs. Also, service to remote communities could be improved if broadcasters and cable companies were permitted to own inexpensive television receive-only stations.

Some broadcasters recommended that transmit-receive stations should also be licensed to them. Co-operative ventures between broadcasters and agencies providing educational or specialized programming would, in the view of Ontario Educational Communications Authority (OECA), be facilitated by non-Telesat ownership of earth stations. There was a widely held opinion that private ownership of earth stations would be less costly, would relieve the carriers of additional demands on the capital market and would stimulate greater utilization of the space sector. It was indicated that the latter should produce improvements in the Telesat rates for transponder service. Furthermore, these briefs commented that receive-only earth stations would not impair the technical integrity of the Telesat system; and they might operate with lower technical standards than required for telephone quality services.

Briefs were also supportive of the increased opportunity for the manufacturers of earth stations in Canada. Proposals were made to voluntarily prepare a technical specification and consolidate requirements for procurement from manufacturers of Canadian earth stations.

There were seven briefs submitted by industries or industrial organizations other than telecommunication carriers and broadcasters. One recommendation made was for earth station ownership by resource industries and by survey and construction crews operating in remote locations. The view was expressed that the carriers should not divert resources from the private networks for these private purposes. The point was developed for the example of offshore drilling ships which might operate under different national jurisdictions and which might have satellite terminals installed, as an integral part of the vessels' telecommunications equipment.

Briefs from manufacturers of earth stations in Canada commented on their capability to produce earth stations competitive in performance and price with foreign products.

The remaining thirteen briefs were presented by the Consumers' Association of Canada (CAC), several community associations and a number of independent individuals. They uniformly recommended non-Telesat ownership of receive-only earth stations. The CAC brief pointed to the consideration by the Federal Communication Commission in the U.S.A. of earth station antenna size and the finding that low-cost earth stations, using 4.5 meter antennas to receive television, could be installed widely in large numbers with little possibility of frequency spectrum co-ordination constraints. Reference was frequently made to the opportunity for increased utilization of Telesat satellites which non-Telesat earth station ownership would encourage. References were also made to the possibility for access to the program signals transmitted by U.S. satellites.

BASIC CONSIDERATIONS

The approach taken was to relate the views expressed in the various submissions to the announcement of the review of the present situation whereby Telesat Canada owns all earth stations in its system. The Minister said then that the time is now ripe for reconsideration of the advantages and disadvantages of the present situation from a public interest point of view, and with the objective of encouraging the fullest access to new satellite services.

It would be in the public interest for the technical integrity, the capability for effective management and the financial position of the satellite system to be safeguarded, and these were taken as basic considerations for any policy changes which were suggested.

Two independent consultants were commissioned by the Department to prepare relevant reports. Copies of the submissions received and of the consultants' reports will be available for reference in the offices of the Department.

FINDINGS OF THE REVIEW

1. A selective extension of the present radio licensing policies for earth stations used with Telesat Canada's satellite systems will foster increased utilization of the satellites and improved telecommunication services while adequately protecting the technical integrity, and preserving the effective management and financial position of the satellite system.

2. The delivery of program signals for broadcasters and cable television licensees offers the greatest potential for a major increase in satellite utilization. It also promises to significantly expand and extend the viewing and listening choices of Canadians, especially those in areas of low population density. Non-Telesat ownership of earth stations to receive these program signals emerges as a major motivating factor for this use of Canadian satellites.

3. The ownership of TVROs by broadcasting undertakings is not, however, a sufficient condition in itself. Attention must also be given to the factors that would lead to an appropriate selection of program signals on the satellite for reception and use by earth station licensees.

4. Telecommunication carriers, other than Telesat, are readily identified as major users and potential users of the Canadian satellite for which a change in the radio licensing policy for earth stations has been suggested. Not all carriers believe any change is required and, on the basis of available information, it appears that little advantage would be gained, either in terms of satellite utilization or service improvements, by terrestrial telecommunication carrier ownership of earth stations in the present 4-6 GHz system.

5. It also appears, however, that there might be some benefits to be realized thru a policy that would permit the licensing of telecommunication carriers for transmit/receive earth stations in the new 12/14 GHz system. Such a policy would allow carriers to take maximum advantage of the flexibility in earth station siting which is an important characteristic of the ANIK C system.

6. Although some of the briefs addressed the matter of licensing private earth stations to end-users other than broadcasting undertakings, it did not emerge as a major policy issue at this time. It was noted, furthermore, that the subject could raise other policy issues which are beyond the scope of this review. There were, however, very reasonable proposals put forward for the licensing of "end-users" in unique and special circumstances where Telesat ownership may be impractical. Earth stations employed in remote offshore locations would be such a circumstance.

7. Diversified ownership of parts of the earth segment of the satellite system will modify some constraints on the future planning by Telesat to improve satellite efficiency and to introduce new technology or services into its system.

8. An opportunity exists for Canadian manufacturers in the new market which would be opened by a change in licensing policy. On the basis of the briefs, it would appear that Canada has the industrial capability to meet this market.

CONCLUSION

It is expected that a new earth station licensing policy reflecting the findings of this review would produce greater opportunity for the public to benefit from telecommunication services provided by Canadian satellites.

RESPONSE TO GAZETTE NOTICE

Agra Industries Limited, Toronto, Ontario
Alberta Government Telephones, Edmonton, Alberta
Bénéteau, Paul V., Montreal, Quebec
Bridge River TV Committee, Shalath, B.C.
Canada Petroleum Association, Calgary, Alberta
Canadian Association of Broadcasters, G.G.E. Steele, Ottawa, Ontario
Canadian Broadcasting Corporation, Ottawa, Ontario
Canadian Business Equipment Manufacturers Association, Rexdale, Ontario
Canadian Cablesystems, Toronto, Ontario
Canadian Cable Television Association, Ottawa, Ontario
Canadian National/Canadian Pacific Telecommunications, Montreal, Quebec
Computer Communications Group, Bell Canada, Ottawa, Ontario
Consumers' Association of Canada, Ottawa, Ontario
CR Consulting, Ottawa, Ontario
Crowder Communications Limited, Terrace, B.C.
C.D. Watson, Toronto, Ontario
edmonton telephone, Edmonton, Alberta
E.C. Patterson, Burnaby, B.C.
Farinon Canada, Montreal, Quebec
Government of the Yukon Territory, Whitehorse, Yukon
Hydro-Quebec, Montreal, Quebec
Imperial Oil, Toronto, Ontario
Island Cableview, Charlottetown, P.E.I.
Island Telephone Co. Ltd., Charlottetown, P.E.I.
J.S. Emmans Modern Radio & TV Systems, Geraldton, Ontario
Kincardine Cable TV, Kincardine, Ontario
McGill E.R., Ministry of Consumer and Internal Services, Manitoba
(and on behalf of Hon. Allan Warrack of Alberta and Hon. Roy Romanow
of Saskatchewan)
Maclean-Hunter Cable TV, Rexdale, Ontario
Maritime Telegraph and Telephone Co. Ltd., Halifax, N.S.
Mills, G.W., Fort St. John, B.C.

Newfoundland Telephone, H.R. Montgomery, St. John's, Nfld
Ontario Educational Communications Authority, Toronto, Ontario
Rogers Cable Communications Limited, Toronto, Ontario
Ross, Barry A., Don Mills, Ontario
Saskatchewan Telephone, Regina, Sask,
Sorel-0-Vision, Montreal, Quebec
Spar Technology, Ste Anne de Bellevue, Quebec
Squamish, Lillooet, Regional District (I.R. Knowles), Pemberton, B.C.
Susan Kilboy, Gold Bridge, B.C.
Switzer, I., Mississauga, Ontario
Technopolis (Pacific) Ltd., Coquitlam, B.C.
Telesat Canada, D.A. Golden, Ottawa, Ontario
Trans Spectrum Services, Lower Sackville, N.B.
Videsat, Toronto, Ontario
Wake, W.M., Dryden, Ontario
Western Cablevision, Surrey, B.C.
Whiting, John R., Gold Bridge, B.C.