

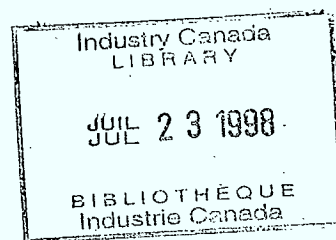
TransCanada
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PROPOSAL FOR
CANADA/UNITED STATES
TRANSBORDER
SATELLITE COMMUNICATIONS

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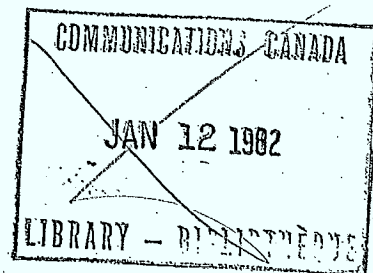
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CANADA/UNITED STATES
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TRANSCANADA TELEPHONE SYSTEM
SUBMISSION TO THE DEPARTMENT
OF COMMUNICATIONS

OCTOBER, 1979



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PART I - INTRODUCTION

General

This report constitutes the reply of the ten member companies of the TransCanada Telephone System (TCTS) to the Federal Department of Communications paper entitled, "Canada/U.S. Transborder Satellite Communications - A Preliminary Examination", issued in June 1979. Telesat Canada plans to issue a separate brief to the Department. This action on Telesat's part is in no way indicative of any fundamental disagreement with the joint response of the TCTS member companies and is fully compatible in policy thrusts with TCTS, with the one exception relating to the eligibility of ownership of satellite earth stations used for transborder applications.

TCTS is an organization of investor-owned corporations, provincial Crown corporations, and in the case of Telesat Canada, ownership by the Government of Canada and approved Canadian telecommunications common carriers including Canadian National Railway Company and Canadian Pacific Limited. TCTS membership structure reflects widely varying characteristics in ownership, size, service areas and regulatory supervision.

The member companies of TCTS are conscious of their obligation to participate in the formulation of national telecommunications policies and welcome the opportunity afforded by the issuance of the Preliminary Examination to present their views on the provision of transborder satellite communications. TCTS endorses the process of open discussion as an effective means of ensuring that government policies are formulated to achieve the broadest base of support in their implementation.

In issuing the Preliminary Examination of this most important subject, the Department of Communications has recognized the need for dialogue on a matter of great significance to the Canadian telecommunications industry. It is the desire of the TCTS member companies to support and to work with government in its efforts to develop effective national policies. It is essential to take a very positive and open approach to the subject, and it is with this objective in mind that this paper has been written.

Responsibilities

The Federal Government has the responsibility to enunciate national policies in the area of telecommunications to ensure that the best interests of the public are protected while guaranteeing for the Canadian people a strong and vital telecommunications industry.

It is the responsibility of telecommunications common carriers to develop services based on current technology, to design systems and to implement and operate national networks to meet the telecommunications requirements of the Canadian public.

Once telecommunications policies are stated by government, the carriers can put in place the programs to meet those declared national policy goals.

Communications Development

Canada, because of its demographic and geographic characteristics, is dependent upon a telecommunications infra-structure which facilitates easy, reliable, high-quality and economical communications. The telecommunications common

carriers in Canada have long understood this and have ensured that Canadians today have one of the most advanced national telecommunications systems in the world. This did not happen by chance. The introduction of high-quality, economical services required sound research and development, diligent planning and skilled human resources capable of integrating leading-edge technology with existing plant facilities.

A number of years ago, Canada was dependent upon the United States for its telecommunications technology. Over time, Canada developed its own research and development capability and today is much less reliant on United States expertise. As a result, Canada has gained international recognition as a world leader in telecommunications.

Because of the larger markets and vast telecommunications resources in the United States, it is generally accepted to be less costly to carry traffic through the United States, than through Canada. However, it is essential to Canada's national interest and sovereignty that this country has its own independent and strong telecommunications system. This is consistent with previous federal Government declarations such as those contained in the April 1975 paper entitled, "Communications: Some Federal Proposals", wherein the Minister of Communications outlined objectives for Canada. It is also borne out by Bill C-16 (First Reading on November 9, 1978) where in declaration of a "Telecommunication Policy for Canada" (s.3(a,d)) it is stated:

"It is hereby declared that

- (a) efficient telecommunication systems are essential to the sovereignty and integrity of Canada, and telecommunication services and production resources should be developed and administered so as to safeguard, enrich and strengthen the cultural, political, social and economic fabric of Canada;
- (d) telecommunication links within and among all parts of Canada should be strengthened, and Canadian facilities should be used to the greatest extent feasible for the carriage of telecommunications within Canada and between Canada and other countries;"

It is important therefore, that telecommunications services and resources continue to be developed to meet those stated goals.

If it is determined through discussions among the Federal Government, common carriers and user organizations that the Canadian public interest would be best served by using satellite technology as well as terrestrial facilities for transborder communications, then strong Federal Government policies must be enunciated to support this position. Within that policy framework regulated Canadian telecommunications common carrier programs can be implemented to meet national objectives. It is the accomplishment of these aims that constitutes the purpose of this submission. In the context of this response on transborder satellite communications the term "regulated Canadian telecommunications common carrier" is used to refer to those carriers listed in Appendix I.

Satellite Development

Satellite technology is suitable for a country with Canada's geography and population distribution. It has greatly improved telecommunications in the far north, allowed greater route diversity in the south and provided the means for the

distribution of network and occasional-use television programming in both official languages throughout the country. Satellite technology also gives the flexibility needed to respond quickly to service demands involving emergencies and temporary requirements. The nature of satellite transmission is such that the signal can be received over a broad geographical area. This makes the facility useful for nationwide network distribution of point-to-point and multipoint signals.

Telesat Canada offers satellite telecommunications services on a commercial basis to the regulated Canadian telecommunications common carriers in the form of complete radio frequency channels and associated earth station equipment. In turn, the carriers have integrated satellite technology with terrestrial microwave and cable facilities for the development of services for the Canadian public. Satellite facilities provide voice and data services and a substantial proportion of Telesat's satellite capacity in use today is applied to the intra-Canadian television broadcast industry. In the future it is expected there will be more applications using satellite facilities for special voice and data services and a significant increase in channels used for video distribution.

In order to encourage increased use of satellite capacity, TCTS is exploring the development of new satellite-based services which exploit the unique capabilities of satellite facilities. While it has always been understood that satellite service is vital to the north, the potential of satellites to deliver new and improved services to serve the higher-density east-west routes should also be recognized. Increased utilization will lead to greater cost-effectiveness to the benefit of all customers. As new satellite-based services are offered to end-users by the regulated Canadian telecommunications common carriers, agreements with connecting carriers in the United States will be negotiated as required, to provide transborder services to meet customer requirements.

The continued development of a strong national system must always be Canada's first priority in telecommunications. Therefore, it is vital that indigenous satellite-based services be developed primarily to meet intra-Canadian needs, recognizing the potential detrimental impact which foreign based satellite services could have on internal development.

PART II - THE TRANSBORDER MARKET

The Integrated North American Network

Over the years, the telephone companies within the TransCanada Telephone System and the American Telephone and Telegraph Company (AT&T), have cooperated to develop what is referred to as the "integrated North American network". This term is used within the industry to describe the telephone switching hierarchy and numbering system which processes the enormous volume of telecommunications business throughout Canada and the United States.

The Canadian switched network and the United States switched network are functionally integrated and physically interconnected. However, the Canadian switched network is independent regarding technical development and is evolving in line with the specific communications requirements of the Canadian public. National standards of service coupled with design criteria that optimize system economies have led to the development of a coast-to-coast network over which many different services make use of the same physical plant. TCTS has integrated satellite channel technology into the switched network so that most of the larger cities in Canada currently have satellite facilities as part of their integrated plant and there are plans for future expansion.

It is important that the structure and characteristics of the integrated North American network remain intact for the benefit of the Canadian public. This network has evolved through cooperative inter-carrier participation in careful and intricate planning and development. To the telephone user the physical interconnection of the Canadian and United States switched networks is transparent. For example, this integration allows users to place calls within

Canada and between Canada and the United States in exactly the same manner. The same number of digits are dialled in all cases, and to the customer it appears as if the call is handled by one single network. This is not the case in transborder European systems where country codes must be dialled and gateways are utilized to interconnect networks of bordering countries. The integration of the Canadian and United States switched networks has achieved savings over the years on the part of the telephone companies in both countries to the benefit of telecommunications users on both sides of the border. The service needs which have emanated as a result of the interwoven economies, political interactions, complementary national defense systems and social and cultural ties between the two countries formed the bases for the development of the integrated network. The system works well and, no doubt, it will continue to evolve as it has in the past. To make changes which would jeopardize the integrated characteristics of the network would prove costly and, therefore, would not be in the public interest.

Inter-carrier Agreements

The regulated Canadian telecommunications common carriers negotiate inter-carrier agreements with common carriers in the United States. Services such as Message Toll, TWX, Telex, Foreign Exchange and packet switched data services required on a transborder basis are provided through various agreements with AT&T, the Western Union Telegraph Company, Telenet Communications Corporation and Tymnet Inc. As the Canadian market expresses demand for access to the services of other United States carriers, transborder service will be made available through similar inter-carrier agreements.

It should be noted that, as an example, the TCTS/AT&T agreement is a single contract rather than individual agreements between AT&T and each member of TCTS. It is negotiated by TCTS Headquarters personnel and officials of AT&T as a bilateral contract. However, because TCTS is an organization of ten operating telecommunications carriers, the contract is signed by each of the ten TCTS member companies. Accordingly, the end product is a single agreement negotiated bilaterally.

Market Analysis of TCTS Transborder Traffic

Examination of transborder communications between Canada and the United States reveals that the total market comprises three principal categories of service. These are, in order of current revenue contribution to the system:

- message toll switched network traffic (voice and data)
- business special services (voice and data)
- broadcast industry traffic (video).

These categories have been examined separately to establish their potential for application of satellite transmission and are described in the following paragraphs.

Message Toll Switched Traffic (Voice and Data)

There are approximately 10,000 circuits in this category. Average annual growth projected for the period 1979 through 1981 is approximately 11%. Similar to intra-Canadian traffic, application of these circuits in satellite transmission is influenced by two main factors; cost-distance relationships and technical limitations. The economic cross-overs between satellite and terrestrial facilities are primarily based on

distance, volume of traffic, and coverage as well as the availability of earth station facilities. As distance and volume of traffic increase, satellite use becomes more economically viable. It is currently estimated that few, if any, of the existing circuits qualify for satellite use. In addition, certain switching machines in use today have technical and network administration limitations that prevent them from working effectively with the delays inherent in satellite systems. However, while satellite technology cannot readily be applied today to the transborder switched message market, there may be some application in the future.

Business Special Services Traffic (Voice and Data)

There are approximately 5,500 transborder business special services circuits providing data, full period private line and other leased voice services. The current growth rate for these special services is approximately 5-6% annually. It is estimated, at this point in time, that of these 5,500 circuits less than 10% qualify for satellite application. However, the independent development of satellite-based business special services in the United States and Canada will likely become a significant growth area, stimulating the use of satellites in the transborder market.

Broadcast Industry Traffic

The television broadcast business currently consumes a substantial share of domestic satellite use. It represents, however, a small part of existing transborder terrestrial traffic. Nevertheless, this business does have

significance in terms of the revenues derived by TCTS from its redistribution within Canada. The use of satellites for the distribution of broadcast services is likely to expand. However, this will depend to a large extent upon policies adopted by the Canadian government with respect to Canadian reception of television program signals from United States satellites.

Future Transborder Market Concerns

While today's transborder market is served terrestrially, the above analysis indicates an emerging demand for transborder satellite-based services in the near future. In the United States the satellite carriers are beginning to serve large business corporations with advanced satellite-based services which are capable of integrating voice, data and video. These services are aimed primarily at corporations with large volumes of information for transfer between and among locations.

TCTS recognizes that services must be developed to cope with the requirements of the future, recognizing that the transborder satellite market will be stimulated to a large extent by demand in the United States. This will emanate from large multinational corporate systems in that country which require extensions across the border to serve Canadian locations.

There are dangers inherent in allowing unrestricted extensions of American satellite services into Canada because the size of the United States market is such that the Canadian demand could be largely satisfied by incremental extensions of American networks. Such extensions can only erode the Canadian telecommunications industry.

The possibility is real. On July 10, 1979, Mr. William English, Vice-President, Satellite Business Systems (SBS), in testimony before the Restrictive Trade Practices Commission in Ottawa, testified that SBS was contemplating the provision of services to Canadian subsidiaries of SBS customers. Mr. English stated:

"As I am sure you are all aware, there was an exchange of letters in 1972 between the Canadian and U.S. governments which set up certain criteria where this sort of thing, not this specific application, but that sort of thing could be given favourable consideration. One of the criteria said that if the extension of the Canadian location is 'incidental and peripheral' to a clearly domestic service which we think the example I just gave would certainly meet that criteria, the governments - - - they weren't too specific on this but would give consideration to allowing those arrangements to be worked out if they could be worked out."¹

The unrestricted provision of satellite facilities by United States-based organizations to Canadian subsidiaries of American corporations would have a detrimental effect on the satellite industry in Canada. Given that a viable Canadian satellite industry is in the public interest, it is important to adopt an aggressive position to ensure that Canadian satellite-based services are developed to meet intra-Canadian needs, while also recognizing the requirements for access to foreign satellite-based services by users in Canada. The expertise and capabilities of Canada's satellite industry could thus be safeguarded while the market requirements for telecommunications between users in Canada and the United States are effectively met.

1. Restrictive Trade Practices Commission, in the matter of a general inquiry under Section 47 of the Combines Investigation Act, relating to the manufacture, production, distribution, purchase, supply and sale of communications systems, communications equipment and related products, Vol. 155, Page 23329, July 10, 1979.

Planning Considerations

The satellite as a carrier system is suitable for handling a wide variety of services, ranging from television broadcast to inter-city voice and data services. Careful long-range planning and cooperation between carriers in the United States and Canada are needed to ensure that customer requirements for transborder satellite-based services are met in an effective manner. The institutional arrangement established to handle transborder satellite-based services should allow the regulated Canadian telecommunications common carriers to plan and develop services that complement those in the terrestrial environment in cooperation with their counterparts in the United States. Areas which require careful planning among the carriers include: network interconnection protocols, opportunities for diversity and backup provided by the integration of satellites into the terrestrial network, the consideration of satellite frequency bands that are not shared with terrestrial facilities, and ways to utilize the high quality and reliability of satellite circuits. It is important that these planning considerations are recognized in the provisioning of transborder satellite-based services.

PART III - POLICY CONSIDERATIONS

Current TCTS Principles

TCTS is committed to uphold Canadian economic interests and sovereignty, and in its transactions with United States carriers, TCTS follows the principles outlined below:

- all telecommunications traffic originating and terminating in Canada must be handled by Canadian carriers using Canadian facilities;
- all overseas traffic originating or terminating in Canada must exit or enter through the Canadian gateways of Teleglobe;
- Canadian carriers must obtain their fair share of revenues and facility usage for all Canada-United States and Canada-overseas telecommunications services.

These principles are supported by the border-crossing policies adhered to by the member companies of TCTS and are agreed upon and administered through inter-carrier agreements with the United States carriers. They have served the country well by promoting Canada's national interest and sovereignty.

Through the consistent and uniform application of the above principles and border-crossing policies, the regulated Canadian telecommunications common carriers have dealt effectively with end-user requests for transborder terrestrial service. These carriers also make every effort to ensure that Canadian terrestrial traffic is routed on Canadian facilities and that the treatment of Canada-overseas traffic complies with agreed-upon rules.

In the same manner, the regulated Canadian telecommunications common carriers are in the best position to manage transborder satellite traffic. It is clear, by looking at the characteristics of satellite technology, that transborder system applications will be more difficult to control without involvement of the regulated Canadian telecommunications common carriers. On a transborder basis, unauthorized access to foreign satellite signals by users of earth stations in Canada is difficult to detect let alone to control. Unless special policy and legislative consideration is given to the issue of earth station ownership in the transborder context, this problem is likely to be more critical as less expensive earth station equipment becomes available.

In the case of TCTS member companies, the Canadian share of revenues currently derived on a terrestrial basis from the Canada-United States market contributes to meeting the revenue requirements of each member. Furthermore, if the Canadian market for satellite-based services is reduced through incremental extensions of United States services into Canada, it could have a detrimental effect on satellite developments planned for the future unless strong and effective management of transborder facilities is applied as in the terrestrial environment.

Policy Considerations by Traffic Categories

It is also essential that the provisioning of transborder satellite-based services be governed by special policy considerations. The three principal categories of traffic must be examined in this light:

Message Toll Switched Traffic (Voice and Data):

The existing institutional framework for terrestrial transborder switched network requirements is a proven mechanism and must be maintained.

As previously stated, satellite technology cannot readily be applied today to the transborder message toll traffic category. In the future, however, there may be some application for transborder satellite use where significant traffic between Canadian and United States centres exists and it is important that the policies adopted should permit such development.

Business Special Services Traffic (Voice and Data):

On a domestic basis this is the area receiving the most attention from the satellite carriers in the United States. Satellite-based services which are being developed today are addressing this specific service category with the prime market being the large United States conglomerates and multinational corporations. This sector includes those user organizations with the volume of information transfer to make the services cost-effective for both the supplier and the user.

Business special services applications comprise dedicated voice, data and video services designed to meet the data processing and business office requirements of high-volume users. Many of these potential user organizations have locations in Canada which they will wish to serve on common multipoint system configurations. Wherever possible, Canadian customers and Canadian subsidiary operations of multinational United States corporations should be served by Canadian telecommunications services. Specific government policies and carrier-provided institutional arrangements must be established to provide for this important category of services which is expected to develop in the near future.

Broadcast Industry Traffic

The characteristics of satellite technology easily lend themselves to television broadcasting. It is understood that this area is being addressed by the Department of Communications on a separate basis in terms of its social and cultural policy implications for Canada.

The Department of Communications' Preliminary Examination (at page 13) with respect to the direct reception of broadcast signals from United States satellites states:

"However, the current policy position is not to permit such 'transplantation' of program signals and consequently this issue should not be addressed in a response to this paper."

Although the transplantation issue is considered beyond the scope of this reply, as requested by the Department of Communications, it is hoped that this issue, because of its importance, will be addressed by the Federal Government in the very near future. This will enable this subject to be dealt with fully and allow the development of effective policies to deal with this matter while the issue of transplantation can still be controlled. It is expected in the interim that existing Canadian policy and legislation will be enforced. The Preliminary Examination did request a review of special-event broadcasting and this is covered in this submission on page 23.

The above discussion of the three categories of transborder traffic indicates that policy recommendations should be made to ensure that the most efficient institutional arrangements are established to handle the potential Canada-United States satellite traffic in the 1980's and beyond. It is clear that if Canada adopts an "open skies" policy, a decided advantage will be given to the United States satellite carriers (Satellite Business Systems, Western Union Telegraph Company, RCA American Communications, Inc., etc.) to the detriment of the Canadian telecommunications industry. The fact that carriers such as SBS appear to see the Canadian market merely as an extension of, or as incidental to, the United States market, is an indication of the approach certain American carriers may use in the future unless clearly-defined government policies are established to ensure the continued ability of the Canadian industry to meet Canadian needs.

PART IV - TCTS RECOMMENDATIONS

Policy Objectives

In the terrestrial environment three fundamental policy principles were outlined as governing the manner in which transborder services are provided. (See page 14). For transborder satellite-based services those three principles remain paramount.

In addition, the following policy objectives are recommended for consideration by the Federal Government in order to safeguard Canadian interests:

- . Canada's role as a leader in the application of satellite technology must be maintained. A solid domestic base is required for this to be possible. Canada's first priority, therefore, must be the development of Canadian services, for only in this way will it be possible to ensure a healthy Canadian satellite industry.
- . The institutional and system arrangements adopted for the provisioning of transborder satellite-based services must take advantage of the operational expertise and technological capability already available in Canada. An objective should be established that 50% of this traffic be carried on Canadian satellite facilities.
- . The provision of transborder satellite-based services must yield maximum benefits to Canada including an equitable share of all revenues resulting from transborder satellite space segment usage taking into account the expenses of all parties involved. The revenues associated

with the reception of television signals from United States satellites, because of the special conditions of this arrangement, are excluded and covered separately.

- In the provision of transborder satellite-based services, it is essential that all earth stations be owned by Telesat Canada or the regulated Canadian telecommunications common carriers.

The above policy objectives are put forward to assist government policy-makers in formulating the positions which must be taken to strengthen Canada's national interest and sovereignty, and in turn, to support a healthy Canadian telecommunications industry in the future.

Institutional And System Arrangements

In order to ensure that the above principles can be adhered to and that policy objectives can be met, the following TCTS recommendations describe the institutional and system arrangements required to handle transborder satellite traffic requirements in the future:

- Inter-carrier agreements for the provision of transborder services to Canadian customers should continue to be negotiated between regulated Canadian telecommunications common carriers and carriers in the United States.
- To the extent that satellite systems may be used for transborder applications, Telesat Canada should be responsible for the provision of satellite transmission services to the regulated Canadian telecommunications common carriers who, in turn, provide their own

telecommunications services to end-users. Telesat would protect Canada's interests by ensuring that Canadian satellite facilities are used to carry an objective of 50% of transborder satellite traffic.

- In any transborder satellite application Telesat Canada must have the responsibility to utilize the most appropriate Canadian or United States satellite. This system arrangement is necessary in order to provide an optimum network to meet Canadian customer needs without departing from the intent of the policy principle regarding the handling of Canada-Canada traffic and the above 50% objective.

The Preliminary Examination assessed three possible system arrangements and outlined the advantages and disadvantages of each. The system arrangement proposed in this response would appear to be preferable and overcomes the disadvantages inherent in the other possibilities outlined by the Department of Communications.

Intergovernmental Accords

These policy, institutional and system recommendations must be supported in principle by the governments of Canada and the United States through intergovernmental accords. Within this framework the Canadian and United States telecommunications common carriers would negotiate transborder satellite-based inter-carrier agreements to ensure effective communications among users in both countries. Each service offered would be covered by an intercarrier agreement. The roles of the regulated Canadian telecommunications common carriers and Telesat Canada in arriving at such an agreement are outlined below.

The Regulated Canadian Telecommunications Common Carriers' Negotiating Role

The regulated Canadian telecommunications common carriers would negotiate their portions of these agreements with the appropriate United States carriers for the provision of specific satellite services to end-users. It is expected that there will be relatively few United States satellite carriers and the negotiation of inter-carrier agreements would be accomplished as successfully as in the terrestrial environment. This would, as a consequence of using existing procedures, take place without an increasing degree of regulatory complexity as stated in the Preliminary Examination. As in the terrestrial context, such agreements would include the negotiation of rates and revenue settlement procedures.

The revenue settlement procedure, in respect of each transborder inter-carrier agreement, would be required to provide the regulated Canadian telecommunications common carrier with an equitable share of all revenues resulting from the use of transborder satellite space segments. The above excludes any agreements associated with the reception of television signals from United States satellites.

Telesat Canada's Negotiating Role

Telesat Canada should be responsible for negotiating with United States satellite carriers the space segment and earth station configurations necessary to achieve the objective of 50% of transborder satellite traffic on Canadian facilities. It is recognized that this 50% facility objective may not always be achievable on each specific agreement.

The agreed-upon allocation of satellite facilities between Canada and the United States must be consistent with the technical requirements of the particular service being considered, the available and planned in-orbit capacity of Canadian and American satellites and their respective geographical coverages. In respect of any particular transborder application within such an inter-carrier agreement, Telesat's satellites would not necessarily be involved in providing the in-orbit capacity. In such cases Telesat would arrange for the necessary satellite space segment facilities.

Where a regulated Canadian telecommunications common carrier and its American counterpart contemplate the use of satellite technology for the provisioning of portions of the jointly provided transborder services, a separate agreement would be entered into that would include Telesat Canada as a full party. Even where Telesat was not providing Canadian in-orbit capacity and a United States satellite was being used, Telesat's participation by way of consent as a signatory to this separate agreement would be required.

Reception of Television Signals from United States Satellites

The Preliminary Examination requests that this response address the reception of special-event television broadcasts via United States satellite carriers and the method by which such signals might be distributed in Canada. Any Canadian user wishing to bring a special-event broadcast into Canada would make an arrangement with the owners of the program signals in the United States for Canadian distribution rights. The user in Canada would deal with the appropriate regulated Canadian telecommunications common carrier to make arrangements to receive the required program. This common carrier would then deal with Telesat

and mutually determine the most suitable method to bring the signal into Canada and redistribute it either terrestrially or via satellite. In the case of satellite, Telesat would make the necessary arrangements with the United States satellite carrier. The common carrier would pay Telesat Canada in accordance with the latter's tariffs for the use of Canadian earth stations, as appropriate, and space segment facilities, and would bill the customer for the total service. In this way special-event programming would be properly and officially negotiated and hopefully would prevent illegal distribution of such events into Canada.

As previously stated, it is our understanding that the general area of reception of United States television programs via satellite is being addressed by the Department of Communications in terms of cultural and social policies. It is hoped that the Department will seek the views of all interested groups, including the common carriers, on this subject.

Merits of the TCTS Proposed Institutional Arrangement
for the Handling of Transborder Satellite-Based Services

This response proposes Telesat Canada as the organization which would be responsible for the protection of Canadian interests in the use of satellite technology to ensure that an equitable share of transborder satellite traffic is carried on Canadian facilities.

This institutional arrangement proposed by TCTS for the handling of transborder satellite-based services includes all the advantages of the present structure currently serving the transborder terrestrial environment. It also incorporates the benefits of a single agency to negotiate space segment utilization and to ensure that national policy goals are met. This approach recommends preservation of a

system that has worked well in the past while recognizing the special characteristics of transborder satellite-based services. It is critical that a single-agency arrangement be implemented to provide sufficient negotiating strength to ensure that an equitable share of transborder satellite traffic is carried on Canadian facilities.

Canadian and United States users requiring transborder satellite-based services would have non-discriminatory access to all regulated Canadian telecommunications common carriers which would obtain their satellite facilities from the single agency. The proposed institutional arrangement, therefore, protects Canada's national interest and sovereignty while providing an efficient structure within which telecommunications users and the common carriers can operate.

This institutional structure maintains the integrated North American network concept to the best advantage, and uses the experience of the regulated Canadian telecommunications common carriers in the negotiation of inter-carrier agreements. It will also provide Canada with an efficient and effective interface to deal with any arrangement decided upon in the United States.

Why TCTS Proposes Telesat Canada as the Single Agency

The Preliminary Examination suggests that, barring the creation of a new agency, either Telesat Canada or Teleglobe Canada could fulfill the role of a single agency. There was also reference to Teleglobe's mandate. However, under its charter, Teleglobe Canada is not given any mandate, but rather, it is given certain corporate capacities which do not provide exclusivity in international telecommunications. Teleglobe's predecessor, the Canadian Overseas Telecommunication Corporation (COTC), was established under a special act as a

federal Crown corporation in 1950 to discharge Canada's responsibilities as a signatory to the Commonwealth Telegraphs Agreement dated May 11, 1948. In that agreement, Canada as a partner government agreed to purchase the facilities of Canadian Marconi Company Limited and Cable and Wireless Limited. The intent of the agreement for Canada was restricted to overseas telecommunications traffic then being carried on those facilities. Significantly, there was no mention made of Canada-United States traffic and facilities either in the agreement of 1948 or specifically in the incorporating act of the COTC.

Historically, Teleglobe has not been involved in the provisioning of Canada-United States telecommunications. On the other hand, TCTS has negotiated Canada-United States agreements and has long-standing working relationships with American carriers and must retain this ability.

Telesat, as the sole provider of Canadian commercial satellite capacity, is the focal point in Canada for satellite facilities and supporting expertise, and is a proven organization. It currently provides complete satellite systems throughout Canada. This system capability would allow Telesat to fulfill its role in the transborder context as it does currently in the provision of intra-Canadian satellite systems.

The late Dr. John Chapman, as Assistant Deputy Minister - Space Programs in the Department of Communications, writing in "In Search", Spring 1979, stated in the

Canadian context:

"In this country, it seems fruitless to try to produce more revenue by encouraging competition between carriers and providers of satellite services. The total revenues earned from the provision of services would just have to be divided up among members of a larger group. Furthermore, competition between providers of satellite services and the terrestrial carriers would not result in increased use of satellite channels since both groups would be competing for the same traffic. However, if the terrestrial carriers themselves make use of available satellite channels rather than expanding the existing terrestrial network, the network as a whole can grow as it expands to fill the carriers' increased requirements."

This statement is true both for intra-Canadian and transborder services. Telesat, as provider of satellite facilities to the regulated Canadian telecommunications common carriers, would continue to complement these carriers in the provision of services to end-users.

Canadian interest is best served by optimum utilization of Canadian satellite capabilities while taking into account the economic and technical considerations in providing satellite-based services. Telesat owns its own facilities and, as the supplier to the regulated Canadian telecommunications common carriers, is deeply involved in the provision of intra-Canadian satellite-based services. Transborder satellite facilities provisioning would be an extension of the requirements for satellite capacity in the intra-Canadian market.

A fundamental feature of this TCTS proposal is the equitable utilization of Canadian satellite facilities. Telesat Canada, as the commercial provider of satellite capacity in Canada, is the only Canadian carrier in a position to directly negotiate trade-offs with respect to the utilization of Canadian and United States satellite space segment facilities. If an organization other than Telesat were to become the single agency this would add a needless extra layer of administrative complexity to the process since Telesat would, of necessity, be involved in order

to provide Canadian facilities. The Preliminary Examination expressed concern that institutional arrangements covering Canada/United States transborder satellite-based services should not result in increased complexity.

Telesat's ownership of its own space facilities would ensure direct control of Canadian content in transborder facilities utilization. Teleglobe, because of its affiliation with Intelsat and the proportionately small Canadian ownership in that organization, would not have direct control of Canadian content in space segment utilization. Canada's financial interest in Intelsat is currently less than 3% and, as stated in the Preliminary Examination, Canada is only one of 101 members of Intelsat.

Telesat is owned by the Federal Government and approved Canadian telecommunications common carriers and has the potential for future participation by the Canadian public. This ownership reflects a broad base of Canadian interests. Telesat's 100% Canadian ownership would ensure Canadian influence over the provisioning of Canada-United States facilities for transborder use.

Telesat makes a contribution to the Canadian economy by awarding contracts to Canadian manufacturers for space segment and earth station equipment which, in turn, creates new jobs. In the final analysis, optimal use of Telesat's facilities would reduce the unit cost of domestic telecommunications services. This would be of benefit to the Canadian telecommunications user and the Canadian public in general.

PART V - BENEFITS OF THIS PROPOSAL FOR CANADA

The recommendations in this response are of benefit to both Canadian users and the telecommunications industry. The proposal supports the development of strong, indigenous, satellite-based services for Canada first, by building upon the combined operational and technological expertise of Telesat Canada and the regulated Canadian telecommunications common carriers. The institutional structure being recommended continues to support the integration of satellite technology with the North American network. It also ensures that the capabilities of Canada's satellite industry are best utilized while recognizing that users in Canada require access to services in the United States.

The response incorporates existing TCTS policies which uphold Canadian economic interests and sovereignty and recommends optimal institutional and system arrangements which build on existing terrestrial expertise combined with the necessity of using a single agency in the satellite environment. The proposal provides a workable and simple arrangement and has the advantage of affording sufficient negotiating strength to ensure that 50% of transborder satellite traffic is carried on Canadian facilities. Telesat Canada is recommended as the single agency because it is in the best position to ensure that this proposed national policy objective is met. An equitable share of revenues will accrue to Canada from the provision of transborder satellite-based services provided by the regulated Canadian telecommunications common carriers. In addition, Canada will be positioned to deal effectively with institutional arrangements that evolve in the United States.

However, it is fundamental and critical, that the Federal Government, the common carriers and user organizations, determine whether the Canadian public interest would be best served by using satellite technology for Canada-United States communications. If this is the case, firm national policies must be established to provide the framework within which the regulated Canadian telecommunications common carriers can implement programs to meet national objectives.

APPENDIX I

DEFINITION OF THE TERM "REGULATED CANADIAN TELECOMMUNICATIONS COMMON CARRIER"

In the context of this response to the Department of Communications on Canada-United States satellite communications, the term "regulated Canadian telecommunications common carrier" is used to refer to the following carriers:

- Alberta Government Telephones
- Bell Canada
- British Columbia Telephone Company
- Manitoba Telephone System
- Maritime Telegraph and Telephone Company, Limited
- Newfoundland Telephone Company, Limited
- Saskatchewan Telecommunications
- The Island Telephone Company, Limited
- The New Brunswick Telephone Company, Limited
- Canadian National Railway Company
- Canadian Pacific Limited

PROPOSAL FOR CANADA/UNITED STATES TRANSBORDER SATELLITE COMMUNICATIONS.

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