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REGULATORY AND POLICY IMPLICATIONS
OF A DIRECT BROADCAST SATELLITE
SYSTEM

REGULATORY AND POLICY IMPLICATIONS
OF A DIRECT BROADCAST SATELLITE
SYSTEM

VOLUME 1



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EXECUTIVE SUMMARY

The study concludes that the introduction of DBS into the existing Canadian Broadcasting and Telecommunications system will require major structural changes to that system.

While DBS will provide the opportunity to bring service to every part of Canada, it will also provide a unique opportunity to improve access to the means of distribution, develop more sources of Canadian Content, and improve program service diversity.

If these goals are to be achieved, an overall long term broadcasting and telecommunications strategy must be developed requiring changes and adjustments to existing legislation and to present regulatory and policy practices.

Essentially, the study develops the view that it is no longer practical to achieve Canadian social and cultural objectives by widely applied protective devices which inhibit the public's access to information and entertainment products and services.

Because of this, the focus of this study is on ways to expand, and render more effective, services which are either supported by public funds, or by private entrepreneurship operating in a competitive commercial marketplace.

Regulatory controls are important, but it is felt that their application should be generally aimed at providing balanced opportunities in a system in which the public has the maximum choice of services, and a variety of means of receiving them.

Structural change in the system is equated with changing or modifying the activities of the present elements of the system. By choosing "trigger mechanisms," a process of adaption to new roles and new opportunities is set in motion.

The restructuring concept not only aims at improving service extension and service diversity, it also frees program suppliers from being "locked-in" to any one type of distribution technique. As a result, the most effective distribution methods can be chosen to suit the services being offered. The principle of a "free" service is maintained, but an increased opportunity is provided for optional services available upon payment of a fee.

The Canadian "presence" in the system should, it is felt, be determined by the success Canadian programs and services can enjoy with Canadian audiences rather than through the imposition of quantitative type controls. Such a concept can be helped by introducing, amongst other things, more community input into program and service evaluation, and competitive licensing procedures.

Throughout the study it is assumed that DBS will be introduced in Canada because to do otherwise would risk losing the necessary capability to both combat the influence of foreign services, and to strengthen the domestic and international impact of Canadian services.

DBS is seen as a further opportunity for the creators of programs and services, and not just another addition to the technology of distribution.

It is concluded that the CBC should be used as the primary instrument to introduce DBS programming services, and that by moving the CBC out of a dependence on commercial advertising revenues, and by concentrating its efforts on regional and national program services, the people of Canada will receive greater benefits from their investment in the CBC.

Furthermore, these institutional changes are seen as catalysts to change within the entire system, moving the private sector, both broadcasting and cable, into a more competitive commercial environment where new forms of service can evolve.

While DBS is seen as having a major impact on existing local services, it is also felt that a more realistic public/private system which consists of a separate publicly supported sector, not dependent on commercial advertising, and a private, commercially competitive, sector, would best permit the emergence of new forms of local services.

The CBC is given a primary role in the introduction of the DBS service because it can, from the outset, ensure that the DBS system achieves a high commitment to Canadian social and cultural objectives. Furthermore, the CBC's involvement will greatly assist in exploring new services and new uses for DBS, such as high-definition television.

Private sector involvement in DBS is not restricted because of the primacy given to the CBC. In fact, the CBC's experience will be of direct value to the private sector. There is also no reason why private sector involvement in DBS should not occur simultaneously with the CBC's entry, providing the recommendations concerning the restructuring

and redefining of the CBC's role is retained to create the necessary impetus to change the present system.

The DBS concept allows for a natural separation of content and carriage and this allows broader entry for a wide range of potential DBS users, from various public service agencies to independent producers and native groups.

The primary conclusion of this study is that DBS should be used as a means of causing major improvements to the whole broadcasting and telecommunications system. In the process, DBS not only becomes an important and necessary addition to the means of distribution, but a catalyst to the future growth and development of improved services to the public.

VOLUME 1

PART 1

THE EVOLVING CANADIAN TELECOMMUNICATIONS SYSTEM

INTRODUCTION

New technological systems are revolutionizing the way in which the public receives information and entertainment. As well, the public's need, and desire, to obtain information is also on the increase. Worldwide sources of program production and data provision are rapidly becoming more and more accessible to the general public, and in the face of this the Government's attempts to maintain a suitable Canadian "presence" on the Canadian telecommunications system is severely challenged. Furthermore, the public's expectations are often extremely difficult to reconcile with public policy objectives. For example, the public views television largely as a medium of entertainment and is not particularly concerned as to the sources of the programming which it views. On the other hand, the Broadcasting Act is quite specific in requiring that the Canadian Broadcasting System be predominantly Canadian in content and character, providing varied and comprehensive programming.

The situation is further complicated by the very dramatic increase in data and program delivery systems which do not rely on off-air transmission facilities. Although the transforming of the broadcasting system into a "telecommunications system"* is recognized in a proposed new

*It has become popular to use the term "system" to describe the totality represented by the orderly arrangement of discrete parts. Telecommunication seems to be resisting conventional systemization in that one's conception of the system can no longer remain static, the parts can be arranged and re-arranged in an infinite variety of ways to suit the needs of the moment. It is this adaptability that offers the greatest challenge and opportunity.

Telecommunications Act, introduced most recently into Parliament as Bill C-16, November 1978, this proposed Act is presently undergoing revision. As a consequence, the present Broadcasting Act, with its emphasis on off-air transmission as the primary means of achieving Canada's social and cultural objectives, still provides the basis for regulatory policies.

Historically, there have been very valid reasons for this approach. Because of the finite limitations of the frequency spectrum, only a limited number of conventional radio and television transmitters could be licensed. Yet, because the operators of these transmitters also provided the content or programs, it was necessary to ensure that the facility was not used irresponsibly and that the operator undertook specific public service objectives.*

This fact has profoundly affected the methods adopted to regulate broadcasting services provided to the public. For example, when issuing licences, the regulator recognized the dual role of the broadcaster as content provider and distributor, and based the size of the public being served on the area encompassed by the local signal pattern. Even when networks were eventually created to provide certain common services to a number of individual stations, the primacy of the "logic of local licensing" prevailed.

*It is debatable as to whether regulatory practice was primarily motivated by technical considerations. From the Aird Report of 1929 until the present day, regulatory objectives for broadcasting have reflected a strong desire to achieve social and cultural imperatives.

Although the Broadcasting Act of 1968 included cable television operations (Broadcast Receiving Undertakings), it did not ascribe to them the same commitment to Canadian programming objectives as was imposed on the off-air broadcasters. While the Broadcasting Act refers to the overall broadcasting system, including cable, as having a specific role in respect of Canadian social and cultural objectives, the decision as to what cable's contribution might be is left to those charged with the responsibility of administering the Act.*

Given the primacy accorded to off-air transmissions, it is perhaps not surprising that the regulation of cable television was designed to afford the maximum protection to the off-air broadcasting component.

In practice then, while cable television provided clear evidence that a means was at hand to overcome the limitations of the frequency spectrum, it tended to be administered, not to exploit this advantage, but to further reinforce the system's dependency on off-air delivery methods.

There were, of course, logical reasons for this approach. Providing the consumer had a suitable receiver, the off-air signals could be received "free" while cable service could only be received upon payment of a fee.

*In the Telecommunications Bill C-16, cable is given the same programming objectives as broadcasting.

But cable television not only demonstrated that the electronic distribution system could be greatly expanded, it also showed that the public was willing to pay for its television service if it was given the choice. Up to the introduction of cable, the public had had the option, of receiving, or not, the radio and television signals freely available but it could not exercise "a buying option" in respect of alternative services.* In the case of the CBC, the money comes from the public treasury with some revenue from commercial advertising, and in the case of the private sector, all the revenues generated come from the sale of programs to advertisers.

Yet another factor is the way that the expanding telecommunications system is rendering redundant the notion that program origination, distribution, and exhibition are functions to be necessarily ascribed to any one entity; the net effect is to open up the system to a vastly greater number of data and program providers, provide the public with a much more diverse choice of programs and data services of all kinds, make available new sources of revenue, and give the public much more control and influence over the material distributed over the system.

It is into this kind of environment that DBS will be introduced in the mid-1980's. Between now and then, the forces that have been described will continue to act, molding and shaping the system, and in the process creating

*Except for some limited and unsuccessful pay-TV experiments in the Toronto area. Also support of the CBC by radio receiver licence fees was, until it was discontinued, a sort of consumer buying option.

new problems and new opportunities. The better these forces are understood and their potential impact defined, the easier it will be to identify the kind of system that will exist when DBS is introduced, and from this to deduce the best and most appropriate role for DBS.

THE PROVIDERS OF CONTENT AND CARRIAGE

a) The Telecommunications System

While there is general recognition of the fact that it is more appropriate to call Canada's expanding distribution system a telecommunications system rather than a broadcasting system, nevertheless, as we have already seen, present regulatory principles are largely based on the primacy of off-air broadcasting.

Although a proposed new Telecommunications Act has yet to receive parliamentary approval, Telecommunications Bill C-16 provides a definition of "communication" which reflects the kind of regulatory philosophy which is likely to be in place when DBS is introduced. For example, in Telecommunications Bill C-16, the term telecommunications is described as:

"Telecommunication" means any transmission, emission, or reception of signs, signals, writing, images, sounds or intelligence of any nature by wire, radio or other electromagnetic system or by any optical or technical system.

The Bill also declares that:

...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.

These broad ranging definitions are significant in two ways: they extend and reaffirm the importance of the means of communication to Canada's social and cultural objectives and they reflect, in a most dramatic way, how the techniques of communication are changing.

Irrespective of whether a new Telecommunications Act exists or not, the system continues to change and evolve and present regulatory and policy mechanisms must attempt to deal with the changes. The public's preferences and expectations and the various ways of measuring system performance are two key considerations, and these bear upon the agencies and institutions which are providing the products and services which reach the public via the distribution network. The way in which these agencies and institutions are responding to public needs, and regulatory and policy objectives, also shape the characteristics of the evolving system. By examining current practices, some assessments can be made of the current and future roles of the present service providers.

b) Broadcasting

Broadcasting transmitting undertakings, whether radio or television, are governed by both the terms of the Radio Act and the Broadcasting Act of 1968. The importance of broadcasting to the national purpose was recognized as early as 1929 and subsequent regulatory practice has had as its major objectives the management of a scarce frequency spectrum, a requirement that broadcasters fulfill certain public service objectives, and that as many communities as possible across Canada are provided with adequate radio and television service, especially to serve local needs.

(i) The CBC

The primary instrument for the provision of a national broadcasting service in both official languages is the Canadian Broadcasting Corporation. Not only is it the major source of Canadian program content, it also operates the largest number of broadcasting stations and networks to distribute its programs.

Until the advent of cable television, the CBC service represented the only service available to many communities in Canada. The key role and purpose of the CBC was therefore based not only on the kind of services it provided, but because it was often the only service available.

When a second private television network was introduced and cable television began to extend across the country, the CBC found that many of its services were duplicated by the private sector. For example, in television, news and public affairs and entertainment services were introduced by private broadcasters in direct competition to the CBC services.* As well, at the urging of the CRTC, private broadcasters extended their service into more and more remote parts of the country. At the same time, cable television not only enhanced the reception of local Canadian stations, but it began to import the major U.S. networks.

*According to the CRTC Special Report on Broadcasting, the Public Sector has been losing audiences to the Private Sector in the important program categories of entertainment and news.

The result of all this has been to offer serious challenges to the CBC's role and purpose. While it remains the major provider of Canadian television content, particularly in English Canada, nevertheless, its audiences have been steadily declining as a result of the fragmentation of its audiences by new Canadian services and by the impact of cable-imported U.S. stations.*

Adding to the CBC's difficulties has been the fact that the government has progressively reduced the CBC's financial appropriations at a time when inflation and increasing demands for service extension, and the improvement of its Canadian content contribution, are placing heavier and heavier demands upon the CBC operations. Because the CBC was formerly the only service in many areas, its programming schedule consisted of both Canadian produced material and foreign programs, notably those from the U.S. As well, the CBC relied on commercial revenue to augment its parliamentary financial appropriations. While this approach has worked well in the past, it seems more and more inappropriate for the CBC's present and future activities. For example, people, even in remote communities, can now view U.S. programs from sources other than the CBC.

*It should be noted that although Canadian programming has increased, its viewing share has remained substantially the same at around 25 to 35%. As a result, the average audience per program hour has fallen dramatically.

The CBC's continuing dependence on commercial revenue tends to constrain its operations in respect to its major function, which is the provision of basically Canadian services. Nowhere is this more evident than in the CBC affiliated station concept where private affiliates, heavily dependent on foreign programs and the commercial revenue they generate, are the sole providers of local CBC service.

Recognizing that its woes are closely related to the changing nature of the distribution system, the CBC has recently argued that the major objective of Canadian broadcasting should be to repatriate Canadian viewers. To achieve this, it proposes increasing the overall Canadian content of the system, including cable, to 40%.* The CBC envisages that it will be the major provider of the Canadian content for this program and that in order to achieve this a number of conditions must be met. For example, it must be able to receive adequate financing to increase its Canadian content to 80% in a typical broadcast day. Furthermore, it must be able to produce alternative services like CBC 2/Télé 2,** which are planned for cable-only distribution. In its search

*In a presentation to the Federal Cultural Policy Review Committee, the President of the CBC called for the adoption of a plan "...for the Patriation of Canadian Television Audiences to Canadian Programming." This envisages increasing the percentage of Canadian programming available on English language television in Canada (all services including cable) from the present 33% to 40% over the next five years. Subsequently, in its presentation to the CRTC Canadian Content hearings, the CBC reiterated this concept, now called Project Phoenix.

**The CBC's application to the CRTC to introduce CBC 2/Télé 2 was subsequently denied. Basically, the CRTC disagreed with the proposed programming and its high repeat factor. The CBC now plans to establish a revised version of its CBC 2/Tele 2 plan and to seek extra government funding for the project in the 1983-84 fiscal year.

for additional sources of revenue, the CBC had originally hoped to finance CBC 2/Tele 2 from fees obtained from cable television systems for the right to carry the CBC 2 service. This plan seems to have been abandoned, however, in favour of increased government financing, although a recent proposal suggests that the CBC would like to see a form of tax on new services like cable with the proceeds going to assist in program production. Presumably, the CBC would stand to benefit from such a plan.

While the CBC has achieved remarkable progress in extending service in English and in French across Canada, it is still experiencing difficulty in providing suitable services for native peoples, particularly in northern Canada. The CBC has, however, been willing to develop the principle of native access to CBC facilities in the interest of developing effective local native program services.

The CBC also provides television coverage of the proceedings of federal parliament. This is distributed free of charge to cable system headends via satellite. The provision of this service created some confusion at the outset since both the CBC and a Satellite Consortium formed by the cable companies applied to carry it. The issue was eventually resolved in favour of the CBC through the issuance of a network licence to the CBC.

Comment

It seems likely that a publicly supported broadcasting activity will continue to represent the primary instrument for providing Canadian content in the system and be a major contributor to the social and cultural objectives envisaged by the Broadcasting Act. On the other hand, it is too early to assess whether the recent CBC proposal to raise the Canadian content of the system to an overall 40% will receive favourable consideration. As more and more techniques of distribution are introduced, new methods will be required to assess the effectiveness of Canadian services and to replace the present system of quantitative content controls. Another key problem is to determine what is to be included in the Telecommunications system. Does it include systems of distribution beyond broadcasting and cable such as videocassettes and videodiscs?

It will also be necessary to decide whether the CBC's reliance on private affiliated stations will be continued. The CBC recently indicated that "in the interest of increasing the Canadian programming scheduled by the private broadcasters" it would be prepared to retire from some of its commercial activities.* This would impact directly on the affiliates since they rely on the revenue earning capability of CBC network programming. As well, some stations receive subsidies from the CBC to offset the revenue lost by carrying CBC Canadian, rather than foreign, programs.**

*Based on statements made at public hearings of the Federal Cultural Policy Review Committee in Hull, Quebec.

**When the CBC decided to introduce its new television news and public affairs program, The Journal, the private affiliates were concerned about the possible loss of revenue. The issue was resolved on an interim basis when the CBC agreed to compensate the private affiliates for any loss of revenue.

In an apparent response to the CBC's position, the Canadian Association of Broadcasters seems willing to argue that they could use some of the commercial revenue going to the CBC to improve their own Canadian content performance.*

The issue is complex. For example, some 39.5% of the CBC's television production budget comes from commercial advertising revenue. This represents revenues in the order of 100 to 130 million dollars, which would presumably have to be replaced by an increased parliamentary appropriation. In addition would be the cost of acquiring or replacing some 27 private television affiliates and their 184 associated rebroadcast transmitters.

It is likely that the CBC will continue to look to other means of program dissemination, other than off-air transmitters, including cable and DBS, in order to improve its national coverage and to try and increase audience levels. Perhaps more than the private sector, the CBC has valid reasons for reassessing its present distribution system in the light of DBS's introduction.

From the regulatory point of view, pressure will continue to mount for more and more contracting out of CBC program production. This regulatory pressure will certainly be matched by pressure from the independent producers to achieve the same goal. In the light of the Cultural Policy Review Committee hearings, the CBC is likely to be under

*Based on statements made at public hearings of the Federal Cultural Policy Review Committee in Hull, Quebec.

greater pressure to further decentralize its operations and give more opportunities for Canadian talent, especially in local communities.*

(ii) Private Broadcasting

Perhaps one of the major and continuing difficulties with private broadcasting in Canada has been the problems of reconciling public service objectives with the dictates of the commercial marketplace. The awarding of a broadcasting licence, based on the use of scarce frequency spectrum, brought with it a major public service obligation. The test of wills between the broadcasting industry and the regulators has essentially revolved around the extent of the public service contributions that should be made by private broadcasters.

In recent years, great publicity has been given to the high profits made by private broadcasters in spite of the audience fragmentation caused by television. As a consequence, there is a generally held view that private broadcasters could make a substantially greater contribution to Canadian content.

The issue is now in active discussion as the CRTC reviews its existing Canadian Content requirements. The broadcasters contend that incentives rather than Canadian Content quantitative rules would be more effective in the long term. Furthermore, the strong arguments being put forward from many quarters that Canadian Content requirements

*See the Federal Cultural Policy Review Committee's "Summary of Briefs and Hearings," page 229.

should be increased in prime time viewing periods are being opposed by broadcasters on the grounds that scheduling flexibility is a necessity. With a growing proliferation of new program services, the broadcasters are strongly resisting any attempt to inhibit their scheduling flexibility, since it determines their overall revenue generation capability. This is primarily due to the fact that the major revenue earners in prime time are U.S. programs.

Attempts made by the CRTC to increase the private broadcasters' contribution to Canadian entertainment programming by applying specific licence conditions have largely stalled, due to the contesting of a condition of licence imposed by the CRTC on the CTV network which required that it increase its production of Canadian drama.

A private network like CTV relies upon its affiliated stations to distribute its program materials. In other words, the network is nothing without its local stations. This situation could dramatically change with the introduction of DBS, in that the networks would have access to a national distribution system which would obviate any dependence on local stations. Whether this is likely to occur or not largely depends on the economics involved. So far, terrestrial means of distribution have been far more economical for broadcasters than the use of satellite distribution. In addition to the economic considerations will likely be the considerable regulatory pressure to retain effective local broadcasting services.*

*In this connection, the CRTC's Special Report on Broadcasting infers that "...Canadians are much more interested in regional and local news than they used to be and that regional and local news have taken on an increased and important dimension, especially with respect to CTV and its affiliates."

Overall, the private broadcasters have been slow to actively exploit the potential of new distribution technologies. Unlike the CBC with its CBC 2/Tele 2 concept, no concerted effort has been made by the private broadcasters to capitalize on the cable distribution capacity. In a similar way, there seems to be little incentive to move to exploit the potential utilization of DBS, at least at this present time.* All this suggests that private broadcasters are likely to continue to push for greater operating flexibility within the present system, to retain their present earning levels, and to seek a revised assessment of Canadian content performance based on such factors as quality rather than quantity, and revenue commitments rather than more constraints on program scheduling.

Private radio broadcasting presents a somewhat different picture. Although local radio stations face more competition and do not rely on networking to any large extent, their contribution to local communities has proved to be effective and essential. While radio, supposedly threatened by television, has found an effective role, Canadian television by contrast has not yet achieved a comparable adaption in the light of cable television and is therefore ill-prepared for the newer programming services already planned or coming into existence.

*However, there are indications that the networks are actively involved in assessing their futures in the light of DBS.

Comment

It is unlikely that broadcasters will remain the primary suppliers of Canadian content materials. The direct relationship between content provision, distribution and exhibition, which has characterized the evolution of broadcasting in Canada, is likely to be gradually replaced by a broader acceptance of many more sources of program origination which require a freer access to the means of distribution. Concurrently with this, it is likely that advertiser attitudes to the television medium will change with more concern and emphasis on specialized, rather than mass, audiences.*

While private broadcasters may well continue to serve mass audiences, they are likely to become more concerned with alternative, rather than directly competitive, programming. For example, while there has been regulatory pressure for private broadcasters to produce more entertainment programming of Canadian origin, it is quite conceivable that private broadcasters could perform a better service if they concentrate on news and public affairs.

In general, broadcasters will probably seek ways of diversifying their activities, recognizing that they too do not want to be tied solely to off-air delivery systems. In a sense, they will tend to become independent producers rather than broadcasters.

*While trends to specialized audiences in television are not yet apparent, shifts are taking place in the advertisers' use of the media. In the third quarter of 1981, national advertising in daily newspapers jumped 35.7%, television advertising revenues climbed 16%, while radio advertising dropped by 8%.

If the CBC affiliate system is phased out and networks generally seek DBS-type national distribution, then local television stations may find their operations moving more towards the style adopted by radio, with a need for a greater facility to devise and structure their own local program schedules. All of these developments will focus back on the need for, and the value of, many alternative sources of programming.

Private broadcasters in particular are likely to continue to press hard for market exclusivity provisions in any new regulations. The success of cable simultaneous program substitution, and the potential invasion of existing broadcaster markets by other sources of program material, will force more emphasis on issues like copyright, program exclusivity, and artist fees.

Because it will threaten the present methods used to finance and distribute local services, DBS will focus renewed attention on this issue. The end result could well be better, and more relevant, local and regional service provision.

c) Cable Television

Cable television continues to be regulated on the premise that, while extension and expansion of cable can be permitted, it must be done in such a way as to protect the off-air broadcasting system. The major components of the cable television policy regulations are designed to protect broadcasting. For example, the cable carriage priority rules ensure that Canadian signals receive the first priority

with regard to carriage. The simultaneous program substitution regulation protects individual broadcaster programs from direct competition from U.S. programs. The so-called 3 + 1 rule, allowing three commercial U.S. networks and one non-commercial U.S. network, are designed to limit the U.S. station competition to Canadian stations.

The general prohibition on program origination by cable systems is also based on the principle that the primary sources of Canadian programs are broadcasting stations. Restricting the programming efforts of cable television to the community channel, which is based primarily on the notion of access programming with a strong local orientation, ensures that there will be no major competition to existing broadcasting services.

It is difficult to ascertain whether the existing controls have prevented a level of broadcaster fragmentation which would otherwise have seriously affected the present off-air service. It is interesting to note that present U.S. policies, designed to achieve cable deregulation, estimate that local broadcasters would lose no more than a maximum of 10% of their audiences if the present cable regulations were discontinued.

In the light of the extensive cable growth in the U.S.A., it seems most unfortunate that Canada's leadership in cable is being lost to U.S. entrepreneurs. Ironically, many of the new multi-channel systems being introduced into the U.S. are designed, financed, and developed by Canadian expertise. To be fair, the Canadian problem is

very different. There is a real and valid concern about maintaining a suitable Canadian presence on the system. Shifting services to cable could deprive the public of free over-the-air services. On the other hand, the diversity of choice which the Broadcasting Act envisages, and which the public wants, is unlikely to occur unless the expanded capacity available via cable is better used.

Earlier attempts to move funds from cable to broadcasting in the interest of supporting more Canadian broadcast programs have not been successful. Similarly, as mentioned earlier, broadcaster use of cable facilities has not extended, thus far, beyond the few limited attempts at broadcast rerun channels. In other areas, cable has been more successful. Multicultural and Childrens programming got a major assist from the use of cable channels. A wide range of digital services have also been introduced by cable.

In spite of all this, cable television development in Canada has been slowed for some ten years because of the preceding concerns. While admittedly it is difficult to determine appropriate courses of action, it is questionable whether direct regulatory control of new system development can, by itself, determine the most appropriate course of action. The U.S. has been concerned about this problem too, and is now tending to adopt a much more flexible attitude which allows actual experiments with new services to take place, often on a very broad basis.

The argument is that this represents the only way to satisfactorily assess both the potential and the limitations of new concepts in advance of the actual policy making process.* Perhaps more than any other element of the present system, cable television represents the Canadian dilemma. We need more sources of Canadian content, we need more means of distribution, we need more program choices, and all of these things could, in some measure, be provided by cable, yet we seem to be continually asking these things of off-air broadcasting at a time when its limitations are becoming all too apparent.

Comment

It seems essential to utilize more effectively the expanding distribution capacity of cable television. Rather than impacting adversely on cable development, a DBS system might well extend and enlarge cable's influence. This does suggest, however, that DBS should not be viewed only as a service for present unserved and underserved areas. The present attempts being made by COMSAT** in the U.S. to work cooperatively with cable is a useful principle for Canada to explore. Cable seems much underused as a source of original Canadian programming. At a time when much more Canadian content is needed, why not tap the cable resources as well as broadcasters and independent producers?

*The recent call by the CRTC for Pay Television applications appears to lean towards this principle.

**COMSAT, which provides satellite services in the U.S.A. has recently applied to the F.C.C. to operate a DBS system. See Part 4.

The role of the cable community channel will undoubtedly undergo a major reassessment in the next few years. Is it, for example, likely to become a stronger local service? A decade ago, some cable systems suggested the off-air distribution of the cable community channels by low power UHF transmitters. While there is renewed interest in low power radio and television transmitters in the U.S., Canada has pioneered experiments in this field, modifying its conventional policies and regulations to accommodate them.* Extending this initial work might greatly improve methods of local service provision, both through cooperative efforts with cable and broadcasters or through individual cable or broadcaster initiatives. For example, in addition to cable's off-air distribution of the community channel, broadcasters could explore the provision of new special services, somewhat like the Real Estate Channel concept proposed by cable** via low power off-air facilities.

d) Common Carriers

(i) Telephone Companies

Until recently, the working interface between the Common Carriers and broadcasting has generally occurred at two points: the leasing of cable plant to television licensees, and the leasing of telephone and microwave facilities to broadcasters.

*For example, the TV services provided by David Brough to northern communities and the use of low power FM for community run services.

**Cable licensees in the Toronto area applied to the CRTC for a real estate advertising channel, but the application was denied, apparently because of its potential impact on the advertising revenues of off-air broadcasters.

CRTC regulation has sought to ensure that broadcasting undertakings retained sufficient access to their leased facilities to facilitate effective control of their licensed facilities. In turn, carrier rates were regulated to avoid cross-subsidization of services and to maintain fair rates.

In recent years, the situation has become more complex as both telephone carriers and cable systems push to expand their system capacities. While arguments for and against a common delivery system into the home wage on, the more immediate issues concern the role of cable and carriers in the provision of new services.

Various new data services can be delivered via telephone systems or via cable television. Many of these do not involve the use of conventional television images and have been variously called non-broadcast or non-programming services.

Because they do not appear to directly affect broadcasting, the CRTC has chosen not to regulate them in the same manner as broadcasting related services.

In a Public Announcement issued on June 6, 1978, the Commission stated in part:

...the Commission does not intend to regulate non-programming services as such. Rather, it views the applications for such services as requests to utilize the channel capacity of the cable undertakings in question that is not at present required for off-air and locally originated programming services.*

It would appear then that direct competition could occur between existing telephone companies and cable in the provision of such services. This still, however, leaves open the question of content control. While the telephone carriers are precluded from control over content, it is not clear that this would apply to cable. Is cable to be regulated as a carrier in this particular service classification** or is it to still retain the content obligations of a broadcaster?

*While the matter of new programming services continues to be a controversial subject, the CRTC has recently extended for another two years the experimental period for a variety of non-programming cable services, including security surveillance, energy meter reading, video games, videotext, and opinion polling.

**The differentiation between broadcast and non-broadcast services or programming and non-programming services is not entirely clear. In any case, is it necessarily valid to separate services by virtue of their means of distribution? Similarly, why is it necessary to decide what is, and is not, a programming service? It could be argued that all messages (content) available to the "public", irrespective of the means of delivery in a Telecommunications System, affect the safeguarding, enriching, and strengthening of the cultural, political, social, and economic fabric of Canada.

It is probable that telephone companies will remain largely carriers, while cable may evolve more towards the hybrid-type system envisaged by both the CRTC in Canada and the FCC in the U.S.A. It is interesting to note that the FCC allows carriers to enter the cable field in the provision of cable television service to rural areas below a certain number of households per mile. This kind of consideration will undoubtedly arise more and more as Canada moves to implement improved service in remote areas.

(ii) Telesat

The Telesat Corporation was created by the Telesat Canada Act of 1968-69. The objects of the Corporation are to establish satellite telecommunications systems providing, on a commercial basis, telecommunication services between locations in Canada. In the late 1970's, Telesat Canada became a member of the TransCanada Telephone System (TCTS).

Telesat essentially performs the function of a wholesaler providing facilities to regulated common carriers. The common carriers in turn market the services to potential users.* The rate charged for services are regulated by the CRTC.

*However, this concept was extensively reviewed at a CRTC Telecom hearing in 1980. Basically, the CRTC was opposed to the interposition of a terrestrial carrier in the offering of a satellite service to an end user. See Telecom Decision CRTC 81-13.

While Telesat is involved in the launching, operation, and maintenance of satellite services, Telesat must conform to government satellite planning policies and must receive approval from the Minister of Communications for aspects of its operations with international implications. Satellite launches must also receive ministerial approval.

The relationship of Telesat to DBS is as yet unclear. Presumably, if DBS appears to be a commercially viable proposition, then Telesat would be very much interested in handling the service in the same way as it handles regular satellite services. On the other hand, if DBS was largely committed to public service objectives, and these objectives involved government subsidization of some kind, will Telesat be interested in providing its usual wholesaler function? If not, the question arises as to whether the government has the power to direct Telesat to take on the function in any case. Thus far, the autonomy of Telesat has not been challenged by such a situation and it largely depends on the eventual role of DBS and the policies guiding it as to whether this issue is likely to arise at all.

The present role of CNCP and TCTS in respect of telephone data services, and in the provision of transponders for television use, would seem to preclude certain options that are evolving in the U.S. with regard to DBS introduction such as the common ownership by one entity of the program origination and DBS distribution facilities (COMSAT). If conventional Canadian satellite practice is followed, one would assume that the transponder channels

would be leased from a carrier like TCTS* rather like cable plant is presently leased from the telephone companies. While in such a scenario broadcasting licences may well be adapted to permit the licensing of the satellite-to-ground signal, a broadcasting licence would probably not involve, as it does now, both the ownership of the plant and the provision of the programming service, and this could facilitate broader access opportunities (see also page 116).

The setting of transponder rates is of course a major factor in both conventional satellites as well as DBS development. This will be particularly critical in relation to private interests, many of which have already opted not to use conventional satellite distribution delivery methods for programming because terrestrial distribution system rates are far more competitive.

Comment

The introduction of DBS into the present Canadian common carrier system will provide an opportunity to explore further the notion of separating content provision from carriage. It seems unlikely that the simple distinctions of broadcasting and common carriage will long suffice within the expanding system. More and more, the notion of "hybrid" configurations different both from common carriers and broadcasters appear more relevant to the tasks to be

*or directly from an entity like Telesat.

performed and the operational methods adopted. Evidence of this difficulty is already surfacing in the U.S. where such examples as the characterization of MDS as a common carrier seem inappropriate, and where the present considerations of DBS argue, amongst other things, for its being given a hybrid classification.* On the other hand, the conventional carriers may well remain pure carriers, being allowed to enter competitive services only when they form arm length subsidiaries. The concept of competitive carriers may well be an issue which will have to be explored as more delivery systems are introduced.

e) MATV and MDS Systems

While multipoint distribution systems (MDS) have developed quite rapidly in the U.S., primarily as a means of distributing pay-TV services, this technology is not widely used in Canada to reach the public directly. MDS systems have some advantages over cable in areas with low density populations. As well, they represent an efficient way of delivering signals to apartment and hotel complexes. By contrast to MDS in the U.S., MATV systems have developed very rapidly in Canada, particularly in large urban areas with a high proportion of high density dwellings. MATV services are attractive to the general public because they provide a similar service to cable television as well as offering some extras such as feature movies. While the

*The term "hybrid" is used in this case to describe a system or concept which is neither purely common carrier nor purely broadcasting, but which has the attributes of both.

CRTC MATV policy* expressly forbade the inclusion of feature films in an MATV service offering, many MATV operations have succeeded in getting around this problem by double wiring their buildings so that they can provide the movie service on a separate coaxial cable which effectively constitutes a separate closed circuit system not falling within the CRTC's jurisdiction.

Nevertheless, MATV systems have developed very rapidly in many areas, much to the chagrin of cable operators who have seen their subscribers defecting to MATV. The CRTC MATV Exemption Order* permitted MATV systems to be exempted from regulation and licensing providing they fulfilled certain conditions. Chief among the conditions were the requirements to carry all local Canadian television signals.

It is interesting to speculate on the future of MDS and MATV systems in the light of DBS developments. For example, the MATV Exemption Order expressly forbids reception of signals by microwave or by satellite transmission or by any other form of transmission other than directly off-air from conventional broadcasting transmitters. This would seem to rule out the possibility of MATV systems being able to benefit as cable would from the reception and distribution of DBS signals.

*See CRTC Public Notices, Master Antenna Television Systems, April 15, 1976, and MATV, Licensing and Exemption, March 16, 1977.

Recent studies conducted in relation to the introduction of DBS in the U.S.A. tend to conclude that existing over-the-air pay-TV systems and MDS systems would be the most affected if DBS were introduced. It would also appear that, in the light of the MATV exemption policy, MATV systems in Canada would also tend to suffer adversely from the effect of DBS introduction. On the other hand, it is difficult to see how an MATV system could be denied the right to carry Canadian DBS signals in that they would have the characteristics of local Canadian broadcast signals available directly to the public.

This would seem to put into some question the Commission's rationale for prohibiting the reception of signals other than those received directly off-air from conventional broadcasting transmitters. Obviously, a change in the present policy could benefit MATV when DBS is introduced. On the other hand, the present prohibition could greatly aid cable in dealing with its MATV competi-
tion.

If the DBS signals are scrambled, a somewhat different situation occurs which may require a determination of whether DBS, in such a case, would continue to be assessed on the basis of providing a publicly available "broadcast" signal.*

*This issue has been debated in the U.S. in relation to over-the-air pay television service. Thus far, such services are regulated as broadcasting services.

OTHER CONTENT PROVIDERS

a) Independent Producers

The vast majority of Canada's independent film and television producers got their start in a relatively modest way, producing either documentary or educational films and developing commercials for television. Very few of them have been able to make a living out of providing programs to Canadian television stations. This difficulty is reflected in the many briefs that have been submitted in relation to the provision of content for radio and television programming. Time and again, independent producers complain of the lack of opportunities to produce material for Canada's broadcasters. Even materials produced for other purposes, and other forms of release, such as feature and documentary films, seldom find their way into the broadcaster's schedules.

Even when the products of independent producers are accepted by Canadian broadcasters, the revenue obtained is usually far too low to offset the cost of the original production. As a consequence of this, foreign markets are essential if Canadian independent producers are to recover their production costs and even hope to make a small profit.

The irony of this situation is that opportunities for new forms of programming material are dramatically increasing, particularly in the U.S.A. In spite of a continuing recognition of the importance of program production to Canada's social and cultural objectives, it has been difficult to bring about significant increases in Canadian independent production.

While programs like those instituted by the Canadian Film Development Corporation (CFDC) have been highly successful in increasing the production of feature films in Canada, it is still difficult to gain access to the Canadian cable and broadcast distribution facilities. Broadcasters do most of their Canadian program production "in-house" and are reluctant to invest heavily in original independent production, or even to procure completed independent productions.

There is clearly a need at this time to provide more access opportunities for the independent production sector. This would seem to imply that the leasing of space on the present distribution system is an important way to increase the access opportunity. This once again places emphasis on the need to consider a broader separation of content and carriage in the interest of encouraging not only the production of a greater diversity of programs, but also to enable these programs to be brought to the public.

Canada has considerable resources of talent in documentary and educational film production and these disciplines are directly relevant to the specialized services which are undergoing major expansion in the U.S. at this time. Stimulating our independent production capacity in this area would not only serve to increase the Canadian content of our own system, but would put us in the position to develop exportable products for use on the international market.

Comment

It seems most important to break away from the monopoly control of television and radio content which has been exercised for so long by the broadcasting industry in carrying out its mandate under the Broadcasting Act. New voices and new program ideas are badly needed and it is vital to tap our independent production resources.* It seems highly likely that the question of access to the distribution system will have become a major concern at the time DBS is to be introduced. (The many recent studies and proposals that have advocated the separation of content and carriage seem to provide a reasonably accurate idea of the sort of policies that will gradually emerge over the next few years. While we tend to speak of audience fragmentation in a somewhat negative way, the same process would, in fact, create many more opportunities for the public to view the kind of programming that it wants. As well, the expanding distribution system removes the last barrier to restricting program origination to a few sources and opens up the prospect of a multiplicity of program providers.

*This need is recognized in the recent CRTC Public Notice calling for Applications for Pay Television Service. As well, Canada has a rapidly developing underground experimental video activity whose video artists seek access and financing just as conventional independent producers do. Often, such groups are better known abroad than in Canada for their pioneering work in the creation of new video art forms.

b) Data Providers

The advent of a wide range of new computer-based systems including such concepts as videotext has already introduced some new players into the expanding telecommunications environment. In addition to program producers, we now have information and data providers. Like independent producers, however, the data providers want to obtain access to the electronic distribution system on their terms. Basically, they want to control the development and distribution of the product, but they want to do this, not necessarily by owning the information and data development facility as well as the distribution system, but through a process of accessing the system as and when required. This makes sense, since it avoids inefficient use of the system and builds on accepted time-sharing practices used in computer systems.

While the movement of data started as a private communication between a limited number of parties, the process has now greatly expanded and the new videotext type systems are looking to the same kind of public dissemination that has been previously enjoyed by broadcasters and cable companies. It would seem reasonable to expect that the long established carrier philosophies will hold in this case. In other words, the common carriers will provide spaces on the system for the data providers to distribute their material. Such access might be on a first-come-first-served basis with tariffs set by the regulatory body so as to assure a fair price for potential users.

The role of the information and data providers is likely to increase in complexity and sophistication as more and more variants of the present electronic data system are involved. For example, Canada's Telidon provides a very advanced graphics capability which will in turn require special skills in program development. If the full value of Telidon is to be exploited, then the very special capabilities of that system must be used to the greatest extent and this in turn will directly affect the kinds of programs that will evolve in the future.

As with independent film and television production, it would seem advisable to encourage the largest possible number of information and data sources, consistent with economic and other constraints, in order to develop as many ideas as possible and to give the public the best opportunity to access them. Furthermore, like television programming, foreign sources of data and information will dramatically increase and it will be most important to have Canada develop its own capability in this field, not only for domestic purposes, but for export as well.

Comment

If the full value of a DBS system is to be exploited then maximum consideration must be given to the role that it might play in the improvement of information and data service provision both to urban, rural and remote areas of the country. The special agricultural information programs being developed in Canada and the U.S. for use with videotext systems seem to represent a good example of the kind of programming which could be aided by a DBS service.

Provision of such services raises questions of content control. If full DBS channels are made available to program providers, could it be construed that they are exercising control over content and carriage? What constitutes the basis for separation of content and carriage? Presumably, in the case of DBS, space limitations might force use of broadcaster-type regulation but this could be achieved on a different basis than that used at present, for example, shared use of transponder time over varying time periods.

As well, the type of use would depend on the type of service, i.e., audio, video or data.

c) Social and Cultural Institutions

There are many social and cultural institutions that can play a role in the provision of Canadian content materials for the expanding distribution system. Many of these institutions have been denied the facility of accessing the broadcasting system simply because of limited space. The extra channels of cable and the new spaces being created by videotext and DBS systems will all provide new opportunities for many of the older and more established institutions, as well as the new ones which have often been created specifically to exploit the opportunities represented by the expanding electronic distribution system. While it is not possible to examine all of the institutions that might be affected by these new developments, it is useful to select some of them and to examine their purposes and their activities.

(i) National Film Board

The operation of the National Film Board is governed by the National Film Act. The Act is quite specific in defining the Board's role as the promotion, production and distribution of films designed to interpret Canada to Canadians and to other nations.

When the Film Board was first established in the early 1940's, there was, of course, no television service and the Film Board was faced with either using existing film distribution systems, or as it elected to do, establish its own distribution system. While this distribution system has served the Board well over many years, it has proved immensely difficult to replace it with an alternative system which takes better advantage of the electronic distribution system. Like independent producers, the Board has found it difficult to gain suitable access to broadcasting and cable systems, and, as a consequence, the primary means of viewing NFB films is through educational and community institutions and individual or group screenings. Only in the last few years has the Board moved into videocassette formats and most of its more recent productions are offered on videotape as well as film.

The Board has seemed strangely reluctant to make wide use of new distribution technologies. For instance, it has not exhibited much interest in having a special cable channel which might give the public more opportunity to see its work. Part of the reason for this reluctance is probably due to the fact that the entire existing output of the Film Board could probably be used up within a year if attempts were made to program even a full channel on a continuing basis. On the

other hand, many NFB productions could benefit from repeated exposure and it is doubtful whether more demanding distribution opportunities would really seriously weaken the Board's impact.

Parliamentary funding of the NFB is not being maintained at a level capable of overcoming inflationary effects and maintaining an increasing program output. Like the CBC and similar public funded institutions, the Board has attempted to overcome these difficulties by entering into elaborate co-production agreements both in Canada and abroad.

Like the CBC and the private broadcasting sector, the NFB is also strongly criticized for its failure to farm out a suitable proportion of its production activity. Furthermore, access to the Board's own distribution system by independent producers is practically non-existent.

Comment

DBS represents a further distribution opportunity that could be used by the Board to disseminate its product more effectively to the Canadian public. The Board represents a major source of specialized programming of the kind that is being sought after as new types of program services are introduced into the expanding distribution system. The continuing international sales success of NFB films, particularly to the U.S.A., is testimony to the importance of its contribution to new program services.

The Board has also been extremely active in assisting community and minority groups to use the visual media. To a large extent, the Challenge for Change concept, based on direct community participation in production, set the stage for the beginnings of the cable community channel concept. More recently, the Board has been active in assisting native groups to develop their own programming services. The advent of DBS could well assist the Board in developing a closer and more meaningful relationship with the Canadian public and as well could create many situations where the Film Board's expertise would be of immense value, not only in developing new programming services, but in assisting communities and individuals to more effectively use the electronic media.

(ii) The Canadian Film Development Corporation (CFDC)

The Canadian Film Development Corporation Act, 1966-67, created the CFDC, whose objects are to foster and promote the development of the feature film industry in Canada. In the early years, the CFDC provided investments and loans for the production of feature films "possessing significant Canadian talent."

By 1978, the CFDC had shifted from that of holding an equity position in productions to that of a banker. This allowed it to provide start-up funds and bridge financing for producers until investors were acquired.

The CFDC is not permitted, under its Act, to engage in activities related to television productions *per se*, although feature films do, of course, obtain television release. 1978 Canadian feature film revenues indicate that some 61% of the revenues for most feature films came from theatrical distribution, while some 30% was derived from sales to pay-TV., television networks, and from syndication rights.

Ironically, most of the latter revenues are from U.S. sales.

The Capital Cost Allowance provision was introduced in 1974 and provided for a 100% tax write-off for investors in Canadian feature films.

The Capital Cost Allowance provision extends to both features and shorts and can include shorts designed for television. A short is defined as a program under 75 minutes in length. In 1979, some \$36 million was spent on the production of short programs and over 50% of this amount was devoted to productions made expressly for television.

There is general agreement amongst persons engaged in productions for television that the role of the CFDC should be enlarged to include television production as well as feature films, but in keeping with the expanding needs for programs of all kinds, this could usefully include all forms of conventional programming including sound recordings.*

*For a further elaboration of the role of the CFDC see "Summary of Briefs and Hearings," a report of the Federal Cultural Policy Review Committee, page 203.

Most agree that the incentives represented by the CFDC type programs are far superior means of achieving increased Canadian content production and exhibition than arbitrary content controls.

Comment

The CFDC represents an important instrument in the continuing task of increasing Canadian film and television production, but this production output must be effectively connected with sources of distribution. It is vitally necessary to consider all of the new means of program and data distribution so as to expose these works to the Canadian public. DBS will represent yet another distribution concept which might be effectively utilized to increase the exposure of the works resulting from the CFDC aid programs.

(iii) National Arts Centre

The National Arts Centre was created by the National Arts Centre Act of 1966-67. The objects of the National Arts Centre Corporation are to operate and maintain the National Arts Centre, to develop the performing arts within the National Capital Region, and to assist the Canada Council in the development of performing arts elsewhere in Canada.

While few people would disagree with the concept of a National Arts Centre, the basic difficulty is in making its activities available as broadly as possible to the people of Canada. In an effort to achieve this, the Arts Centre has an extensive touring program which involves the planning and execution of live performances, both in Canada and in other countries.

The presentation of live performances are important in themselves, but for obvious reasons, it is extremely difficult to mount a touring program on a large enough scale to give Canadians the advantages of accessing the performances. Furthermore, tours are very expensive and time consuming, and there is a limit to how many tours can be accomplished in any given time period.

The National Arts Centre also suffers, like most other institutions, from the increasing cost of running its operations. All aspects of the performing arts are being subjected to increasing costs and even the revenue earned from live performances are not sufficient to overcome what has become an annual operating deficit.

This problem, of course, is not unique to Canadian arts institutions. The Lincoln Center in New York City is now involved in an elaborate program which provides live television coverage of its opera and ballet performances. In this way, it not only increases its box office revenues, but greatly increases its audience reach. By using special camera and sound techniques, a realistic rendition of the live performance is conveyed to television viewers. There is little doubt that the Lincoln Center hopes to further sophisticate this means of increasing its audiences, probably by using pay-per-performance type billing arrangements, as the distribution opportunities and the appropriate technologies become available.

Comment

DBS represents the kind of distribution technology which could greatly assist the Arts Centre in fulfilling the objectives of the Act under which it was created. Like all the other examples discussed, the Arts Centre represents another source of Canadian content and another major contributor to the social and cultural objectives identified in the Broadcasting Act.

NEW BROADCAST SERVICES

Although rapid extension in the means of distributing programs and data is largely attributed to the introduction of cable television and the expanded use of telephone facilities for voice and data traffic, there are other developments which are increasing the public's opportunity to select from a wide range of program and data sources. For example, the expanding use of audio and video cassettes, and more recently the introduction of videodiscs, are further examples of consumer distribution networks which disseminate materials identical or similar to those carried on conventional radio and television.

The new distribution facilities are not, however, limited to other than off-air means of delivery. For example, there has been a simultaneous increase in the number of new services employing off-air signal delivery. The so-called subscription television, or off-air television,* has undergone dramatic increase in the U.S. in the last five years or so. This represents a clear alternative to conventional off-air service in that the subscriber pays separate fees for the pay television.

*Usually referred to as STV.

Extensive experimentation is underway, both in the U.S. and Canada, which utilizes the television blanking interval as a means of carrying data and monitoring services and such facilities as captioning for the deaf. In radio, the introduction of AM stereo and digital sound will further increase the variety of radio services available to the general public. All of these examples demonstrate that the existing frequency spectrum designated for conventional radio and television use is capable of more efficient utilization enabling more programming and data to be carried within the presently allocated frequencies.*

Conventional satellites and DBS are also effectively expanding the channel capacity of the system, allowing a multiplicity of services to be carried simultaneously such as telephone and data services together with radio and television signals.

Comment

All of these technological developments which are acting to expand the capacity of the distribution system focus upon the necessity of maintaining a realistic appreciation of the kinds and types of distribution technologies that are available, their overall capacity in a combined system of telecommunications, and most importantly, the need to more carefully select the most appropriate distribution technology for any given type of service.

*The use of low power drop-in frequencies has also been discussed in this report.

In this new environment, information presently conveyed by broadband video might be more efficiently distributed using digital techniques and utilizing alphanumeric displays. In a similar way, some programming which uses only an audio format might be greatly enhanced with video support. For example, if videodiscs become widely available and relatively cheap to purchase, audio performances may be greatly enhanced by the inclusion of a video component. This may well result in a greater cross-fertilization of ideas between what has been up to now entirely separate and distinct creative disciplines, and it may become commonplace to find radio experts working on video and data projects, and data experts working much more closely with radio and television producers.

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All of these possible scenarios suggest a less rigid, more flexible, attitude to system use and a more careful selection of appropriate technologies for the job at hand. As discussed earlier, such perceptions further underline the value of maintaining options which facilitate, where appropriate, the separation of content production from carriage systems.

THE PUBLIC'S PREFERENCES AND EXPECTATIONS

a) The Desire for Choice

Given that the major purpose of the telecommunications system is to provide the best and most effective service to the public, it is instructive to try and obtain some appreciation of the public's preferences and expectations.

Viewing and listening habits and consumer buying trends in the U.S.A. suggest that the public has an almost insatiable appetite for all kinds of audio and video services, and it seems reasonable to assume that similar attitudes exist in Canada. While entertainment programming tops the list of preferred services, this is followed by news, sports, and current affairs.

These definitions suggest a somewhat varied choice, but in reality this is misleading. For example, entertainment programming presently provided by television is selected by broadcast executives on the basis of its acceptability to the advertisers who will pay for it. The general public is thus given a relatively limited range of choice by virtue of the program selection, development, distribution, and exhibition process. But the success of a variety of alternative entertainment programs offered primarily through U.S. cable television systems, is dramatic testimony to the fact that the public not only wants more choice, but is willing to pay for that choice.

b) Foreign Programming

While foreign entertainment programs, especially those from the U.S.A., tend to be favoured by Canadian audiences over domestically produced entertainment programs,* there is no lack of desire for Canadian news and information programs. Local, regional, and national news, whether provided by radio or television, represent one of the most successful and important activities provided by Canadian broadcasting stations. This is not to suggest that Canadians will not watch Canadian comedy or drama programs, but they must be attractive enough to Canadian audiences to withstand the extremely heavy foreign competition. This competition is not likely to diminish, in fact it will greatly intensify as more and more services become available.

A further indication of the public's interest in alternative programming is provided by the audience who watch foreign programming other than U.S. programming. For example, the popularity of the U.S. Public Broadcasting Service (PBS) to Canadian viewers is highly dependent on the large number of imported British shows that the service carries. In a similar way, the television programs from France provided by the SETTE* project in Quebec is further evidence of the public's desire to extend programming choice.

*In English language television in 1976, roughly 70% of all programming viewed in Canada was of foreign origin, 96% of this was in the entertainment category.

**This project provides television programming from France via licensed cable distribution systems.

In view of this, it seems highly unlikely that policies designed to place major restrictions on the accessibility to the public of a wide range of domestic and foreign programs will succeed in the long term. Earlier attempts to restrict the cable carriage of the major U.S. television networks beyond US/Canadian border areas, proved in the long term to be impractical. In fact, television has become such a persuasive force that resource companies in remote areas consider it to be an essential part of the leisure time services offered to their employees.*

Those that argue that Canadian viewers have a far greater choice than almost any other country in the world, and should place limits on their appetite, do not receive a sympathetic hearing. In any event, Canada is not likely to be in this unique situation very much longer as satellites increase the services available to all countries.

The public's interest in foreign programming raises issues pertaining to transborder information and data flow. The Clyne Committee,** in its recent report, placed strong emphasis on the need for Canada to gain control of key data sources, arguing that nothing short of Canadian sovereignty was at stake if this could not be achieved. Some countries such as the U.S.A., place great stress on the free flow of information,*** while countries like Canada and Sweden specifically control foreign sources of information conveyed

*The recent decision to allow resource communities to own satellite earth station licences is evidence of this.

**Telecommunications and Canada; Report of the Clyne Committee, Canada Government Printing Centre, 1979. See also page 72 of this Study.

***This has not, however, prevented the U.S. from restricting the carriage by cable of Canadian border stations.

by broadcasting and cable. Ironically, the vast majority of the Canadian public would probably support the U.S. position opting in favour of maximum choice, irrespective of the country of origin of the material in question.

This inevitably poses a question as to whether the Canadian "presence" on its telecommunication system should be achieved by specific regulatory mechanisms requiring, for example, specific proportions of Canadian materials, or whether the level and quality should be determined by the natural forces of supply and demand, public preferences, and by the extent of the Canadian resources available.

c) Services for Special Needs

As more and more groups and individuals become aware of the potential capacity of the expanding system, the demands for specialized services increases. While in early years these demands were reflected largely in requests for more kinds of services on the established broadcasting outlets, such as native and multicultural programming, the lower cost and greater simplicity of production equipment has led many of these groups into original production themselves. This translates in a desire to gain direct access to the distribution system, rather than remaining a passive recipient.

While the Broadcasting Act is quite clear in emphasizing the need for Canada's broadcasting system to provide service in both of Canada's official languages, it does not extend this provision to native languages or to the languages of the many other ethnic groups that make up Canada's population. Such facilities as are being provided to service the needs of these special groups do not find expressed support

in the Broadcasting Act, although they have often been facilitated by specific policy and licensing guidelines developed in response to public pressure.*

Until the advent of cable television, publicly disseminated educational programming was either achieved through shared use of public or private broadcast transmitters or by the use of UHF transmitters wholly committed to educational use. While the introduction of newer means of distribution, whether cable, videotext, or DBS, greatly improves the facility to distribute educational programming of all types, it also raises specific problems in respect of jurisdiction. Under the terms of specific orders-in-council,** educational programming is carefully defined, and provincial governments are prohibited from the direct operation of broadcast undertakings. On the other hand, respecting the autonomy of provincial governments in matters relating to education suggests that access to distribution facilities for classroom instruction be achieved in such a way as to ensure that some degree of programming control rests with the provincial department of education, or other related bodies concerned with curricula, such as local school boards.

*For example, the CRTC's urging of the CBC to provide improved service for the Inuit. As well, private broadcasters and cable companies have been encouraged to provide multilingual and multicultural services.

**See P.C. 1970-66, March 19, 1970 and P.C. 1970-992, June 4, 1970.

All of these special services raise not only questions of access to the distribution system and require a precise delineation of the terms of access, but they also force a re-examination of the concept of local, regional, and national services. For example, childrens and multi-cultural programming services started on cable television as local services, proved to be much more relevant as a national service. In a similar way, school boards who normally relied on the curriculum materials provided by the CBC National and Regional School Service found that local cable channels were often a better way to distribute materials more closely oriented to discrete local curriculum needs.

d) Service Reliability and Consistency

Coupled to the question of service availability and choice is the matter of service reliability. With the rapidly growing number of sources to choose from, the public is becoming much more conscious of the technical quality and the consistency of the service. To a large extent, the popularity of cable television has been directly related to the public's desire to improve overall reception quality. A further indication of the sensitivity of this issue is shown by the public's reaction to such techniques as commercial deletion and substitution, and the simultaneous program substitution policy. The abrupt switching from one program source to another, the difficulty of introducing replacement program material, and the physical difference in the lengths of the programs being substituted, has been the cause of considerable public annoyance.* It is clear that overcomplex

*While this is not strictly due to a technical malfunction, the public interprets it this way.

regulatory devices such as this should only be seriously contemplated if they are absolutely essential to the preservation of the integrity of the Canadian system and ways can be found to implement them with minimal disruption to normal services.*

In respect of community programming, the low quality video and sound on the original cable community channels soon had to give way to a level of quality which bore comparison with conventional television channels, and cable systems with inferior service quality overall were soon forced by public and regulatory pressure to undertake major upgrading programs.

Comment

DBS will be introduced into an environment where the public expectations for a wide range of new and diverse services will be high. While it is likely that the major focus will remain on popular entertainment, news, information, and sports, nevertheless, the public will be looking for alternatives to the present service offerings. The public is likely to be far less discriminating as to the source of material. It will matter little whether news and information come from radio, cable, or direct broadcast satellites as long as it is relevant and timely and easily accessible. Similarly, groups with special needs are likely to be far less tolerant of restrictions on access to the

*It has been shown that simultaneous program substitution is an important means of repatriating viewers to Canadian stations, even though viewers are subjected to extra commercial time and a consequent reduction in the original program length.

distribution system, and access to programs which are relevant for their purposes, irrespective of whether these programs come from foreign or Canadian sources.

To a very large extent, the public will feel less constrained in its viewing and listening habits since the access to a far greater range of data and program sources will greatly increase the consumer's independence from conventional scheduling practices.

The demand for well-rounded reliable services to remote communities will obviously continue to increase. With this in mind, it is probably unrealistic to hope that the expectation of remote communities can be satisfied by a limited number of domestic program sources. The attitudes of remote populations are unlikely to be any different from southern populations once the feasibility of the delivery and accessibility of a range of services have been demonstrated.

The present DBS studies related to reception quality will be of particular importance, given the fact that the public tends to become more discriminating after the novelty of a new service diminishes.* The considerations being given to higher definition television pictures via DBS may eventually assume a much greater importance in rating the benefits provided by a DBS service.

*The DOC has undertaken studies to determine the public's reaction to various grades of reception quality when providing satellite delivered services.

INDICES OF PERFORMANCE

The relevance and effectiveness of Canadian programming services have not been based entirely on the reaction of a consuming public. Successive broadcasting regulatory agencies have been faced with the problem of devising ways to ensure that licensees not only contribute to the aims of the Broadcasting Act, but have their performances judged against a set of specific criteria.

a) Canadian Content

The most widely applied assessment of performance has been the licensees' contribution to Canadian Content. By setting, through policies and regulations for radio and television, specific percentages of Canadian Content, licensees are obligated to fill a set proportion of the broadcast day with Canadian material.* As has now been recognized, there are limitations inherent in this type of approach. Merely providing a quantity of Canadian Content does not provide an assurance that the public will watch or listen to it. Furthermore, licensees can fulfill their quota with low cost productions just as easily as they can with high cost production. In both the public and private

*Present regulations require all television stations to have 60% Canadian Content in the period 6 a.m. and midnight, calculated on an annual basis. In addition, CBC O & O stations must have 60% Canadian content between 6 p.m. and midnight. Privately-owned stations must have 50% between 6 p.m. and midnight. In AM radio, the regulations require that at least 30% of the musical compositions broadcast between 6 a.m. and midnight qualify as Canadian. In FM radio, the regulations and policies define a series of program formats. Canadian Content requirements vary in relation to these formats.

sectors, U.S. programs carried on Canadian television stations are the prime generators of revenue which subsidize Canadian production, therefore, licensees also have a far stronger motivation to place the foreign programs in the best viewing periods when audience levels are at their highest.

While the Canadian Content regulations for television are presently under extensive review,* it is clear that a number of critical factors must be taken into account in future planning. For example, what represents a reasonable amount of Canadian Content on the Canadian system? and is this to be judged in relation to only one sector, namely broadcasting, or is it to be evaluated across the entire spectrum of services? Will different standards be applied to public and private broadcasters? Is it possible to make overall assessments of the quality of the programming? While it is clear that some new form of Canadian Content control will likely be in effect when DBS is introduced, if a new Canadian Content policy is not broadly based, and developed in relation to the entire system, then the introduction of DBS will further complicate its effective administration.

*See Canadian Content Review, CRTC, December 31st, 1979. The CRTC has also recently conducted a series of public hearings on the Canadian Content (television) issue.

b) Promises of Performance

Another popular measure of assessing performance is in relation to a promise of performance developed by the licensee at the time of licence application or renewal. This system has been much favoured by the broadcasters themselves because it enables them to develop plans which more closely relate to their capability. The major difficulty has been the need to establish highly complex monitoring systems so that the regulator can assess whether the licensee has deviated from its promises. This system has worked reasonably well although it still fails to provide, as does the Canadian Content system, a real measure of the kinds of programs that the public, rather than the advertisers, might favour.

c) Local Programming

In an effort to strengthen local services, licensees are usually assessed on the basis of the kind of local programming service they offer. While public input is possible at the hearings granting licences or reviewing them, in general, the affected communities take little advantage of this opportunity so that the process tends to be influenced by the nature of the dialogue between the licensees and the regulatory body.

Note: While it is recognized that licensees will, of themselves, make an assessment of local needs and attempt in every way possible to provide the best local service, nevertheless, the private sector in particular is still basically selling programs to advertisers. Furthermore, even with the public service, the notion of accepting, and providing for, continuing public influence on programming decisions, is by no means a generally accepted practice.

d) Other Methods of Performance Assessment

The advent of cable television and the possibility of new services have suggested additional ways of assessing programming effectiveness. For example, in the case of community channels, attempts have been made to base the assessment of the service on the number of special needs in the community that have been served, and on the extent to which the community produces its own programs, rather than on the number of people viewing the programs. In this case, the emphasis has been on public accessibility to the cable distribution system as well as public accessibility to the program origination facilities. As more sophisticated technological systems have evolved, conventional audience rating organizations have looked to the use of direct monitoring systems to try and obtain an indication of viewers tuned. This possibility has also led to consideration being given to basing regulatory assessments of the value of the program services, on the audience levels obtained.*

Yet another method considered has been the determination of revenues earned versus revenues devoted to programming services. Due to the ease with which real costs can be hidden, this method has not been generally adopted, although it is receiving favourable consideration by both the regulators and the regulated.

*In this regard, the Province of Ontario submitted an interesting paper outlining such a concept to the CRTC's hearing on the Canadian Content (television) issue.

The increasing technical sophistication of systems has also led to the use of broad ranging technical appraisals to determine the quality and reliability of the service. This has been especially important in the case of cable television where many channels and services are offered by individual licensees.*

Comment

The indices of performance used in the telecommunications system of which DBS will become a part, will likely involve a whole new range of monitoring and assessment devices. The availability of technical facilities for audience monitoring will drastically change the present methods of assessment. It is likely that communities themselves will be far more closely involved in programming and service evaluation. The sheer practical impossibility of assessing a wide range of local and regional services at a distance will make it imperative that new community monitoring devices and procedures will have to be put in place. The practice of forming Programming Advisory Councils such as those adopted by the CBC for special subject areas like science and the arts, and the Advisory Committees used by cable systems for their community channels, will likely be adapted to other services. The provision of more consumer pay services will have the effect of introducing direct consumer judgments into the program selection and scheduling process.

*The DOC has established specific technical performance criteria for cable systems.

If the principle of program origination and provision is separated from carriage, then it will be much easier to change the nature of services if they are unsatisfactory. (At the present time, the revocation of a licence involves not only a loss of the program service, but a change of ownership of the carriage facilities as well.)

There is likely to be far more attention paid to the effective utilization of a particular technological medium. For example, if videotext systems are able to offer a more efficient service than radio or television,* then it is likely that this will in time become the preferred method. The implications of this will be that program and data providers will be far more sensitive to the means of distribution which they choose to disseminate their products. The net effect of this should be to improve the efficiency of the various delivery systems.

THE CONSUMER AND NEW SERVICES

In addition to the factors already discussed, it is possible to identify a number of additional factors which will characterize the type of communications environment in which DBS systems will be introduced.

There is little doubt that the consumer will be faced with a great multiplicity and diversity of sources of audio-video and data programs. It is not too difficult to visualize the consumer being so overwhelmed with such a multiplicity of devices and opportunities, that a sort of "disassociation" process will occur. Unable to make any sense out of the

*For certain subjects.

overwhelming choices available, will not people tend to simply reject the new services almost as an act of self-preservation? Many people have expressed concern about the opposite effect. The prospect of individuals becoming anchored to, and dependent upon, their television sets for entertainment and information will, they say, cause strong anti-social tendencies and contribute to a further weakening of the society as a whole.

On the other hand, Alvin Toffler, in his recent book "The Third Wave," takes a somewhat more optimistic view, seeing the new "information society" as providing an opportunity for individuals to lead a richer life. Whatever the ultimate outcome, it is evident that the public shows a remarkable adaptability to the newer technologies. Cable television and converters, and pay television with its descramblers, even the dishes required for direct satellite reception, are all becoming accepted into the normal life pattern, just as home appliances have been accepted. The increase in the use of digital type devices, particularly computers, seems to have held little in the way of terror for most people. Even the more sophisticated devices like videocassette recorders are becoming a part of the home equipment inventory and, more and more, the subject of popular press articles.

The outcome of all this would seem to suggest that the conversion of television sets into home terminals, bringing a great variety of new services, will not be subjected to major consumer resistance. It is not likely to be the complexity of the devices which will influence people's decisions as to whether to take the service or not,

but rather what they offer and at what cost. Furthermore, the final interface between consumer and the terminal will not likely occasion concern about the source of the material, providing it is relevant, interesting, and needed. The critical question of equipment obsolescence may not be as difficult a problem to deal with as some have suggested. While it is intriguing to think of a common terminal or switching device which can accommodate a wide range of different services, it is unlikely that such simplistic solutions will be available. The consumer will probably be faced with a variety of different gadgets in order to add to existing sources of home entertainment, and data and information acquisition.

On the other hand, the public, especially in North America, is used to the notion of planned obsolescence. The life expectancy of most small home appliances is relatively limited and new models are introduced with great frequency. If a similar problem exists with communication devices, it is unlikely to deter the public from actively acquiring new telecommunication services. Furthermore, if the devices can be purchased on the open market and attached easily by the user, a further major deterrent is removed.

The means of financing the new services will obviously increase in range and diversity. While in the future there is likely to be a heavy emphasis on consumer pay services such as pay-TV and cable tiering, it is equally clear that a variety of new forms of advertising will be introduced to support new types of service. Examples of this would be classified advertising on cable television, advertiser support of videotext type services, and even forms of block advertising in pay-TV type services.

The opportunity for the direct purchase of program and data materials will also likely increase dramatically. Phonograph records will be supplemented by videocassettes and videodiscs and an expanding range of computer programs will be available for direct purchase. This will present major problems in the regulatory field relating to such matters as cross-subsidization and cross-ownership, and also require determinations as to which industries should be regulated and which not. Government programs designed to create incentives by tax concessions or direct financial grants will obviously have to be applied with some care if a degree of equality of opportunity is to be achieved.

As has been discussed earlier, a continuing problem will be to determine the extent to which publicly funded institutions can contribute to the Canadian Content component of the system in comparison to some other order of contribution provided by the private sector. The Canadian consumer will, in one way or another, likely pay an additional premium for these new services and some part of this premium will likely be applied to assist in the development of Canadian radio, television, and data programs.

There seems to be little reason to expect any lessening of the need for public and private support to Canadian social and cultural objectives. In the light of the increasing competition, it will become more urgent to retain a Canadian presence on the system through direct public funding of telecommunication activities. It is difficult to see how the emphasis on a specific quantity of Canadian programming, whether measured across the entire system or across specific services, can continue to be expressed as a fixed unvarying amount. This would suggest that new indices

are required to measure the effectiveness of the Canadian contribution to the total telecommunications effort. Simply stimulating the supply side without a very clear concern about user demands will act to defeat the whole purpose of trying to get more consumers interested in, and watching and listening to, Canadian programming.

The possibility of highly targeted programming and data services keyed directly to specific consumer needs will have a number of important repercussions. Not only will it change present radio and television advertiser perspectives on the use of various media, and their perception of the so-called "public," it will undoubtedly bring in a number of additional players who have up until this point been primarily concerned with other media like publishing and newspapers. In addition, there are many service industries who could gain considerable advantages from the use of new techniques of distribution. There are also likely to be many more opportunities for the smaller advertisers, particularly those who have been unable to afford the relatively high rates charged by radio and television broadcasters.

The matter of service extension is usually thought of in respect of extending present or new services to unserved or underserved areas in Canada. The expanding capacity of the distribution system offers the possibility of increasing the levels of service provision. For example, rather than the rather simplified categories of national, regional and local services, one can now anticipate serving individual neighbourhoods, communities of interest, language groups, various income levels, different age groups,

and various specific organizations. The actual audiences of these special services will, of course, be low and this increases the problems of obtaining the requisite economic support. This is especially a problem for Canada because our low population levels cannot hope to support individual services of the kind described. We are clearly approaching a point where international support will be needed if the quality and quantity of programming is to be made available. Naturally, such considerations pose problems in relation to the maintenance of an appropriate level of control over one's own social and cultural objectives.

Comment

It is evident that DBS can play a significant role in relation to the development of many of these new services, but what services will it deliver? If it is not to become merely a parallel mode of distribution, it will be necessary to identify those areas which, in spite of the vast array of systems available, are not adequately or efficiently served. This assessment will need to be done not only in relation to content or information, but in relation to matters of financing, marketing, and forms of consumer payments. In other words, the accessibility of the services to the consumer might be just as important as the kinds of content which they are carrying.

SUMMARY

The preceding appreciation of Canadian Broadcasting and Telecommunications reveals something of the nature of the problems and possibilities that will confront the DBS concept. While DBS will not necessarily be affected by, nor itself act to influence, all of the many factors which have been examined, nevertheless, it is already evident that it will have a far-reaching impact.

Aside from the particular functions that DBS might provide are the many new possibilities inherent in using old facilities in new ways, and in introducing new systems and new ways of thinking in parallel with DBS.

DBS may well relieve existing activities from long held constraints and provide opportunities for new contributors to enter the expanding telecommunications system.

It is evident that many factors will shape the operational effectiveness of DBS, such as its technical characteristics, the services it will offer and the public's responses to those services, the funds available to support it, and the regulatory and policy guidelines that will be applied.

At this stage, some key objectives can be identified:

1. THE NEED TO FIND BETTER SOLUTIONS TO LOCAL SERVICE PROVISION IN THE FACE OF FURTHER AUDIENCE FRAGMENTATION, LOWER OPERATING REVENUES, AND INCREASES IN COMPETITIVE SERVICES.
2. THE NEED TO CONTINUE THE PROCESS OF SERVICE EXTENSION.
3. THE NEED TO INCREASE THE RANGE AND DIVERSITY OF SERVICES AVAILABLE TO THE PUBLIC.
4. THE NEED TO CREATE A BETTER INTERFACE BETWEEN PROGRAM AND DATA PROVIDERS AND THOSE ENTITIES WHICH CONTROL ACCESS TO THE DISTRIBUTION SYSTEM.
5. THE NEED TO MAXIMIZE THE EXPOSURE OF CANADIAN MATERIALS BY OPENING UP THE ELECTRONIC DISTRIBUTION SYSTEM MORE WIDELY FOR THEIR USE.
6. THE NEED TO MORE EFFECTIVELY DIRECT REVENUES EARNED TOWARDS THE FINANCING OF CANADIAN PROGRAMMING.
7. THE NEED TO DEVELOP NEW PERCEPTIONS OF WHAT CONSTITUTES A SUITABLE CANADIAN PRESENCE ON THE TELECOMMUNICATIONS SYSTEM.
8. THE NEED TO EXPLOIT CANADIAN EXPERTISE IN THE PRODUCTION OF SPECIALIZED PROGRAMMING, NOT ONLY IN DOMESTIC MARKETS BUT IN INTERNATIONAL MARKETS AS WELL.

PART 2

THE CHARACTERISTICS OF DBS

THE CHARACTERISTICS OF DBS

The value of satellites as a means of more efficiently reaching remote communities in Canada has already been demonstrated by the CBC's use of Anik A and the subsequent experiments with Hermes and the Anik B series. In addition, these facilities have provided an effective alternative to terrestrial distribution systems in conveying program services like SETTE, or the House of Commons service, to cable systems for local redistribution.

The DBS concept will build on this experience and greatly increase the possibility of completing the task of service extension, bringing a range of services within reach of every household in Canada.

But DBS also represents an entirely new system. The space component will differ from existing systems and new ground receiving equipment will be needed to receive the signals.

In a very basic sense, one has to assess the value of DBS in terms of the improvements it can bring to the present broadcasting and telecommunications system, and the degree to which it is possible to accept this new concept without major disruption to existing services.

While the technical operating criteria for DBS in Region 2 will be determined by the forthcoming RARC Conference in 1983, actual system design will depend on the needs of the user country. In Canada, the preferred design is yet to be established, but for the purpose of this report, a

configuration using three operational satellites with one orbital spare, providing six regional beams with six television channels per beam, will be used.

This design permits a number of operational variations. For example, a single program source uplinked at one point can be distributed nationwide. On the other hand, regional programming, originated and uplinked in a region, can be distributed primarily to that region.

The geographic size of Canada's provinces and territories enables a DBS system to provide a reasonable reflection of regional, as well as national, programming service needs. However, the limitations of using DBS to cover small geographic areas is evidenced by the need to serve P.E.I. and Nova Scotia as part of the Atlantic region rather than as discrete service areas. The order of this difficulty is illustrated by the coverage patterns for European countries. Luxembourg has its own beam but its coverage area spills over into at least four surrounding countries at the maximum received signal strength, and at least three more countries at lower signal strengths.

At best then, DBS can be used to give a reasonably effective reflection of Canada's geographic regions. Clearly, its effectiveness decreases as the area to be covered becomes smaller and even elaborate design techniques, using shaped beams, are unlikely to create the necessary efficiencies for local services.

One might conclude from this that DBS could free up present terrestrial distribution facilities used for the conveyance of national and regional services while itself providing a more efficient means of delivering such services.

While the question of who will take the DBS service depends on the programming service offered, the ongoing costs of the services, and the cost of the receiving equipment, the latter factor is directly related to the radiated DBS power levels.

Canada has undertaken extensive studies of the results which can be achieved with relatively low satellite power levels. On the other hand, some other countries are contemplating the use of higher power levels. The U.S. COMSAT proposal envisages power levels sufficient to enable the utilization of a 0.75 metre receiving dish in its primary reception areas. European countries seem to favour 0.9 metre dishes in their primary reception areas. If Anik C were to be used as an interim Canadian DBS system, dishes of around 1.2 metres, and larger, would be used, but an eventual full Canadian DBS system would need to use dishes of around one metre, or smaller. These considerations reflect the difficulty of reconciling space cost and reliability with ground costs low enough to attract the maximum number of potential users.

This matter also influences the form of DBS service utilization. Higher ground receiving costs are likely to result in a higher number of community reception users rather than individual households. Community reception in this context represents those cases where the DBS signal is re-distributed to the community via a local distribution system, such as cable or off-air rebroadcast transmitters. For example, the recently approved CANCOM proposal to extend service to remote Canadian communities relies largely on community, rather than individual reception.*

*Even in this case, attempts are being made to develop low cost receiving equipment which would allow the CANCOM service to reach individual homes.

It is difficult to assess the possible reaction of local authorities and individual home owners to the environmental impact of DBS ground receiving equipment. In recent years, some new communities have required the installation of cable television so as to offset the unsightly effects of outdoor antenna systems. This factor alone may move residents in urban areas to view DBS services via cable. In the U.K., where cable is less developed than in Canada, some opinions suggest that DBS will aid the development of cable by providing it with extra services to offer its subscribers.

Overall, the power issue seems likely to determine whether DBS systems will be used primarily in the ultimate DBS mode, with powers sufficient to result in ground reception costs attractive to individual households,* or used to further extend the principles already being used in fixed satellite systems serving local cable distribution systems. This principle has been used extensively in the U.S. to bring a wide range of new cable delivered services to the public.

The major considerations involved in launching a new system like DBS have encouraged some to suggest that it provides a unique opportunity to introduce new operating standards for television, such as the introduction of high definition television service utilizing substantially more lines per picture than existing systems, to give better clarity and sharpness and to permit the use of larger screens.

*A high power DBS system would not preclude community type distribution systems and would in effect keep both this option, and the direct-to-home reception option, open.

Because such techniques require a much greater bandwidth than that used for conventional television service, and, as well, require major changes to existing television receiver design, they are likely to remain in the experimental category for some time.*

As regards changes in the present broadcasting system that might be occasioned by DBS, this largely depends on the attitude taken by governments and regulatory bodies. As we have seen, regulation can be used as a means of protecting existing services as well as a catalyst to promote change. Certainly, DBS provides an excellent opportunity to reassess and, if necessary, redefine existing roles.

*However, the FCC in the U.S. is actively encouraging experiments with high definition television in relation to DBS (see page 159, para 3).

PART 3

REGULATORY ISSUES AND OPTIONS

P R E F A C E

In the first two parts of this study, consideration has been given to the kind of broadcasting and telecommunications environment which will likely exist when DBS is introduced, and the characteristics of DBS.

In this part of the study, consideration will be given to the regulatory and policy implications of DBS.

SECTION 1

A TELECOMMUNICATIONS POLICY FOR CANADA

In recent years, there has been a growing recognition on the part of both the Federal and Provincial governments of the importance to social and cultural objectives of the expanding electronic communications system.

While the Broadcasting Act of 1968 ascribed clear social and cultural goals to broadcasting and included the power to regulate cable television as part of an integrated system, the Act is losing its relevance in the face of a technological explosion in the means of distributing and storing all kinds of information and data.

The very constituents of sounds and images, whether used for entertainment or education, or for the conveying of statistics, are being reprocessed into forms capable of easier, and more efficient, transportation. Thus it is that the digital systems of computers are now being employed to create new techniques of audio and video distribution.

The ubiquity of these new systems begins to defy and challenge the logic which has provided the basis for past regulatory and policy practices. It is as easy to move data from Denver, Colorado to Ottawa as it is to move it from Toronto to Ottawa, and, furthermore, there may be many economic advantages in storing the data in Colorado or London, England. By implication, it will soon be a simple matter for any individual to access programs at will from almost any point on the globe.

A recognition of the enormity of the issues involved is provided in the terms of reference for the Clyne Committee* which was appointed in November 1978. The Committee was asked:

to produce specific recommendations on a strategy to restructure the Canadian telecommunications system to contribute more effectively to the safeguarding of Canada's sovereignty; and

to make recommendations on the future of the Canadian telecommunications system in relation to new technologies and the need for Canadian software and hardware resources to meet foreign competition, with particular reference to the role of broadcasting in contributing to the preservation of the sovereignty of Canada, including:

- a) the use of communications satellites to the best advantage of Canada;
- b) the status of the cable companies in relation to broadcasting and to the common carriers in the provision of new services;
- c) the importation of foreign programming;
- d) the framework and timing for the introduction of pay-television nationally.

Even before the Clyne Committee, the Federal government was attempting to deal with the broad issues of jurisdiction and regulation in relation to communications matters. In 1973 it issued a Green Paper entitled, Proposals for a Communications Policy for Canada, and in 1975 a Grey paper entitled, Communications: Some Federal Proposals.

*The Consultative Committee on the Implications of Telecommunications for Canadian sovereignty.

A new Telecommunications Bill was introduced in the House of Commons on three separate occasions (Bill C-43 in March 1977; Bill C-24 in January 1978; and Bill C-16 in November 1978), but in each case the bill was never considered beyond first reading. Telecommunications Bill C-16 enunciated a national telecommunications policy (section 3) and provided the regulatory framework and the principles necessary for achieving the objectives of the policy. These objectives cover all aspects of telecommunications, including broadcasting, radio communications, telephony, and research.

Although this Bill is being revised, it is convenient to use it as a basis for a consideration of the type of Canadian communications legislation which will likely obtain when DBS is introduced. This process must of necessity be speculative, but it offers the advantage of relating the particular characteristics of DBS to the emerging legislative framework.

Because of its relevance to the following considerations, the telecommunications policy outlined in Bill C-16 is reproduced in full:

3. 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;

(b) the radio frequency spectrum is public property that should be administered in the public interest and in accordance with international agreements and conventions to which Canada is a party;

(c) all Canadians are entitled, subject to technological and economic limitations, to reliable telecommunication services making the best use of all available modes, resources and facilities, taking into account regional and provincial needs and priorities;

(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;

(e) broadcasting undertakings in Canada make use of radio frequencies and such undertakings constitute a single system, herein referred to as the Canadian broadcasting system, comprising public and private elements, which should be effectively owned and controlled by Canadians;

(f) the programming provided by the Canadian broadcasting system should be varied and comprehensive, should provide reasonable, balanced opportunity for the expression of differing views on matters of public concern and should reflect the diversity of Canadian cultural and social values;

(g) the programming provided by each broadcasting undertaking should be of high standard, using predominantly Canadian creative and other resources;

(h) all persons licensed to carry on broadcasting undertakings have a responsibility for the programming they provide but the right to freedom of expression and the right of individuals to receive programming, subject only to generally applicable statutes and regulations, is unquestioned;

(i) the fees charged by broadcasting receiving undertakings should be equitable, having regard to the responsibilities of such undertakings as part of the Canadian broadcasting system;

(j) all Canadians are entitled to broadcasting service in both official languages as public funds become available;

(k) there should be provided, by a corporation established by the Parliament of Canada for the purpose, a national broadcasting service that is predominantly Canadian in content and character and that should

(i) be a balanced service of information, enlightenment and entertainment for people of different ages, interests and tastes covering the whole range of programming in full proportion,

(ii) extend to all parts of Canada as public funds become available,

(iii) use both official languages, service the special needs of geographic regions and actively contributing to the flow and exchange of cultural and regional information and entertainment, and

(iv) contribute to the development of national unity and provide for a continuing expression of Canadian identity.

(l) where any conflict arises between the objectives of the national broadcasting service and the interests of private elements of the Canadian broadcasting system, it should be resolved in the public interest but paramount consideration should be given to the objectives of the national broadcasting service;

(m) facilities should, if requested by provincial authorities, be provided within the Canadian broadcasting system for educational programming;

(n) telecommunication systems and services in Canada, other than the broadcasting undertakings referred to in paragraph (e), should be effectively subject to Canadian control through ownership or regulation;

(o) the rates charged by telecommunication carriers for telecommunication facilities and services should be just and reasonable and should not unduly discriminate against any person or group;

(p) innovation and research in all aspects of telecommunication should be promoted in order to improve Canadian telecommunication systems and to strengthen the Canadian industries engaged in the production of broadcast programming and the manufacture of telecommunication systems and equipment;

(q) for the purpose of promoting the orderly development of telecommunications in Canada, there should be consultation between the Minister and the governments of the provinces; and

(r) the regulation of all aspects of telecommunication in Canada should be flexible and readily adaptable to cultural, social and economic change and to scientific and technological advances, and should ensure a proper balance between the interests of the public at large and the legitimate revenue requirements of the telecommunication industry;

and that the telecommunication policy for Canada enunciated in this section can best be achieved by providing for the regulation and supervision of the Canadian broadcasting system, and for the regulation of telecommunication undertakings over which the Parliament of Canada has legislative authority, by a single independent public body.

ACHIEVING THE OBJECTIVES OF THE TELECOMMUNICATIONS ACT

The broad objectives of a telecommunications policy set out in Bill C-16 are embodied in Section 3(a) which states in part:

...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...

The proposed telecommunications policy is, like the broadcasting policy which preceded it, designed to achieve very precise public service objectives. To this end, there are significant conditions which affect both the public and private elements of the telecommunications system.

For example, it is stated that broadcasting undertakings, which include both off-air and cable systems, constitute a single Canadian broadcasting system comprising public and private elements.

The proposed Act also re-affirms that

...the programming provided by the Canadian Broadcasting System* should be varied and comprehensive, should provide reasonable, balanced opportunities for the expression of differing views on matters of public concern and should reflect the diversity of Canadian cultural and social values

It also states that the programming provided by "...each broadcasting undertaking*" should be of high standard using predominantly Canadian creative and other resources.

The preceding sections are instructive both because of the changes which have been made to the existing Broadcasting Act and because some of the original concepts have been retained

*My underlining.

For example, while in the proposed Act 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," a role formerly ascribed to the Canadian broadcasting system, it is still the programming of the Canadian Broadcasting System which should be varied and comprehensive with reasonable, balanced opportunities for the expression of differing views, and reflecting the diversity of Canadian cultural and social values.

This seems to reflect the difficulty of building on past legislative precedent while trying to encompass the changing structure of an enlarging system. Thus, while the Canadian Broadcasting System clearly includes broadcasting undertakings (cable), the overall success of the Telecommunications System will be dependent not on the means of distribution, whether broadcasting or cable or other systems, but on the telecommunications services and production resources, a fact recognized at the beginning of Section 3 of Bill C-16, but somewhat restricted by the later provisions (retained from the existing Broadcasting Act) which connect services and programming to specific distribution technologies.

In this connection, some observations from Inter Media, the Journal of the International Institute of Communications, are of interest:

We need a few ideas, and preferably a new word to describe the electronic sending of messages--pictures, sounds, even data--from A to B. The new word has to encompass T.V. and radio; broadcasting over-the-air and broadcasting by wires, cables and optic fibres; and radio meant as electromagnetic radiation and radio meant as sound broadcasting. We need all these words, and more. But we also need a new word....

Video cassettes and discs will provide a new source of programmes that does not fit any of the existing categories. Each household will accumulate a whole new stock of material, some recorded off-air, some pre-recorded, and some home-made video. When these kinds of material are played on a TV set are they television, or film, or tape or video?

Satellites will broadcast and otherwise distribute pictures and sounds (and videotext) to fixed and mobile receivers in many different countries at the same time. In many cases the fixed receivers will re-distribute the signals to very local systems by both radiation and by cable. Many of the eventual users may be unaware of the material's origins, just as nowadays few people at home or in the cinema care about the provenance of the films they watch.

One common thread ties together all these trends. The new technologies, and some new uses of the old technologies, allow us to receive many different kinds of material from many different places. The satellite is the most dramatic of these mechanisms because it can provide television, telephony and teletext, and because it ignores national boundaries and national customs officials.

The satellite is unavoidably international. But its effects are not simply to manifest the potential of international broadcasting. Its power is to allow producers and viewers to exploit the whole spectrum of communications. For that, and for other new services, we really need a new word.

The foregoing is useful and relevant as one reviews the legislative terms of reference that are ascribed to the various elements which comprise Canada's Broadcasting and Telecommunications system.

In Telecommunications Bill C-16, there is still provision for a national broadcasting service that is predominantly Canadian in content and character through the establishment by Parliament of a corporation, the CBC/Radio Canada, Section 3(k).

The CBC is charged under the Act with specific objectives such as, providing a balanced service of information, enlightenment, and entertainment for people of differing ages, interests and tastes; extending further to all parts of Canada; using both official languages; serving the special needs of geographic regions and actively contributing to the flow and exchange of cultural and regional information; contributing to the development of national unity and providing for continuing expression of Canadian identity. In other words, the CBC still carries the major responsibility for achieving social and cultural objectives even though it is still primarily a broadcasting activity facing rapid encirclement by a vast array of new means of program dissemination.

In view of this, it seems hardly fair, or for that matter, realistic, to expect the CBC to continue to provide a "balanced" service. Its very survival may, after all, be in its ability to become more specialized in the kinds of services it offers.

The Corporation continues to be given a clear priority over the private sector and the proposed Act reiterates that whenever conflict arises between the public and private elements, it should be resolved in the public interest, and that paramount consideration should be given to the objectives of the national broadcasting service.

As is the case in the present Broadcasting Act, the tasks assigned to the National Broadcasting Service are clearly enunciated. While both the public and private sectors, as represented by broadcasting undertakings, are required to provide "programming of high standard, using predominantly Canadian creative and other resources," the national broadcasting service, the CBC, has a broader and much more specific task. As we have seen, amongst other things, it must provide service that is predominantly Canadian in content and character and, as well, be in both official languages; contribute to national unity and Canadian identity and assist in the exchange of cultural, regional information and entertainment.

It is notable that the proposed Act requires that broadcasting undertakings, which include both off-air and cable distribution, are required to provide "programming of high standard using predominantly Canadian creative and other resources," a task formerly reserved only for broadcasters.

Given the objectives embodied in Telecommunications Bill C-16, and recognizing the nature of the evolving communications system, how should DBS be accommodated in a regulatory and policy sense? Or, to put this another way, should legislative changes be contemplated to better exploit the characteristics of DBS to serve national objectives?

While it is useful to use Telecommunications Bill C-16 as a point of departure for such considerations, the resulting process may suggest that further adaption and modification is required to the proposed Telecommunications Act to more effectively utilize the potential of a DBS-influenced system.

Until now, the broadcasting objectives for the Canadian Broadcasting System have been primarily achieved by the use of two devices. The primary device has been the Canadian Broadcasting Corporation which might be described as the "chosen instrument" selected to achieve certain social and policy objectives. This instrument has been buttressed by the regulations and policies put into place by the CRTC. To a very large extent though, these policies and regulations merely served to confirm what the public corporation, the CBC, is already doing as a result of its own activities carried out in conformity with the Broadcasting Act.

The regulatory and policy-making function of the CRTC has thus been primarily used to control the activities of the private broadcasting and telecommunications sector.

These two methods then, which one might call objectives by public instrument and objectives by regulation, constitute the primary means of implementing the objectives of the Broadcasting Act. There is another objective which might be called objectives by competition. While it can be argued that this latter concept already applies to the operation of the present system, since the awarding of licences is a result of competitive hearings in most cases, nevertheless, in the Canadian system, the principle of competition exists more in theory than in practice. For example, licensees are seldom changed except on the very rare occasions in which it can be proven that performance is inadequate, and existing licences are not open to competitive bidding at the end of their licence term. The implications of this will be examined more fully as this analysis proceeds.

In order to explore these various means of achieving desired objectives within the system, it is instructive to consider how they might, in principle, be applied to a DBS service.

b) Introduction of DBS by Public Instrument and the Licensing Powers of the CRTC

If one assumes that the CBC is used as the chosen public instrument to introduce a DBS program service, then what are the licensing implications which flow from such a process? Since in both the old Broadcasting Act and Telecommunications Bill C-16 the CBC is subject to licensing by the CRTC, then one can ascertain the form which the licensing process will likely take. In order to pursue this, we will make at least one further assumption and that is that the technical DBS system will not be owned by the CBC

but by some other body such as Telesat. While the implications of this will be explored in further detail later, for this present consideration it will be assumed that the CBC will lease its transponder facilities from a common carrier like Telesat.

The first question that arises is whether the CBC would be classed as a programmer or exhibitor, or as a broadcaster. In the case of a fixed satellite service, such as the Anik service presently used by the CBC, it is logical to retain the normal broadcaster carrier relationships. For example, the CBC signal is merely carried by Anik satellite to local off-air rebroadcast facilities and, consequently, these local facilities can be licensed as broadcasting undertakings in the normal way. In the case of DBS, however, once the signal is uplinked to the satellite, the satellite essentially performs as a terrestrial broadcast station in space with its signals going directly to the general public.

The powers available to the CRTC to effect the licensing of broadcasting undertakings are related to the characteristics of hertzian waves. Furthermore, the term "broadcasting" is quite specifically defined as meaning "any radio communication in which the transmissions are intended for direct reception by the general public." Thus, broadcasting transmitting undertakings and broadcasting receiving undertakings (cable) rely on the use of "broadcasting."

To regulate DBS it would appear that the CRTC must capture the "broadcasting" element of the activity. Because the transmitting (uplink) portion of the DBS system does not use transmissions intended for direct reception by the public, but is only used to get the signals to the satellite transmitting station, it is doubtful if the CRTC could construct a licensable undertaking out of the program function and the uplink transmission function.

This implies that it must include all DBS functions to effect broadcast licensing. For example, it would need to include program origination, uplinking, and the satellite transmission, "intended for direct reception by the general public."

If it assumed that most DBS program suppliers will lease transponder space from a carrier, the question arises as to the degree of control which the program supplier can exercise over the satellite station and its satellite to earth signals. This is analogous to cable and the CRTC concerns as to the degree of control a licensee is able to exercise over the leased cable plant.

Some perspective on this issue is provided by the Canada-Manitoba agreement on cable television which was signed in November 1976. While the agreement developed out of a jurisdictional conflict, it is based on the separation of the carriage and content issues. Under this agreement, the Manitoba Telephone System became responsible for system ownership and services, other than programming services, while program content, including pay television on closed circuit systems, remains exclusively under federal jurisdiction. What has essentially been agreed to in this case

is the licensing of a program exhibitor, the cable licensee, who is guaranteed certain rights of access to a distribution system which is maintained and operated by another party. It would seem, therefore, that this principle could also apply in the case of a DBS service where the programming originator does not directly own and operate the DBS system. The principle embodied in the Manitoba agreement could be applied to the licensing of the DBS service provider.

As long as certain guarantees of access exist and appropriate technical standards are maintained, then the program provider is not inhibited from carrying out an effective service function.

In the DBS case, the program supplier may be using only a relatively small proportion of the satellite facility. Furthermore, the DBS carrier may wish to retain a considerable degree of control over the satellite channels, given the possibility that various grades of services, from high to low protection services,* will be offered.

In the case of the Manitoba agreement, the distribution facility is owned by the provincially regulated Manitoba Telephones and is therefore not subject to federal regulation. This creates a potential difficulty in that the rates charged for the leasing of the distribution system act directly on the cost and efficiency of the services provided by the licensed program supplier. If, for example, the tariffs for the lease of the system are increased unduly, it might seriously impair the licensee's ability to, say, maintain specific Canadian content requirements set out in, say, a federally-issued exhibitor licence.

*For a more detailed explanation of satellite service grading, see Telecom Decision CRTC 81-13.

In the case of DBS, and assuming that the satellite distribution facility is provided by a federally regulated carrier like Telesat, the danger of such a situation occurring seems minimal since both the program exhibitor and the carrier would presumably be licensed by the same agency, the CRTC, which will be concerned to realize Canadian social and cultural objectives.

Although at present there is no such thing as an exhibitor licence, the principles involved in network licensing reflect a form of separation between content and carriage.

While the CRTC has been able to use the network licensing provision in respect of the use of fixed satellite systems, i.e., the use of Anik for the CANCOM service, this has only been possible because a licensable re-distribution system is interposed between the satellite signal and the public recipients of the service.

The Telecommunications Bill C-16 defines a broadcasting network operation as:

...broadcasting network operation means any operation involving two or more broadcasting undertakings whereby control over all or any part of the programming or programming schedules of any of the broadcasting undertakings involved in the operation is delegated to a network operator.

Thus, the network operator must satisfy certain broadcasting criteria in order to be eligible for licensing. Firstly, the network operator must be providing the programming to two or more broadcasting undertakings, and secondly, control of the programming must reside with the network operator.

Such a concept will also work with a DBS service as long as it is redistributed by a licensed broadcasting undertaking. When DBS operates in its planned direct-to-individual homes mode, the network concept would not appear to be capable of application.

From this it appears that one must either license the program originator as the broadcaster, with some adaptations to account for separate ownership of the distribution system, or license the program supplier as an exhibitor. While the distribution of DBS signals by local distribution systems will continue to have all the characteristics of a normal network affiliation arrangement, with the DBS program supplier being the licensed network operator, it is clear from what has been discussed that this system will not be appropriate for direct-to-home delivery unless the network operator retains control over this mode as an incidental activity associated with the network activity.

Such a point of view has interesting parallels with the present regulation of cable where closed-circuit services are considered to be incidental to the primary function which is the redistribution of broadcast signals. On the other hand, it is doubtful whether an evolving DBS contribution to broadcasting can exist for long with regulation based on signal redistribution rather than direct signal reception by the home user. Similarly, even cable regulation based on the redistribution of broadcast signals may be difficult to sustain as closed-circuit cable services increase and become more numerous than off-air signals.

While one might assume that Canadian social and cultural objectives are more likely to be realized by using the CBC as the appropriate public instrument to introduce a DBS program service, nevertheless, some regulatory support will be necessary to ensure the primacy of the CBC/DBS service through carriage by local redistribution systems.

The preceding considerations also appear to place some major constraints of the CRTC's powers to regulate DBS. This could be highly detrimental to effective DBS utilization if it acts to circumscribe the evolution of effective DBS policies.

c) Introduction of DBS by
Regulation and/or Competition

The two other devices that might be used to introduce DBS tend to overlap to some extent. If a DBS service is introduced through the direct use of regulatory and policy devices, then the CRTC would probably call for proposals concerning the introduction of a DBS service. This would presumably follow the pattern set by the various pay television hearings which were held over the last five years or so. As a preliminary to these hearings, comments, suggestions and recommendations were invited from the public, and the broadcasting and related industries, concerning the manner in which a pay-TV service should be introduced, the kinds of services that it should provide, and the policies that should guide its introduction.

*Based on the CBC's present level of concentration.

In using such an approach, the regulatory mechanism is used to map out an appropriate strategy which best reflects Canadian broadcasting and telecommunications objectives. The end result of the process is to develop guidelines under which applications to introduce the service must be developed.

Assuming that such an approach relates primarily to services developed in the private sector, then it is evident that commercial objectives must be reconciled with Canadian social and cultural objectives and such competition as might be tolerated must be consistent with such goals.

There are basically two types of competition which could occur through this process. The consideration by the CRTC of competing applications at the onset of the service, and the competition created by the licensing of several private DBS services. The matter of competitive licence renewals is another form of competition which has not been adopted in Canada. This latter concept is explored further later in this report.

More than anything else, consideration of the issue of competition exemplifies the major difference between the Canadian and United States broadcasting and telecommunications environments. Whereas the U.S. can look to higher and higher orders of competition within its broadcasting and telecommunications system without much fear of compromising social and cultural objectives; in the Canadian environment, increased competition, particularly within the existing regulatory and policy regime, has tended to be synonymous with a decrease in

the desired fulfilment of Canadian social and cultural objectives,* because the competitive programming factor has to the present been associated largely with foreign program use.

Overall then, in regards to the private sector, Canada has tended to seek broadcasting and telecommunications objectives by regulation and in the process placed clear limits on the extent to which competitive forces are allowed to influence events.

The existing broadcasting and telecommunications system has therefore evolved primarily through the use of a public instrument, the CBC, and through the evolution of specific goals embodied in regulatory and policy-making practices. While elements of competition exist in this system, it seems reasonable to conclude that competition is not utilized as a primary means of achieving desired social and cultural objectives.

*In a Staff Report on "Policies for Regulation of Direct Broadcast Satellites" issued by the FCC in September 1980, reference is made to the issue of competition: "In a competitive programming market such as we anticipate will exist by 1985, program content requirements cannot be justified either to provide programming the viewers want or need, or to ensure that they are exposed to information and opinions on issues of public affairs. In fact, they impose serious costs by causing programming to be shown that few viewers want to see and by infringing on programmers' First Amendment rights of free expression. No justification for imposing such requirements on DBS appears to exist."

This is not to suggest that competitive devices could not be used, but rather to emphasize that it is not the choice that has been made thus far.

If a truly competitive environment was allowed to develop in relation to DBS services, a number of separate, but related, areas need to be considered. For example, one could open the entire DBS concept to competition by allowing potential applicants to construct and operate a DBS system and/or provide programming services. This would be analogous to the U.S. approach where various configurations are being considered.

The difficulty with this approach is the high costs involved in developing competing approaches in advance of a chosen direction by the government. Nevertheless, as the U.S. experience has shown, as long as the constraints attendant on the 1983 RARC Conference are accepted, a relatively open set of guidelines can be evolved from the consideration of competitive concepts.

Given the extensive experience that Canada has already acquired in satellite design and operation, it would be possible for the government to start the process with quite specific guidelines. Following this stage, DBS system provision and operation could be open to competitive bids.

Yet another approach would be for the government to decide on the means of providing the technological DBS system and to open the provision of programming services to competitive bids. This could be done on the basis of either issuing broadcasting licences to the DBS operator (who presumably leases DBS facilities from a common carrier) or by establishing exhibitor licences of the type described earlier.

This latter process could be conducted by the CRTC following the establishment of suitable guidelines, probably as the result of public hearings.

In this case, the Commission could receive specific DBS applications, choosing the successful candidate, or candidates, on the basis of their overall suitability to aspire to Canadian social and cultural objectives. Given that commercial and competitive forces would be dominant in such a circumstance, then presumably one is looking for some kind of reasonable trade-off between a successful commercial enterprise and one which can give reasonable guarantees that certain desirable public service objectives can be met. To retain the competitive environment, one would presumably have to set some kind of limitation on the licensing period, with a clear indication that the licence would be open for competitive bidding at the end of this period.

Such an approach could be based on actual performance rather than strict adherence to a regulatory regime that controls operational behaviour. Whereas objectives by regulation involves a constant adaption of regulatory and policy devices in order to try and increase the contribution of the licensee to the public service objective, the competitive system leaves much more initiative to the individual licensee. On the other hand, application of performance evaluations during, and at the end of, the licence period must be far more critically asserted so as to obtain the full benefits of the competitive market forces, and to recognize the existence of alternative applicants who might have the capacity to provide greatly improved services.

As has been mentioned earlier, a true competitive system based along these lines has not been attempted in Canada thus far, although various studies have been undertaken to investigate such an approach and many groups and individuals have long urged the CRTC to adopt such a procedure.

Summary

There are various ways in which a Canadian DBS system might be introduced. By using a "chosen instrument" like the CBC, the government could act directly to set up a DBS service using in the process other existing institutions like Telesat or even creating entirely new organizational structures.

Alternatively, the provision of DBS services could be opened to private entrepreneurs who would either provide the entire system or parts of it. For example, the technological system could be provided by a common carrier and the program services by entities licensed as broadcasters or program exhibitors. The licensing process could be undertaken under the terms of specific policy guidelines and regulations or could be opened to competitive concepts.

No one system need be adopted as variants of these various approaches could be used individually or together.

This assessment of various approaches to the introduction of a DBS system reveals some of the possibilities, as well as the difficulties, inherent in the changing broadcasting and telecommunications environment and in the policy and regulatory regime which is presently guiding its evolution. In order to explore this in more detail, the following sections will assess the appropriateness and relevance of existing legislation, regulation and policies, in the light of the introduction of a DBS influenced system. This process will involve looking at some existing institutional arrangements, reviewing past practices, and exploring various options that may exist for future action.

THE CARRIAGE COMPONENT

Canada's pioneering work in respect of the development of fixed satellite systems was based on a predetermination of potential satellite utilization. For example, the construction of the early Anik series was based on the prior assumption that one of the primary users would be the CBC who would utilize satellite capacity to improve its northern services. Furthermore, there were known telecommunications requirements related to northern service improvement which could be embodied in the Anik program considerations. As further generations of the Anik series evolved, the same principles were followed. For example, Telesat's decision to proceed with Anik B was largely based on the knowledge that the government would be a primary customer for its 14/12 Ghz facility. A similar cooperative evaluation of the kinds of service, the potential users, and the economics of providing the service, can be seen in

relation to the Anik C development. Here again a combination of a government interest in the 14/12 Ghz facility, primarily for television use, was coupled with a TCTS interest in 14/12 Ghz in relation to Telecom and data uses.

Telesat is an independent corporation established by the Telesat Canada Act of 1968-69. The objects of the company are set out in Sections 5(1) and 5(2) of the Act:

Corporate objects 5.(1) The objects of the company are to establish satellite telecommunication systems providing, on a commercial basis, telecommunication services between locations in Canada.

Policy considerations (2) The company shall utilize, to the extent practicable and consistent with its commercial nature, Canadian research, design and industrial personnel, technology and facilities in research and development connected with its satellite telecommunication systems and in the design and construction of the systems.

There are no provisions in the Act allowing the government a power of direction. If Telesat is to be the carrier charged with the provision of a DBS distribution facility, then it, Telesat, will presumably have to be satisfied that the construction and operation of a DBS system will constitute a viable commercial activity. As has been evident in earlier satellite system development, prior agreement between potential users and Telesat has constituted the basis of Telesat's decision to proceed with a satellite system.

While the Minister (Minister of Communications) must examine each request for satellite or earth station construction, this process is to ensure, to the Minister's satisfaction, that there will be a "reasonable utilization of Canadian design and engineering skills and the incorporation of an appropriate proportion of Canadian components and materials."

If the government, as a matter of policy, wished to introduce a DBS system, and such a system was not considered to be commercially viable from Telesat's point of view, there would seem to be no legal way for the government to use Telesat as its implementation instrument unless the Telesat Act was revised.

In such circumstances, the government could, of course, set up a separate corporation to run DBS either as a carrier or as a broadcaster, or look to private industry to underwrite the DBS facility.

If, as has been discussed earlier, the operator of a DBS service was licensed as a broadcaster, presumably that entity could in fact operate both the programming as well as the technical facility. While this is one of the options being considered in the U.S. situation, it may not be as easy to find private investors in Canada willing to come forward to underwrite the cost of a DBS facility.* While the CBC could be chosen as the instrument to introduce the DBS programming and technical package, it seems unlikely, and undesirable,

*Unless, if a common carrier approach is used, similar service guarantees exist as Telesat would require.

to have it control the entire facility. Given that a mix of public and private users is likely, with limited services from each, the use of a common carrier like Telesat to operate the technical facility would appear to be the most logical.

As Telesat's role broadens with the introduction of new fixed satellite services, and with the possibility of it also handling DBS, it might be desirable to consider a part broadcaster and cable ownership of the Telesat Corporation. Such an arrangement would put Telesat under more diversified control more suited to its enlarging responsibilities.

The joining of the TransCanada Telephone System with Telesat which took place in December 1976, the so-called connecting agreement, was initially disallowed by the CRTC, but the CRTC's decision was subsequently overturned by the Governor-in-Council. Critics of this agreement had maintained that it was in the interest of the carriers to keep satellite transponder leasing rates relatively high in order to retain the competitive advantage of the terrestrial distribution system. For its part, Telesat had argued that its rates were realistic, given the particular circumstances existing in the Canadian market, and the various Canadian industrial content requirements imposed on Canadian satellite systems development.

The subject of Telesat rates was extensively reviewed by the CRTC at a Public Hearing in April 1980. The subsequent decision, CRTC 81-13, seems to have both advantages and disadvantages for DBS development. For example, the Commission is opposed to bulk rates for heavy users of fixed satellite services such as CBC, and is requiring Telesat to provide a

common rate base to all satellite users. If this principle were applied to DBS, it might represent a disincentive to potential DBS service applications, particularly those who come forward with multiple channel services. As well, the question arises as to whether the CBC, particularly if it is the chosen instrument for DBS introduction, should not be afforded both a priority in DBS capacity usage as well as in DBS service rates. It is of interest to note that the Direct Broadcast Satellite Corporation, which is applying in the U.S.A. for authority to provide a direct broadcast satellite system on a common carrier basis, is offering a 15% service rate reduction for public service institutions.

Other factors in the CRTC's decision would seem to aid DBS development. For example, the recommendation that Telesat handle the leasing of satellite capacity directly, rather than through the common carriers, would not only result in administrative simplicity, but would presumably also assist in keeping satellite rates as low as possible. As well, the CRTC's conclusion that full channel leasing limitations are contrary to Subsection 321(2) of the Railway Act, and that partial channel leasing should be provided, will aid access by a broader range of program suppliers.

The CRTC recommendation that Telesat should not be the exclusive owner of uplink facilities would also seem to create more flexibility in introducing a DBS system.

Summary

While the design, construction, and operation of a DBS system could be achieved in a number of ways, there would appear to be good reasons for utilizing the resources of Telesat to develop the DBS system for Canada. There would appear to be grounds, however, to consider a greater diversification of the ownership of Telesat, and, as well, to give a major emphasis to the best means of achieving national broadcasting and telecommunications objectives when considering such factors as Telesat rates, conditions of satellite access, and ownership of uplink facilities.

If the DBS distribution facility is provided and operated by an entity other than Telesat, it will be desirable to operate the system in whole, or in part, as a common carrier. For example, if DBS is licensed as a broadcast facility, it would be necessary to maximize the use of the facility to all potential users and it might, under such circumstances, be necessary to contemplate the use of the facility in both a broadcast* and common carrier mode.

*Based on the present understanding of a broadcast licence.

PRIVATE SECTOR INVOLVEMENT IN DBS

The extent of the private sector involvement in a DBS service depends on a number of factors. A major consideration will be the extent to which public service obligations can be reconciled with commercial opportunity. Another factor will be the ownership requirement. For example, will DBS be open to common carriers, broadcasters, cable licensees, and other media interests? As has already been indicated, there would seem to be little motivation for conventional broadcasters to move into DBS unless major changes occur in the current operation environment. Such changes might be caused by a rethinking of current regulatory philosophy, or as a result of a major competitive threat coming from foreign DBS signals.

If the current regulatory philosophy remains largely unaltered, then it is likely that the strong emphasis on the maintaining of local services by the private sector will act to retard early considerations of DBS-type services.

On the other hand, if the CRTC decided to change its approach to local service provision by off-air broadcasters, and to allow a more competitive environment to exist, several things might happen. For example, networks like CTV may find it more advantageous to become program providers discontinuing their present relationship with local affiliates, and relying on DBS for direct program delivery to their clients. While some of their clients may still continue to be local stations, the base might be extended to include cable systems and local community organizations as well as members of the general public receiving the DBS signal directly.

In creating such a circumstance, the basic problem for the regulator would be to determine the extent to which the aims and objectives of the telecommunications policy were being compromised. Interestingly, neither the Broadcasting Act nor Telecommunications Bill C-16 mention anything about local service. While the CBC is instructed to "use both official languages," and to serve the "special needs of geographic regions...actively contributing to the flow and exchange of cultural and regional information and entertainment," no such provision is extended to the private sector.

No doubt it would be questionable whether the cultural, political, social, and economic fabric of Canada could be safeguarded and strengthened without some form of local service, but the provision and maintenance of local service is not specifically identified in the Act, or in Telecommunications Bill C-16, as being essential to this purpose.*

In a strictly legal sense then, this would appear to provide the regulator with a great deal of flexibility in changing the nature of telecommunications services so as to reflect the general principles outlined in the Act. To put this another way, there seems to be nothing in the Act which would preclude the establishment of a far more competitive climate within the private sector in relation to the provision of local services.

*This is not to suggest that such a requirement should not be included.

The requirement for program content, both in the Broadcasting Act and Telecommunications Bill C-16, also appears to provide for a fair degree of flexibility. For example, while the CBC is required to provide "a national broadcasting service that is predominantly Canadian in content and character," the broad provision relating to the private sector merely states that "the programming provided by each broadcasting undertaking should be of high standard using predominantly Canadian creative and other resources." This again suggests the primacy of the national broadcasting service and the flexibility available in the administration of the private sector. For example, it could be assumed from this that, while the CBC's program schedules should be predominantly Canadian, the private sector's schedules could be less Canadian in quantitative content as long as they use predominantly Canadian creative and other resources to produce their Canadian programs.

As has already been mentioned, the CRTC appears willing to take a somewhat more liberal approach to these questions, in that, in the case of pay television for example, it is relying on the applicants to come forward with recommendations as to the degree of Canadian content to be provided, while it, the CRTC, has indicated only that it will give preference to applications that best serve Canadian public service objectives.

Summary

It would appear important when introducing a DBS service to leave ample room for competitive applications based on desirable Canadian objectives specified in advance. In fact, the only motivation for the private sector to move towards DBS utilization would appear to be dependent on whether the current regulatory and licensing environment is drastically changed, allowing for the emergence of new roles, and removing the current control and protective devices which act against free marketplace competitive forces being brought into play.

THE PUBLIC'S RIGHT TO RECEIVE

The widespread availability of U.S. satellite signals in Canada has focused attention on the public's right to receive programs. Clearly, it will be virtually impossible to control public reception of foreign DBS services entering Canada just as it has proved impossible to restrict in any way the right of the public to receive terrestrial radio and television signals which spill into Canada from U.S. stations located on the Canadian/U.S. border. While the U.S. "open sky" policy places no restriction on the reception of satellite signals, providing they are intended for individual reception, Canada has a specific licensing requirement for the reception of signals from fixed satellite services. Radio Standards Procedure RSP-116, issue 1, sets out the eligibility criteria for earth station licensing in "any frequency band allocated in the Canadian Allocation Table to the fixed-satellite service." Eligibility is basically restricted to commercial, scientific, experimental or educational purposes, for operation

with either Canadian Domestic Satellites, or with foreign or Internationally Controlled Satellites.

The basic question, of course, is the extent to which it is necessary to exert control over such satellite reception. While it is arguable that Canada's sovereignty is being threatened by the unrestricted importation of foreign signals, it is hardly likely that this can be effectively curtailed, especially if they are freely available off-air. As is generally recognized, the long-term solution is the introduction of effective Canadian services that are desired by the public.

Thus far, the progressive approval for the introduction of foreign services into a given area of Canada has been based firstly on the number of freely available signals off-air, and secondly on the number of Canadian services being brought into the area. These rules have governed the evolution of cable in that a cable service is not normally allowed to carry more off-air signals than are available off-air in a border community where many U.S. signals are available. Until relatively recently in areas remote from Canada/U.S. border cities, first and second Canadian service normally had to be provided before foreign signals were allowed to be brought in by cable television systems.

While this method has worked well in relation to cable delivered service, since an evaluation of the services for each area is possible and licensing can be controlled, the situation with foreign DBS signals will not permit such an approach.

For this reason, therefore, and for the others that have been reviewed, the long-term answer cannot be found only in the control of foreign signals, but in the improvement of Canadian services.

As indicated earlier in this study, a further example of the difficulties of controlling signal reception relates to MATV systems (see page 27). At present, the MATV Exemption Policy limits them to conventional broadcast signals unless the MATV system applies to the CRTC for licensing. While allowing MATV carriage of DBS signals will increase competition with cable systems, it would seem most inappropriate to deny MATV systems the carriage of Canadian DBS services. This would require a change to the present CRTC, MATV Exemption Policy.

But the broader implications of signal dissemination and reception must be considered:

Any country, subject only to agreed international operating standards like those established by the ITU* is free to position a communication satellite in outer space and the operators of the satellite are not under any obligation to focus its transmission within any particular country. There is no obligation to constrain the shape of "footprints," and an unwilling target country is entitled to jam unwanted signals. This is analogous to radio broadcasts where a large number of countries in all parts of the world have taken it for granted that they are entitled to beam propaganda programs into other countries irrespective of any consent of the target states.**

*The International Telecommunications Union.

**From an article by Neville Hunnings, Editor, "Common Market Law Reports."

Until the arrival of satellites, the various means of foreign signal entry have been kept under reasonable control in most countries. As we have discussed, even Canada's difficulties with U.S. signals have been amenable to a fair degree of regulatory control through the licensing of cable redistribution systems. The prospect of internationally available DBS signals has, however, prompted much discussion between states, yet, thus far, the U.N. Committee on the Peaceful Uses of Outer Space has been unable to agree on how to deal with DBS.

The basic problem is to reach a balance between the views of those states who opt for the "free flow of information" and those states who argue that the receiving state should have the right to "agree" before television signals can be beamed from the satellite of one state directly into individual home or small community receivers in the territory of other states, (until 1977, this was referred to as the issue of "prior consent.").

In general, countries like Sweden and Canada favour "prior consent," while the U.S. favours "free flow."

In an attempt to achieve agreement on an internationally acceptable approach to this question, Sweden and Canada have attempted to sway certain nations to accept an intermediate position which recognizes the need to incorporate both the free flow of information and the protection of national sovereignty and cultural identity. This position

calls for international cooperation expressed in an agreement between broadcasting and receiving countries. Program Content, therefore, would be predetermined by a "bilateral prior consent" agreement.*

In spite of the difficulties encountered by the U.N. Outer Space Committee, the I.T.U., at the 1971 WARC, approved ITU Radio Regulation 428.A.:

In devising the characteristics of a space station in the broadcasting satellite service, all technical means available shall be used to reduce, to the maximum extent practicable, the radiation over the territory of other countries unless an agreement has been previously reached with such countries.

This regulation has been interpreted by most countries and commentators as meaning that international coverage of the territory of another country requires the "agreement" of that country, and that without this "agreement," only "technically unavoidable spillover" is permissible. The U.S. Government, however, has tried to draw an artificial distinction between the "hardware" and other aspects of DBS by taking the position that Regulation 428A is a mere technical regulation confined to technical matters.**

In Canada, difficulties thus far have been confined to Fixed Satellite Systems and through an exchange of letters between the U.S. and Canada in 1972, it was agreed that international uses of Canadian domestic fixed satellite systems will be subject to consultation with INTELSAT and the U.S. Government. A similar process would be used in relation

*Source: Telesat Canada.

**The foregoing section on the activities of the UN Space Committee is extracted from "Annals of Air and Space Law."

to similar uses of U.S. fixed satellite services which affect Canada. As well, U.S. users of Canadian satellite capacity would be subject to there being insufficient space on U.S. satellite systems.

As evidence of the concerns expressed by other countries in respect of the reception by individuals of DBS signals, such agreement has not prevented the "pirate" reception in Canada of U.S. fixed satellite services. The inadequacy of regulatory devices to prevent reception of freely available signals is already being demonstrated.

What all this seems to imply is that we are facing the prospect of international television and radio and data services on a vast scale. In the face of this, the experiences of international short-wave will appear primitive, both in technique and practice.

Some indicators of the new trends are already in evidence:

It is interesting to watch the ambitions of Sofirad, the French government agency, which owns shares in Radio-Télé-Luxembourg, Andorra's Radio Sud, Radio Monte Carlo, and Europe #1. Sofirad has already used the Franco-German satellite to beam French programs into Berlin. They are using O.T.S. (Orbital Test Satellites launched by the European Space Agency) to cover Europe and North Africa. They want to use a U.S. satellite for distributing a French service to the U.S.A. and Canada.*

*Extracted from the Journal of the International Telecommunications Union.

OVERALL SUMMARY

The preceding sections have looked at some of the general factors which impinge upon the current regulatory philosophy and the refinements that may be necessary to effectively introduce DBS into Canada. The next section will look at further legislative policy, and regulatory, factors and their implications for a DBS service.

SECTION 2

THE GOVERNMENT'S POWERS OF DIRECTION

Government agencies involved in broadcasting and telecommunications generally operate as autonomous units. Established by legislation outlining their general purposes and objectives, their subsequent management is left to decide on the most appropriate courses of action with minimal government interference.

This so-called "arms-length" arrangement has generally worked well in the past, but the enormous changes which are occurring in the broadcasting and telecommunications system are exerting strong pressures for some kind of over-all strategy. The independently derived decisions of the independent agencies often seem to run counter to the government's objectives because they are often arrived at with different priorities in mind.

Recent studies of broadcasting in the United Kingdom have dealt with this question:

The Annan Committee...considered that Government and Parliament must have the power to decide the number and nature of the broadcasting services--who should provide them, how they should be financed, and what priority should be given to them; but these powers should give the Government and Parliament the minimum opportunity to intervene in the day-to-day business of providing the broadcasting services.*

The Telecommunications Bill C-16 would seem to give the government considerably greater power to direct the CRTC than is the case with the present Broadcasting Act.

*Broadcasting, p.33, HMSO, London, England.

The Telecommunications Bill C-16 states:

"Power of the Governor in Council to issue directions

9.(1) Subject to subsection (2), the Governor in Council may, by order, issue directions to the Commission respecting the implementation of the telecommunication policy for Canada enunciated in section 3.*

Restriction

(2) Nothing in this Act authorizes the Governor in Council to issue directions to the Commission with respect to

- (a) the issue of a broadcasting licence to a particular applicant or the amendment or renewal of a particular broadcasting licence,
- (b) the content of programming,
- (c) the application of qualitative standards to programming,
- (d) the restriction of freedom of expression, or
- (e) the charges to be levied for particular telecommunication services or facilities or the revenue requirements of a particular telecommunication carrier,

but nothing in paragraphs (a) to (e) prevents the Governor in Council from issuing directions to the Commission with respect to

- (f) the maximum number of channels or frequencies for the use of which broadcasting licences may be issued within any geographical area specified in the directions,
- (g) the reservation of channels or frequencies for the use of the Corporation or for any special purpose specified in the directions, or
- (h) the classes of applicants to whom broadcasting licences may not be issued or in respect of when amendments or renewals thereof may not be granted."

In respect of the CBC, both the Broadcasting Act and Telecommunications Bill C-16 appear to allow for a form of direction:

*See pages 74-76.

"Power to act as agent

(2) The Corporation may, within the conditions of any broadcasting licence or licences issued to it under this Act and subject to any applicable regulations of the Commission, act as an agent for or on behalf of any Minister of the Crown or as an agent of Her Majesty in right of Canada or of any province, in respect of any broadcasting operations that it may be directed by the Governor in Council to carry out, including the provision of an international service.

However, one might reasonably conclude from this that, while the government could direct the CBC to introduce new services (presumably with the necessary financial appropriation), it could not direct the CBC to change its present practices or organizational structure.

The relation of the government to Telesat has already been discussed. Here too the government has limited powers of direction (see page 96).

LICENSING OF EXHIBITORS

As has been discussed already, there may be some advantages in achieving a greater separation of program content from the means of its carriage in defining the structural arrangements for the introduction of a DBS service. Although one could presumably retain some semblance of the characteristics of a broadcaster licence by, say, licensing the program provider to operate a satellite uplink and downlink facility,*nevertheless, the ownership of that facility is not essential to the process of providing the program service.

*If legally acceptable.

As has been discussed, the present and planned broadcasting legislation seems to offer considerable limitations to the broadening of the concept of licensing. For example, both the existing Broadcasting Act and Telecommunications Bill C-16 clearly relate the licensing process to hertzian wave delivery. Thus, a cable system is defined as a broadcasting-receiving undertaking, even though the major proportion of its services might soon be provided by closed-circuit means.

The issue seems to come back to the basic premise which has been the foundation of broadcasting legislation since the Aird Commission, which is the control of scarce frequency spectrum, and the allocation of this spectrum in such a way that certain Canadian social and cultural obligations can be realized.

The problem is that Canadian social and cultural objectives will both be affected, and realized, in the future by a variety of means which do not depend on hertzian wave delivery systems. The question, therefore, is whether it is appropriate for the federal government to confine its activities essentially to the regulation of programming type services related only to hertzian wave based delivery systems. Obviously, there are very good arguments for broadening the extent of its influence if it is to bring some real meaning to the goals of achieving Canadian social and cultural objectives.

While DBS offers an opportunity to further build on a relationship with hertzian wave delivery systems, and the present broadcast licensing concept, there are also good reasons for simply licensing the program provider as an exhibitor who has access to, but not control of, the distribution facility.

As we have seen (page 85), the Manitoba agreement goes some way towards recognizing the primacy of the programming activity, but it still links the licensing to the operator of a broadcaster undertaking, that is, a cable system receiving and redistributing off-air signals with an ancillary facility to distribute as well closed-circuit programming services.

Such considerations raise a number of critical issues such as, what constitutes a programming service? For example, is Teleshopping a programming, or a non-programming service? Is federal control to be applied to all forms of programming services, irrespective of whether their distribution extends beyond provincial boundaries or whether they are confined within a province? Is it necessary to consider, as some provinces have suggested, that cable undertakings be regulated both as broadcasting undertakings and as common carriers, depending on the uses to which specific portions of the distribution system are put?

LICENSING OF THE DISTRIBUTION APPARATUS

If programming services are licensed through exhibitors, a separate consideration will have to be given to the technical distribution facilities. Such an arrangement, however, would not represent a major departure from the present system of licensing. For example, no broadcasting licence issued by the CRTC is valid unless a technical operating certificate has been issued by the Department of Communications in accordance with the Radio Act. Therefore, it would be relatively easy to continue the present licensing procedures if the means to license program exhibitors is introduced. This would, of course, mean that existing broadcasters would own both an exhibition licence as well as a broadcasting licence, but the broadcasting licence would relate only to the technical facility. On the other hand, a licensed program exhibitor who does not operate any technical distribution facility would not need a technical operating certificate.

In this context then, broadcasting licences, or what might be more appropriately called, technical licences, would be issued by the Department of Communications in accordance with the Radio Act. Thus, licences to operate a satellite system, a broadcast transmitter, a cable system, or earth stations, would continue to be subject to existing legislation, policies, and regulations.

In the light of DBS, however, it would seem appropriate to lift the present restrictions on the licensing and ownership of earth receive stations. For example, one might contemplate allowing anyone to own an earth receive station if the receive signals are for private use. If the signals received are redistributed and made available to the public, then such use would be subject to licensing.*

CARRIAGE RULES

For those entities operating in a common carrier mode, it will be necessary to provide some guidelines relating to carriage provision. For example, will all services be handled on a first-come-first-served basis? Will tariffs for the lease of distribution space be determined by the marketplace and competitively applied, or will they be subject to regulatory control? Will there be preferences given to specific classes of users and will partial as well as full channel leasing be available?

While some of these questions have already been addressed in the recent CRTC Telecom Decision, the implications of the exhibitor concept would require a more extensive assessment of the common carrier concept. For example, would common carrier provision extend not only to cable systems but to off-air broadcast facilities as well?

*Note that it may be necessary to change this principle in certain cases, i.e., MATV systems.

Looking at this issue in a broader context, it would seem that the application of the exhibitor licensing concept to DBS could be extended to other parts of the system, and far from being in opposition to desirable goals within the system, could well open up the system to wider use and the possibility of more diverse sources of program services.

SEPARATE REGULATION OF CONTENT AND CARRIAGE:
IMPLICATIONS FOR THE PRESENT SYSTEM

Bringing about a clear separation between content and carriage has major implications for the present regulatory structure. For example, should the CRTC be responsible for both the content licensing as well as the licensing of the distribution facilities? There would seem to be persuasive arguments for establishing two separate entities to administer these two separate and discretely different licensing processes. While it could be argued that licensing of content providers will bring regulatory control of the programming content to an undesirable level, creating a broad form of censorship, it does open up the possibility of more competition in the provision of program services. Similarly, if the hardware facility is separate from the process of providing programs, then it is a much less onerous task to contemplate changes in exhibitor licences for failure to provide adequate service or to achieve Canadian social and cultural objectives. On the hardware side, it might be possible to make a much more efficient use of the available distribution facility since it would not all be under the control of a single entity providing the programming and could therefore be made available to a wide spectrum of potential uses.

COMPETITIVE LICENSING

A recent report by Babe and Slayton* has dealt at some length with the potentialities and the difficulties involved in introducing competitive licensing systems. The Babe/Slayton Report is particularly critical of existing CRTC regulatory practices in respect of the achievement of Canadian social and cultural objectives. Basically, the Report concludes that a more vigorous application of the authority vested in the Commission could result in greatly improved Canadian content performance. As the Report points out, while competitive licensing occurs following licence revocation, or when new licences are considered, there is at present no provision to require that the Commission consider competitive bids when licences are transferred. In any event, licence revocations are so few that there is very little opportunity for potential new entrants to competitively bid for licences.

This much seems evident: the introduction of carriage and content separation in relation to DBS could have useful application in the rest of the system, and could result in added efficiency in the system if coupled to a competitive licensing process based on the principles outlined in the Babe/Slayton Report. As that Report indicates, however, some legislative change may be necessary to achieve the desired goals, since neither the existing Broadcasting Act nor Telecommunications Bill C-16 require the CRTC to hold competitive licence transfer proceedings.

*"Competitive Procedures for Broadcasting - Renewal and Transfers," Robert Babe and Philip Slayton, September 1980. Available from the Department of Communications, Ottawa, Ontario.

CANADIAN CONTENT RULES

Some regulatory devices will be necessary to ensure an appropriate level of Canadian content on new DBS services. If the CBC is used as the chosen instrument, then one can reasonably assume that its major goal will be the provision of original Canadian content. On the other hand, private sector services, whether of a subscription type like pay television, or available "free" by virtue of advertiser support, would need to be controlled in some way to ensure a level of commitment to public service objectives. Clearly, the old Canadian content quantitative system has not worked and new devices must be considered if effective results are to be achieved. Many of these alternatives have been explored elsewhere in this report, such as incentive systems, commitment of percentages of revenue, and peak time rules, but there could also be great advantages in using the benefits of a competitive system of licensing as a means of increasing the levels of content commitment from licencees.

The CRTC has already adopted this approach to some extent in its Call for Pay Television Applications. In this case, no specific Canadian content requirements are set out, but notice is clearly given that preference will be given to the applicant providing for the best Canadian content performance. These same principles could be applied to private sector applications for DBS exhibitor licences.

If any or all of these principles and concepts are applied it will be obviously more advantageous if they are applied broadly so that the maximum value is obtained from the control systems selected, and a fair appropriation of the responsibility is achieved. For example, it would be grossly unfair to continue to apply Canadian content regulations to off-air broadcasting and to not have similar controls applicable to cable television, pay television and DBS.

PROMISES OF PERFORMANCE

The introduction of exhibitor licensing, competitive licensing, and various incentive programs to achieve more effective Canadian service provision will need to be accompanied by a much more effective system of performance evaluation. The Babe/Slayton report draws attention to the inadequate performance evaluation system now in place and recommends the establishment of an independent group, separate from the present CRTC, whose task would be to collect data and to evaluate the performance of licensees. This group would provide an adversary position at licence hearings and would force the CRTC into a judiciary role, evaluating the licensee's performance claims against the findings presented by the independent performance appraisal body.

Such an approach would appear to offer considerable advantages over the present system and could be broadly applied to all forms of service provision.

MAINTAINING LOCAL SERVICES

Throughout this report, consideration has been given to the fate of local services, given the introduction of a DBS system. Obviously, local services will be affected in some way. The problem is to try and decide whether there will be an overall deprivation of service to the public, or whether alternative forms of local service provision can be expected to develop.

Let's assume that the CTV network decided to apply to provide a DBS service and in the process requested permission to abandon the present affiliated station concept. Various implications may flow from such a decision. The present affiliates may strongly resist such a move claiming that local services cannot be continued given the demise of the present network affiliation structures. If it looks as though a CTV-based DBS service concept is likely to be seriously considered, then the present affiliates might seek some form of government subsidy arguing that this is the only way that existing local services can be continued.

The regulator may therefore be faced with a major dilemma. Whether to try and find some way of maintaining an existing local service, or whether to move in to the far more risky situation of letting an entirely new circumstance develop which may see the demise of the existing affiliates. In such a situation, one would have to look to a hoped for emergence of new applications, ready to step in with new methods of providing local service.

A similar dilemma will confront the Commission if applications are received for "superstation" delivery via DBS. In this instance, a widely distributed station, like CHCH Hamilton, could start to upset the delicate economic balance which exists in local markets. Both the CTV disaffiliation process just described, as well as the superstation concept, could draw national and regional advertising away from local markets and thus seriously undermine a local station's ability to survive on the basis of advertising revenues.

Confronted with this possibility, a natural tendency will be to protect the status quo since it at least represents a proven situation, where a level of experience has been acquired and no risks are involved. On the other hand, local radio, particularly private radio, is presently providing a valuable local service, and in the CBC case it may well be more appropriate to concentrate on regional and national programming services to the virtual exclusion of local television service.* In the light of this, can one realistically afford to risk the demise of private local television stations? The answer to this probably lies in the public reaction to both the potential and actual loss of local private television service. While it seems likely that local communities will not wish to be deprived of local television service, it is not clear what level of alternatives they may be willing to accept. For example, radio will obviously be able to maintain an important existing level of service as well as possibly increasing local items. In many

*This idea was explored at some length in CRTC decision 79-320 which renewed the CBC's television and radio network licences.

communities, both large and small, cable systems are already providing a form of local television service, often far more extensive than that provided by local television stations. In many communities, the community channel on cable has become, in effect, the local television station. One solution would be to allow the local community cable channel to be redistributed off-air to replace conventional television service. This, of course, presupposes that no new applicants would come forward to provide service on the disaffiliated network stations. In fact, there may well be applicants willing to come forward to operate these stations at a different economic level, relying on far lower levels of advertising revenue.

Even at the present stage of system development, it would be useful to hold public hearings and/or enquiries to ascertain what forms of alternative local services might be provided, and to assess whether new private entrepreneurs or local community organizations would seek to provide services.

The clear implication of this is that new DBS type services should not be delayed or abandoned merely because existing services might be affected. The situation which is developing is likely to be far more productive of effective local service alternatives than was the case before cable television, or DBS, existed.

As has been evident in the other cases examined, it does not appear to be realistic to try and protect present practices at all costs. While the importation of distant Canadian signals into local markets has long been seen as a threat to the economic viability of local services, such a threat has been assessed on the basis of existing forms of local service provision. DBS could pave the way for new types of local services, and the introduction of a Canadian Superstation concept could increase, rather than reduce, the Canadian content performance of the system by creating a larger revenue base for new Canadian national and regional programming activities.

The Superstation concept is in any event part of a recognizable new trend in program service provision made possible by satellite distribution. Although first identified in the U.S. in relation to cable distributed domestic satellite program services, it is fast becoming an important element in European planning for DBS.

For example, Jim Shaw, Director, Sales and Marketing, Thames TV, London, England, and Chairman of the Marketing Sub-Committee of the Independent Television Companies Association, observes:

The companies forming ITV will have to choose whether they are to be confined to the national system or whether they can find some way to rejoin the game being played in an even bigger league....

...it has to be understood that France, Germany, and Luxembourg have effectively taken the decision to become European Superstations.

CROSS-OWNERSHIP: BROADCASTING/CABLE

In recent years, there seems to be a greater openness to the possibility of allowing forms of cross-ownership between broadcasting and cable. In many instances, this change of heart has come somewhat too late, in that it would probably not be too practical to contemplate major adjustments now, given the maturity of both the broadcasting and cable industry. The kind of restructuring that DBS might promote could, however, provide new opportunities for the implementation of types of cross-ownership. For example, in order to maintain local service, it might be practical to consider the acquisition by cable of off-air transmitters. Similarly, a local television station operating with a new local programming philosophy might wish to operate a community channel type service, both on its local transmitter and by the use of free or leased access to a local cable facility. Further contemplation of new approaches might even suggest that cross-ownership between local cable and radio would be more effective. Many cable systems are presently working with a radio station, often because cross-ownership already exists, and in the past, the CRTC has received requests from radio stations to program community channels on cable.

The question of patterns of ownership is, however, complex. Aspects of the issue of ownership concentration were explored as part of a report conducted by the University of Windsor in 1979. In part, the report made these observations:

For example, the National Film Board's involvement in the Challenge for Change concept, and its continued involvement and interest in the evolution of native programming in the north, in conjunction with the CBC, suggest that it might provide a useful role in exploring, and even in some cases underwriting, the cost of local service provision. This latter example demonstrates how many other existing institutions, not presently connected directly with broadcasting, may be able to evolve new roles in the light of DBS.

DBS AND EXISTING POLICIES AND PRACTICES

There are several existing policies and practices which need to be examined in the light of DBS's introduction.

a) Simultaneous Program Substitution

At present, cable systems are required to undertake simultaneous program substitution at the request of a broadcaster. While private broadcasters use this facility quite extensively, the CBC has not elected to use it. The technique has been successful in repatriating viewers to Canadian stations. On the other hand, it is a relatively complex technique, prone to error, and open to considerable public criticism because the substituted Canadian programs carry more advertising than do the American programs which they replace.

If, however, new Canadian programming services using U.S. programs are introduced on a DBS system, the need will continue to exist for program substitution, particularly if protection is to be afforded to local stations. This, however, raises some interesting questions. For example, if a Canadian superstation is imported into a local market, then presumably the local broadcaster will have the right to substitute its program for the same program being brought in via the superstation. This would merely be an extension of the existing principle used with American stations.

One might also contemplate a somewhat different approach, where simultaneous program substitution would not be applied, and where both the superstation and the local station would have to decide whether they wish to program against one another or not. Such a situation might not necessarily result in more Canadian programming, but it might provide overall programming diversity to the viewer.

The superstation would presumably still need some protection against U.S. network programs on U.S. stations carried by cable, but it would be practical to consider blacking out the U.S. stations programming when it occurs simultaneously instead of substituting the Canadian program.

The existence of an improved signal via DBS, and the likely increase in program services generally available at the time of DBS introduction, would tend to reduce viewer irritation with the blackout procedure.

Overall, it seems that program substitution will remain as a necessary evil even though it would be advantageous if it could be discontinued. While this is impractical unless the present system is changed to include, for example, a central buying and distribution agency* for foreign programs, which might reduce or obviate the need for cable to carry U.S. stations, the arrival of DBS will force a major re-examination of current program marketing in any case. This is explored further under Program Exclusivity and Copyright (see pages 134 & 136).

In any event, if DBS increases the possibility of introducing local delivery systems into small markets, presently poorly served, the cable systems will be of such a size that they will probably be excluded from the simultaneous program substitution requirement.** Thus, the problem remains largely one affecting the larger markets.

b) The 3 + 1 Rule

At the present time, the CRTC limits cable systems importing U.S. signals via microwave to three commercial and one public service station. The three U.S. commercial services involved are ABC, NBC, and CBS and the non-commercial PBS service. Thus far, the Commission has not

*A concept of this type is included in the Griffiths Report which outline a plan for the restructuring of the present off-air system.

**A recent amendment to the Cable Television Regulations exempts Class B Systems (those serving under 3000 subscribers) and Class C Systems (those serving more than 3000 but less than 6000 subscribers) from the simultaneous program substitution requirement.

applied this rule to satellite delivered U.S. program services. Furthermore, even if it did adopt it, it would most likely restrict the definition of commercial and non-commercial stations to those already described.

There would seem to be a strong argument for considering satellite delivery in exactly the same way as one considers terrestrial microwave delivery. In other words, satellites are simply another means of program distribution. Given this circumstance, it would seem logical to apply the 3 + 1 rule broadly to all services delivered at a distance.

This is not to suggest that foreign services should be brought in unless appropriate Canadian services are available, but that the 3 + 1 rule, or any subsequent rule, should be applied with some overall consistency. Furthermore, in the interest of allowing remote populations at least the possibility of equating their services to those available to southern Canadian population, the 3 + 1 rule should perhaps not be limited to the three established U.S. networks and the PBS service, but could be broadly applied to commercial U.S. services available via fixed satellite and DBS facilities.

Such an approach would likely encourage the use of local cable distribution facilities and increase viewers to the Canadian DBS signals since they (DBS signals) will presumably enjoy priority carriage.

While appearing to encourage more U.S. program viewing, this approach could keep more viewers allied with Canadian licensed services and reduce direct reception of U.S. signals.*

c) Audience Fragmentation and Program Siphoning

The introduction of cable, pay television, and a variety of special programming services (via cable) has greatly increased concerns on the part of broadcasters as to the adverse effects of audience fragmentation. As well, the possibility that some programs presently on "free" over-the-air television could be "siphoned" on to subscription services is seen as reducing the value of the services offered by existing broadcasters.

Without wishing to ignore such concerns, it is felt that most recent studies have shown that, while audience fragmentation exists, its impact on present broadcast services is unlikely to be severe even when new DBS services are introduced to supplement present broadcasting and cable services.

In any event, audience fragmentation is inevitable if the public is to enjoy more program choice.

As regards siphoning, it is difficult to determine its impact in advance of a new service being offered. As a consequence, it is felt that regulations and policies to control siphoning should only be considered if actual damage is being caused.

*In Europe, which has a relatively low cable penetration, DBS is generally seen as a major stimulus to the growth of cable.

d) Copyright

On July 16, 1981, André Ouellet, the Minister of Consumer and Corporate Affairs, and Francis Fox, the Minister of Communications, announced that they had requested their departmental officials to work closely together to prepare legislative proposals to revise Canada's Copyright Act within the next twelve months. Subsequently, on July 21, 1981, Mr. Fox announced that John Hylton, Q.C., a Toronto Lawyer, would head a D.O.C. team that will study the relationship between copyright law and cultural policy objectives, and help prepare legislative proposals for revising Canada's Copyright Act.

These developments are obviously very timely in that the present Copyright Act has not been revised since its introduction in 1924, and the emergence of many new forms of program distribution is posing many problems.

While the redistribution by cable of signals received off-air has already raised critical questions in relation to the use of original works, the matter will be further aggravated by the introduction of DBS. For example, if a signal is picked up off-air and redistributed by DBS to the public, there is presently no provision under Canadian copyright law which would protect the original copyright owner against such utilization of the program.

The implication of such factors is all too obvious. More and more, the facility exists to utilize original works without the owner's consent and without due compensation, a process which in the end can only lead to dwindling sources of revenue to the original program creators. The expanding technology in the system, far from assisting the development of original works, is in fact greatly increasing the possibility of a major reduction in original programming.

In the U.S., steps have already been taken to require cable systems to make copyright payments. These payments are collected by a copyright tribunal and then redistributed to the owners of the original works involved. While such a system has been investigated for Canada, there are many difficulties, not the least of which is the fact that a major proportion of the works being distributed on our system are of American origin. Thus, any generally applied copyright payments scheme would greatly benefit U.S. program suppliers. While Canadian program owners would be compensated, on the basis of fair use, the monies going to the Canadian production industry would be far less than those flowing out of the country to American program suppliers. Various ways have been suggested to overcome this difficulty, one of which is a disproportionate payment scheme, where American copyright owners derive less benefits than Canadian copyright owners.

From time to time, the CRTC has urged the Canadian cable industry to come up with suggestions to resolve the copyright issue, but so far no actual plans have been forthcoming. It is clear that the copyright issue must be resolved quickly in the light of DBS development. If solutions are delayed, then the result will be major difficulties in acquiring the legal right to use programs for DBS distribution, simply because the owners will wish to protect their interests. Even if the copyright issue is resolved successfully, there is no way of ascertaining what sort of cost factors are involved in clearing programs for DBS distribution. Because satellites will permit program distribution over such wide areas, it is conceivable that the rates demanded by program suppliers for DBS distribution rights could be inordinately high. In the long run, much will depend on the market which develops and the way in which a wide variety of different types of distribution opportunity, from videodiscs and videotapes to DBS services, emerge over the next decade.

e) Program Exclusivity

Broadcasters have long argued that there should be some form of program exclusivity protection for those programs which they have purchased in relation to a given market. In essence, program exclusivity protection would not enable another program distributor or exhibitor who has not obtained the right for that program in that market, to show it in that market. The simultaneous program substitution policy respects the program exclusivity concept, however, it does not really go far enough in that it does not protect the local broadcaster against the showing of programs distributed non-simultaneously.

The only way such protection could be provided would be to require cable systems to black out all those programs for which rights have been obtained by the local broadcaster for showing in the local market. While this might appear to be a further, and even more onerous, example of a form of control being applied to the public's right to view programs, the ever increasing range of programming available to the public would seem to strengthen the argument for more effective means of protecting the original program owner's rights in the distribution of programs.

While the simultaneous program substitution policy affords protection to the program "rights" holder, its introduction was based on maintaining audiences to Canadian stations.

As has been discussed in the preceding section on copyright, protecting the "rights" of the owner of a work becomes increasingly more difficult as newer systems of distribution like DBS are introduced.

A revision of the Copyright Act will afford greater protection to "rights" holders, but it does not provide the total solution, since remuneration to "rights" holders is also based on marketing strategies. This issue is addressed in the July 1981 issue of Inter-Media, the Journal of the International Institute of Communications.

...the commercial concern for proper remuneration does not depend on copyright territoriality. The territory is only relevant because the royalty arrangements in the licensing contracts are based on the estimated income from a given area covered by the licensed exploitation. If it can be expected that a film shown on German television will be viewable in all the homes of Belgium (via Cable Television) the licensor has only to take that into account in his fee bargaining. Of course, he will then have difficulties with his Belgian theatrical distributor who will expect more favourable terms or a bar on concessions being granted to peripheral television stations (just as similar bars are imposed on supplying films to competing local cinemas). The point is that in the final analysis this is not really a problem of copyright law but rather a matter of altering a firmly set pattern of marketing to adjust to new conditions. Copyright law is only responsible for ensuring that the author (or his assigns) receives proper remuneration for the copy of the performance) all the rest is marketing. This point has had to be grasped and accepted already in radio broadcasting. The negotiation of radio rights for the transmission of a play or a piece of music must take account of the potential subsidiary audience abroad, whether or not that makes any difference to the fees in practice.

These factors will not only complicate the process of developing program schedules for DBS, since "rights" costs could be higher than those presently negotiated for conventional television, but it will be a major factor in the licensing process since program suppliers are unlikely to provide advance guarantees of program availability until the "rights" question is clarified.

SPECIAL PROGRAMMING SERVICES POLICY FOR CABLE AND DBS

If, as seems highly probable, Canadian cable systems eventually introduce a multiplicity of new types of programming services, both available on a free as well as on a subscription basis, it will be important to correlate the effects of policies relating to these services with those being developed for DBS. For example, if a pay television type service is delivered through a DBS system, then the question arises whether a cable system will be required to carry such a signal, assuming that it is a Canadian signal, and the condition of such carriage. Another question is whether a cable system could receive and descramble the incoming DBS signal and redistribute it over its cable system without prior authority. At first sight, it would appear that the answer to this question is no, simply because the act of descrambling the signal would constitute a change to the received signal.* On the other hand, if the cable system merely redistributed a scrambled signal, in other words left the signal unchanged, is it dealing with a signal "intended for direct reception by the general public"? Could this not be classed as a closed-circuit service? While the CRTC would presumably still be able, as a condition of the licence issued to a cable system, to require it to obtain regulatory authority for the redistribution, it may be questionable as to whether it is strictly a broadcast signal.

*The present Cable Regulations state (Section 18): "No licensee shall alter or curtail any signals in the course of their distribution, except as required or authorized by its licence or by these Regulations."

If a number of new services different from those currently available on cable television systems are offered via DBS, then there will be a strong inducement for a cable system to incorporate these new services into its overall cable service offerings. If the cable system was offering tiered rates to subscribers, it might wish to include the DBS signal, whether free or of a subscription type, into the fees being charged to its cable subscribers. In view of this, it will presumably be necessary for the CRTC to develop a policy which would set out the conditions under which DBS signals are redistributed by cable television systems. If subscription services are involved, i.e., DBS subscription services, then arrangements will presumably have to be made by the cable system to refund the DBS subscription program service originator in some fashion. This situation is analogous to that which will occur with the distribution of pay television services from a central source, where the cable system becomes an affiliate of, say, a pay television service, and therefore, contracts to return a proportion of its revenues to the pay-TV program service originator.

While the foregoing situation is directly analogous to that which exists when cable redistributes terrestrial broadcast signals, there are aspects of the situation which reveal important differences when the signals originate from DBS. For example, as earlier sections of this report indicate, the primary method of distributing DBS signals in Canada will be via cable. Consequently, DBS, unlike the terrestrial broadcaster, is unlikely to have a sufficiently large operating audience base unless it obtains cable

distribution. If, therefore, cable simply took economic advantage of the redistribution of DBS signals, without some compulsory remuneration scheme to the DBS service provider, it is unlikely that marketplace economics will favour the support of the DBS service. While this is perhaps not quite as difficult in a "free" over-the-air DBS signal distribution situation, where the service is supported by advertising, it will be of critical importance in those cases where DBS subscription services are involved. Presumably, in the case of "free" DBS signals, the DBS program supplier will have to negotiate rights with the program owners which take into account the cable redistribution as well as the directly received signal. The question then arises as to whether it is legitimate for the cable system to ask its subscribers to pay an additional fee to obtain this service. As well, would the rights holder have any justification for asking for compensation from cable systems if they charge an extra fee for the redistribution of the free DBS signal, say, as part of cable tiering?*

Cable systems could be required to carry DBS services on a basic "free" cable television service. Such a free cable service might be part of a tiered system offering many levels of service at different subscriber rates.**

*This also raises the question of whether cable should be obligated to carry the DBS signal, and if so, whether it, cable, could charge a leasing fee to the DBS programmer.

**In a recent statement, the President of the CBC, A.W. Johnson, talked of tiered cable services. He said: "The first tier, or basic service, would be offered at very low cost (or no cost) and would carry Canadian services including our own CBC networks and the private networks and stations. The second tier would carry American networks for which a charge would be made....The third tier would carry Pay Television Services...."

Another question which arises is whether special programming services developed by cable systems, where the cable systems are originators, should be redistributed by DBS. This raises again the question as to whether cable licensees should be allowed to originate programming, i.e., become broadcasters, by using the DBS facility. Thus far, the CRTC has applied strict limitations to the origination of programming services by cable licensees. On the other hand, there would seem to be some justification for allowing Canadian programming services developed by cable licensees to be distributed nationally or regionally via DBS to enlarge the exposure of Canadian materials. For example, the multicultural* and childrens programming services developed by specific cable television systems could be of general interest to the Canadian public and would seem to constitute valid DBS services. Whether or not they should be delivered free or via subscription would depend on the economics involved. If the existing practice of prohibiting cable systems from supporting programs via commercial advertising is continued, would the provision of a subscription type service be an acceptable alternative?

In these circumstances, the question also arises as to whether the monopolistic position of cable requires the limitation of its function to that of a carrier, in order to reduce cable's monopoly over both the means of distribution as well as the means of program origination. A solution to this problem could be the setting up of

*Such service could also be provided by a Multicultural Superstation.

"arms length" production companies separate from the normal cable operation. It can be seen, however, that if DBS space is available to program originators on a first-come-first-served basis, then a variety of program suppliers would presumably wish to access this facility. It seems appropriate, therefore, to consider cable television systems, whose interest will likely be increasing in respect to the provision of a variety of new programming services, to be valid applicants for DBS channel space.

EDUCATIONAL SERVICES

DBS will provide an important facility for educational service development and extension. The current interest in "distance" learning, bringing courses to people unable to attend regular learning institutions, puts satellite delivery in the forefront since it promises greatly extended coverage at reasonable cost.

The provision of educational services via off-air and cable are governed by Orders-in-Council P.C. 1970-496 and P.C. 1970-992, dated March 19, 1970 and June 4, 1970 respectively.

P.C. 1970-496 defines educational broadcasting and as well requires the CRTC to reserve an educational channel on cable systems.

P.C. 1970-992 directs the CRTC to license only independent educational authorities who are not agents of Her Majesty in the right of any province.

Educational authorities like OECA, and Radio Québec, utilize both off-air and cable distribution. Cable distribution of their off-air signals is protected by the Cable Television regulations, Section 6(1)(b) which requires that: "...the signals of all local television stations owned and operated by an educational authority and broadcasting educational programming" be carried, as a priority, on the basic cable service.

Furthermore, the Cable Regulations provide for the distribution of educational materials via closed-circuit cable distribution. (ACCESS Alberta is an example of an educational authority which uses closed-circuit distribution.)

Section 6(3) states:

Where no signals described in paragraph (1)(b) or (e) or (h) are available to the licensee from a television station owned and operated by an educational authority of the province in which the licensee is licensed to carry on its undertaking, the licensee shall reserve and provide on its basic service a channel for the distribution of the educational programming of such an educational authority.

At present then, a cable licensee is obligated to provide only one educational channel for the use of the designated provincial authority.

Some speculation as to future needs is appropriate here. Clearly, the Cable Regulations will need to be changed to provide for the priority carriage of DBS educational signals. But one could also envisage several forms of delivery occurring at once. For example, there could be a local closed-circuit cable delivered service; a regional DBS delivered service, and a national service.

Furthermore, present and past experience has shown that the educational programming definition needs updating to more effectively reflect the kinds of educational programming services now being provided.

As is the case in so many other situations, the considerations leading to the introduction of DBS would seem to provide an excellent opportunity to review the whole question of educational service provision and the use of broadcasting and telecommunications facilities for educational purposes.

PROVISION OF RADIO AND AUDIO SERVICES VIA DBS

DBS can also be used to distribute radio services. The possibility therefore exists of introducing new levels of radio services for national and regional distribution which could supplement and extend existing services.

In the past, the CRTC has tended to attribute different types of service provision to different forms of radio transmission. For example, the AM regulations differ markedly from the FM radio regulation and policies.* With the increasing capacity of the telecommunications system to provide many more means of delivering radio as well as television signals, it might be prudent to adopt a somewhat more open attitude to the use of various delivery technologies. For example, some aspects of existing AM and FM services might lend themselves better to DBS-type program delivery, and new and more specialized kinds of radio service could evolve. Even existing radio licensees may wish to utilize the potential of DBS. John Hopkins, the editor of Inter-Media, speaks of the situation in the United Kingdom:

There is a growing interest in satellites among some U.K. commercial radio stations. They realize that a private, satellite borne, advertising-funded network of high quality radio might challenge the B.B.C.'s national monopoly.

Although radio services delivered via cable have been slow to develop, the possibility of DBS delivered radio signals could provide opportunities to explore new forms of cable radio service provision. The DBS delivery technology would seem to be most appropriate for specialized sound services such as quadraphonic sound and stereophonic sound.**

*The U.S. has not made such a distinction between the programming services of AM and FM.

**Whereas stereophonic sound recreates a closer approximation of the original sound by reproducing the sounds through two loudspeakers, a quadraphonic system uses four loudspeakers.

Various new possibilities therefore exist for new audio channels, based on newer technologies such as digital sound, either offered individually or in combination with video services. For example, multiple audio channels could be used with single video channels to provide a choice of languages.*

These various possibilities will undoubtedly influence both the regulation and licensing of radio and audio services. As with television, the configuration of the DBS influenced system might suggest a content/carriage separation of radio services. As well, the relatively slow development of cable audio services could be accelerated if larger audiences can be acquired through the introduction of regional and national services.

The use of multiple audio channels with video could result in multiple video channel authorization for cable, since licensees would be able to repeat the video signals to match differing language sound signals.

The preceding examples indicate that there will be many opportunities for the evolution of innovative sound services using DBS technology. Obviously, policy and regulatory practices will have to remain flexible if these opportunities are to be exploited.

*NHK, Japan's national public broadcasting system presently provides this type of service.

NATIVE AND MULTICULTURAL SERVICES

The CBC/Radio Canada has been the primary contributor to native service development, particularly in the North, and as well, has been a contributor to multicultural services, although the relatively low level of its contribution to the latter has often been criticized.*

There is, however, no requirement in the Broadcasting Act that the public or private sectors contribute programming in any language other than Canada's two official languages.

In recent years, both private off-air broadcasters and cable systems have provided a growing contribution to multicultural and multilingual services.

A major issue is whether the CBC/Radio Canada should be required as part of its mandate to specifically serve native communities. This is a particularly important question if the CBC eventually phases out its television affiliates to rely solely on DBS and cable.

As regards multicultural services, it would appear that these can continue to evolve within the principles embodied in the present legislation through public and private sector initiatives, but here too some stronger inducements to provide such services might be appropriate in the light of an expanding broadcasting and telecommunications systems capability.

*However, if one includes both the private and public sectors, multilingual and multicultural services available across the entire system are substantial.

VIDEOTEXT SERVICES VIA DBS

A DBS system greatly increases the possibility of achieving suitable audience levels for specialized videotext type services. The large population base reached by DBS, coupled with the expanding capacity of cable television, provides an excellent facility to introduce a variety of information and data services in the videotext mode.* A number of questions arise in this connection. For example: What specific conditions of access should be established for videotext data providers? Should they be allowed access on a first-come-first-served basis, and will regulated tariffs be adopted for use of transponder space? How about the security of the data and information carried on the system? Many of these questions are, of course, common to both terrestrial and DBS modes of delivery. For example, this is an area where competition between the telephone companies and cable systems will likely be most intense. Will these two groups be able to access the DBS facility, and most important, will they be in a position to be information providers? One solution already discussed earlier in this report was to contemplate the setting up of "arms length" entities to provide the information and data services. Since information providers have a similar function to program exhibitors, should they too be licensed, or registered, in some way?

*Broadcast Videotext is often referred to as Teletext.

EXPERIMENTAL USE OF THE DBS FACILITY

It is clear that the Telecommunications Bill C-16, as did the Broadcasting Act before it, places great importance on the facility to undertake experiments. The DBS distribution system seems to be a particularly appropriate facility to provide a variety of experimental situations. Some of the services which fall into this category have already been described, but it would seem to be important to not only provide the space to facilitate experiments, but to actively encourage them by various regulatory and policy devices, and by industrial and other incentive programs. A much discussed possibility is the introduction via DBS of high definition television service. This would seem to require a high level of international cooperation in order to avoid the possibility of incompatible standards emerging which would not only slow the development of such a service, but greatly increase its overall cost.

From the regulatory point of view, such developments would involve the issuing of experimental licences for service provision, and the development of technical specifications to facilitate technical compliance, for licensing in accordance with the Radio Act.*

*It should be noted that both the U.S.A. and Japan already have plans to use DBS for wide ranging experimentation in high definition television and other new video and sound distribution techniques.

FEDERAL/PROVINCIAL JURISDICTION AND POINTS OF CONTROL

Consideration has already been given to the impact of DBS on constitutional issues, particularly in reference to the matter of provincial and federal jurisdiction in relation to broadcasting. There would seem to be little doubt that a direct broadcast satellite service involving the use of hertzian waves would fall naturally into the domain of federal jurisdiction. Given that a Canadian DBS service would rely heavily on cable redistribution, the question arises as to the implications of this if the provinces eventually assume some degree of control over local cable distribution systems. Reference has already been made to the Manitoba agreement and the possibilities that exist for a separation of content and carriage, with federal control vested in the programming content. Even if such a simplistic division was possible, however, there would still be the question of the rates charged for the cable service. Presumably, this is one area where the provinces would wish to assume a major element of control. If current federally regulated carriers such as Bell eventually fall under provincial jurisdiction, the tariff issue becomes of general importance in considering the conditions under which DBS signals will be redistributed.* Obviously, it would be important to retain the lowest possible rates to the subscribers for redistributed DBS signals. Already, the matter of a "free" basic service containing the DBS signal has been discussed. Obviously, if subscription rates are allowed to increase in the interest of

*In relation to the indirect impact of separate policies, provincially regulated telephone companies have recently expressed concern about the effect on their operations of policies adopted in relation to federally regulated carriers. An example is the interconnection issue.

cross-subsidizing, say, telephone extensions, then there would be not only a net loss to potential revenue for programming activities, but the provision of the local cable service may become less attractive to the public as a whole.

There would also appear to be some potential problems in respect of program content control in that some provinces, possibly Québec and Ontario, would wish to exercise a degree of control over content. Whether it would be practical to define those areas of content which come under federal, and those which come under provincial, control is a matter of conjecture. It may well be that joint regulatory processes will be required in some cases. The matter becomes particularly complex when the originating services combine both closed-circuit distribution and redistribution via hertzian wave systems such as DBS.

THE IMPACT OF U.S. REGULATORY POLICIES

As has been discussed earlier, the evolution of U.S. DBS services will have a profound effect on the Canadian broadcasting and telecommunications environment. Already there are clear indications that a number of free DBS services will be introduced in the U.S. having sufficient signal strength, and with coverage patterns, that will permit broadly based reception of the signals throughout Canada. Not only does this raise once again the question of the damage which might be caused to Canadian social and cultural objectives, but it also raises the question of the public's right to receive programs and the compatibility of technical systems.

If, for example, Canada opts for a somewhat lower powered DBS service, yet the U.S. provides high power service requiring small diameter dishes, the possibility exists that the public could buy the cheaper dishes on the open market and thereby serve to greatly weaken Canada's ability to sustain a different technical system. The other and more sinister implications are of course the public's increased ability in such circumstances to gain access to more U.S. programming.

While there appears to be some ground for international agreement on the subject of signal reception in adjoining states, nevertheless, there seems to be little hope of curbing an individual's opportunity to receive foreign signals if he or she so desires. In view of this, it is unlikely that the solution lies in more regulatory and licensing controls, because of the simple impracticability of administering such a process.

P A R T 4

FOREIGN DBS DEVELOPMENTS

FOREIGN DBS DEVELOPMENTS: THEIR POTENTIAL IMPACT ON,
AND INTEREST TO, A CANADIAN DBS SYSTEM

a) The Influence of U.S. DBS Planning and Policies

The United States is presently caught up in a major move towards the lessening of government regulation. The impact is being felt in many industries: for example, airline deregulation has already made significant changes to the way airline services are offered and the prices charged for those services. In broadcasting and communications, a trend towards deregulation has been evident for some time. For example, during the 1970's, there was a considerable lessening of the cable rules with such changes as the dropping of the requirement for the programming of local origination channels, the easing of the restriction on distant signal importation, the elimination of certificates of compliance, and the virtual total removal of the restrictions on pay-TV service, both in its cable delivered form and in the over-the-air mode.

In 1975, the dropping of the restriction on the ownership of earth stations brought about a major increase in the delivery of cable programming via satellite.

Considerations of direct broadcasting satellite services are therefore being made in a climate which strongly favours minimal regulation and increased competition. Perhaps the most significant factor is the change from what might be called predictive policy-making to experienced-based policy development and planning. Put simply, the attitude is that

newer systems are so complex that it is simply impossible to predict in advance the most suitable policy approach, therefore, it is more realistic to allow the system to be put into operation and then to assess what policy control might be necessary to ensure that it provides an effective service to the public.

At this time, the FCC is considering applications for a number of DBS services. The following represents those applications selected from an original list of some 13 applications:*

- . CBS High-definition television service to individual and community antennae. Videotext service.
- . RCA Conventional and high-definition television for RCA's own networks and others.
- . Western Union Leased wideband television service to selected customers. Test on advanced Westar Satellite.
- . COMSAT/STC Satellite pay-TV broadcast service.
- . Graphic Data broadcasting and video.
- . U.S.S.B. (Hubbard) Advertiser supported T.V. for community and individual users.
- . DBS Corporation Common carrier service. Time zone service and spot beams on major population centres.
- . V.S.S. Scrambled service free to individuals unable to receive from a local television station or cable system.
- . Focus (Partial application accepted) Seeks to offer service on Advanced Westar Satellite transponder leased from Western Union.

*Based on data from Satellite Week and the F.C.C.

As this listing shows, the F.C.C. seems willing to explore an almost unlimited range of designations for DBS. It could, therefore, be classified as broadcasting, a common carrier, or some variant of these two. Particular emphasis is being placed on the experimental nature of the DBS concept.

Since all of these considerations are taking place in advance of the 1983 RARC Conference, which will assign satellite orbital positions and set technical operating criteria, the F.C.C. will probably approve these applications on condition that changes be made at a later date to accommodate the outcome of the RARC meetings.

In contrast to the situation that existed when cable was introduced, and when broadcasters mounted a successful lobby claiming that cable would seriously damage their revenues and services, there is now ample evidence available to dispute the accuracy of these claims. Furthermore, studies assessing the impact of DBS on existing broadcasting services conclude minimal audience losses.* However, these studies do not include cable redistribution of DBS signals.

The broadcasters are generally opposed to the F.C.C.'s proposed treatment of the DBS applications. For example, they are strongly opposed to a relaxing of the rules governing broadcast services so as to permit "interim" authorization of DBS services. Furthermore, some broadcasters** claim that authorization of DBS would conflict with an F.C.C. responsibility to maintain local broadcasting services.

*Studies by Arthur D. Little Inc. conclude that a DBS penetration of 16% (considered to be a maximum penetration) would cause a 3% audience diversion from local TV station audiences. Even at an unlikely 25%, DBS penetration audience diversion would only be 4%.

**This includes, among others, the ABC, CBS, NBC, and the National Association of Public Television Stations.

In the light of the foregoing, the Hubbard Broadcasting* Plan for DBS is of considerable interest. It proposes to introduce a "free" DBS service supported by commercial advertising.

Local independent television stations would be invited to become affiliates of the DBS network. These affiliates would receive and retransmit the DBS signal, although they would be free to establish their own local program schedules based on a combination of DBS and local services. The affiliates would also be compensated for local audience losses as a result of households electing to take the DBS signal directly off-air.

The proposed system will sell national advertising and will make advertising spots available to member stations. All member stations in the top 50 U.S. markets will be required to have an uplink facility.

The Hubbard Plan tries to exploit the advantages of DBS while retaining the local broadcaster concept and, for this reason, it is of particular interest to Canada.**

*Hubbard Broadcasting has its headquarters in St. Paul, Minnesota. Hubbard has been in broadcasting for many years, having established the United States' first commercial radio station, WAMD, in 1924. It presently owns radio and television stations in Minnesota, New Mexico, and Florida. A detailed review of the Hubbard proposal (Hubbard has now formed a separate company called the United States Satellite Broadcasting Co.) appears in Television/Radio Age, November 30, 1981.

**The F.C.C.'s "Notice of Proposed Policy and Rulemaking" for DBS, released June 1, 1981, deals at length with the impact of the subscriber pay COMSAT DBS proposal on conventional broadcasting. At that time, the Hubbard proposal, based on advertiser support, was not considered. As a result, the impact of the COMSAT proposal is expressed in audience diversion losses not direct diversion of advertising revenues. The Hubbard proposal does not cover this issue, but an F.C.C. Report (October 1980), which studied the feasibility of new television networks in the U.S., concluded in part: "The near term prospects for a fourth over-the-air advertiser-supported network are not bright."

The F.C.C. is proceeding expeditiously to enable interim DBS systems to be approved. In its Notice of Proposed Policy Statement and Rulemaking (June 1, 1981), it identifies DBS as an important new service for the American public, including those in the rural and remote areas that are not now adequately served by the terrestrial broadcast system.

The F.C.C. goes on to postulate the reasons for proceeding with an interim DBS system and, as well, identifies certain guidelines that will be followed:

1. We [the FCC] believe that our approval of one or more DBS applications would be consistent with the United States basic negotiating posture at the RARC. Both WARC-77 and WARC-79 anticipated that Region 2 countries might wish to implement interim DBS systems. The resolutions and provisions of WARC-77 and WARC-79 governing the 1983 RARC provide that Region 2 will, in fact, establish a plan for the broadcasting satellite service (DBS) and that this plan will be based on individual reception.
2. To ensure that we [the FCC] maintain our future flexibility, we have attempted to propose as few rules as possible for experimental systems. For example, we propose not to classify experimental DBS systems as broadcasters, common carriers, or private radio services. We believe that requiring a change from one regulatory structure to another (for instance, from the experimental structure we propose to a conventional broadcast or common carrier regulatory structure), would not have a major impact on the profitability of the operation. Consequently, we would not hesitate to make such changes if we believed them to be a desirable means of maintaining competition or enhancing program diversity.
3. The Commission also wishes to encourage experimentation with high definition television (HDTV) systems and with other technologies that might be used with direct broadcast satellites as well. We particularly encourage experimentation with techniques that may result in transmission of HDTV signals in an RF bandwidth comparable to that currently used by NTSC signals. Convertibility between the HDTV and NTSC systems might also usefully be explored in interim DBS systems. While the Commission has made no policy decisions regarding HDTV systems, we will entertain applications for both HDTV and community reception systems, as well as applications for other innovative DBS services, on a case-by-case basis.
4. The recommendations adopted at WARC-77 were based on technology that has since been superseded, and may yield less-than-optimum orbit and spectrum utilization. Therefore, we encourage operators of interim DBS systems to explore the use of recent technological advances such as improved antennas and ground receiver equipment that would allow a lower satellite e.i.r.p. than specified in WARC-77, in order to achieve better orbit and spectrum utilization.

5. We [the FCC] conclude that the Commission can authorize interim DBS systems without causing our negotiating position to deteriorate at RARC-83 and without committing ourselves prematurely to any technical standards or regulatory policies. The Commission must examine individual applications with care, however, to assure that the characteristics of any system authorized are consistent with the likely outcomes of RARC-83, and that they are flexible enough to accommodate any permanent rules or technical standards.
6. We [the FCC] intend to impose on DBS services only those regulatory requirements that are expressly mandated by the Communication Act. We propose no additional restrictions on program content, service offerings, or methods of financing.

NOTE 1: The appropriate statutory provisions will depend on the particular characteristics of the service each applicant proposes, including the proposed method of financing, whether the service would be offered to the general public and the degree of control the applicant would exercise over program content. If the proposal falls within any of the conventional regulatory classifications for radio services, i.e. broadcast, common carrier, or private radio, we will impose the statutory requirements of that service.

NOTE 2: "...in the phase of this proceeding (regulatory and policy evolution) that deals with permanent policies for DBS, we will consider the possibility that subscription direct-to-home programming services should be classified as "hybrid" services rather than as true broadcasting services. The staff has raised the further possibility that, because of the hybrid features of subscription services, the Commission may have the discretion to exempt them from statutory provisions that were intended to apply to conventional broadcasting services."

7. Proposals to reserve time for specific uses* or to impose access requirements would both require the system operator to relinquish control of programming, and we believe that both would be undesirable. With substantial restrictions on programming, the service provided may appear much less desirable to the public. The expected demand for the service, and the expected return on investments in the system, may be so small that entrepreneurs will be unwilling to invest, and the service may never be initiated. This problem will be particularly severe for an initial system.

Comment

The most striking aspect of this approach is the extent to which it departs from a basic protectionist policy towards off-air broadcasting. While the FCC is reserving the right to step in if local broadcasting service is adversely affected, it has accepted that competition in video services can be beneficial and the advantages likely to accrue to the public far outweigh the disadvantages. The FCC is also accepting the limitations inherent in having one entity (the FCC) pass judgements on the kinds of services which the public should receive, especially if such judgements must be rendered before a new service has been actually introduced. By retaining the facility to regulate after the fact, it can pass the risk to the entrepreneurs and at the same time give free rein to new ideas.

*Educational service was a specific example given.

Overall, the regulatory philosophy appears to conclude that with such a wide range of services now being developed, that far from being deprived the public will have an adequate and almost overwhelming range of program sources from which to choose from. In the light of this, the arguments made for sustaining a competitive situation are felt to be consistent with the public interest.

Other Factors

The U.S. attitude to the reception of satellite signals makes an interesting comparison with that of Canada's. For example, according to the FCC, there is no law which enables the government to move against persons who erect earth stations to receive either the 6/4 Ghz or the 14/12 Ghz service. Thus, it seems that any individual or group wishing to invest in suitable earth receiving equipment is given free access to the signals presently available without the necessity for licensing.* In essence, this is a further reflection of the "open skies" policy which has enabled the development of the domestic fixed satellite service (DOMSAT).

At present, some 25 U.S. fixed satellite systems have been approved for construction with 20 of these given approval for launch.

*Licensing of the Earth-Receive Terminal is however required if it is connected to a local distribution system, such as cable or MDS, or is rebroadcast.

This concept of staged approval, often with specific conditions permitting pre-emption if higher priority needs for spectrum or service use arise, is a further reflection of the more flexible attitude to system development.

Although there are no limits on the ownership of uplinks, a licence is required to operate the facility.

While certain other trends in regulatory policy seem somewhat removed from the DBS considerations, they could have a major impact on local delivery systems. For example, the entry of the telephone carriers into cable seems to offer advantages in remote areas since cross-subsidization of telephone and cable service would reduce costs. In programming, there is evidence that the networks are looking to diversify their methods of program delivery and in the process becoming more like program producers than broadcasters. The proposed CBS cultural channel and the ABC Arts channel are examples of this trend. This could move the distributors of local services, such as cable systems and off-air broadcasters, to become program packagers selecting their program material from a variety of sources and delivery systems.

For the average household, the issue will still be: What do I get for my investment? In the case of DBS, the question is whether the public will go to the expense of adopting a new system. While those households with limited service will likely welcome the extra programming choice, the decision for people in areas with a variety of existing services will be far more difficult.

For this reason, the current U.S. DBS philosophy seems to favour high transmitted power so as to reduce the cost of the earth receiving equipment.

The composition of, and the sources of, programs for DBS follow a pattern similar to that observed previously with pay-TV. It would seem that most DBS systems will use existing program materials configured in such a way as to provide an alternative type of service to that available from conventional broadcasters. There are indications, however, that DBS licensees will develop special programs as soon as an appropriate subscriber base and revenues are available.

It is also clear that, while there is considerable emphasis on serving rural and remote areas, the services will also be oriented towards urban audiences as well.

The proposed relationship with cable is of interest. COMSAT is arguing that it will not have an adverse effect on cable and in fact is making much of its plan to reach some kind of affiliation agreement with cable systems enabling them to redistribute the DBS program service.

It should be noted that the U.S. DBS applicants also intend to offer data service such as videotext or teletext. Such trends are interesting in that they clearly envisage the possibility of a three-way competition for data services between telephone companies, cable companies, and DBS operators.

b) Developments in the United Kingdom

(i) Broadcasting Policy

The British study exploring the introduction of DBS in the United Kingdom is interesting for Canada in that it explores at some length the kind of service that DBS will provide and the kinds of organizational structures that might be established to operate the system.* Because Britain now operates both publicly and privately supported television services, the various approaches which are examined are most relevant to the Canadian situation. As well, unlike most other European countries who intend to use DBS to distribute existing television services, Britain is concerned that DBS be used to increase the diversity of programming services available to the public.

This search for diversity in programming has been evident throughout the evolution of broadcasting services in the United Kingdom. For example, in public television, the BBC 2 service has been used by the Corporation for program initiation and experimentation and, though complementary to BBC 1, is different in character and in audience. In private television, the establishment of the Independent Broadcasting Authority (IBA), formerly the Independent Television Authority which was established in 1954, brought about the introduction of commercial television. Because

*See Direct Broadcasting by Satellite, Report of a Home Office Study, Her Majesty's Stationery Office, May 1981.

the BBC is wholly publicly funded, the IBA represented a system operating on an entirely new basis. Unlike the BBC, the IBA does not make programs. Like the BBC, the IBA owns the transmitters and broadcasts the programs. The programming for IBA comes from independent program contractors. These contractors rent space from IBA and are in turn allowed to carry advertising in their programs.

At present, a fourth television channel is being introduced which will be run by a subsidiary of the IBA. The aims set out for this new channel are of interest:

The service should have a distinctive character of its own; ...the programmes should contain a suitable proportion of matter designed to appeal to the tastes and interests not generally catered for by ITV; ...a suitable proportion of the programmes should be of an educational nature; ...innovation and experiments should be encouraged in the form and content of programmes; and also that a substantial proportion of fourth channel programmes should be supplied by independent producers.

The main feature of broadcasting policy in the U.K. is that

...broadcasting services should be provided only as public services and only by public authorities which have been specifically set up to act as trustees of the public interest in broadcasting; which are appointed by, or on the advice of, the Government of the day; which are accountable through the responsible Minister (now the Home Secretary) to Parliament; and which are independent of the day-to-day conduct of their undertakings, in particular in relation to the content of programmes.

Thus, both the BBC and the IBA are public corporations, a fact which gives them a measure of independence while ensuring that program services are provided as public services in the public interest.

With this well established tradition, it is not surprising that the approach to the provision of DBS service is following a similar pattern. For example, the Home Office Study states:

The addition of new outlets to our broadcasting system offers opportunities for increasing not only the number of programme services available to viewers, but also the range of programmes; for different approaches to familiar subjects, and for tackling new subjects--in other words, new outlets can increase viewer choice both quantitatively and qualitatively and provide new opportunities for programme makers. Additional outlets, however, also create certain risks, associated primarily with the financing of both the existing and the new programme services. All broadcasting services compete to some degree for audiences; audience size is an important measure, though not the only measure, of the success of a particular programme or service. However, if competition for audiences were to become, or were allowed to become, the dominant factor, while the choice of services available to viewers might increase in terms of the *number* of programme services available to them, there is a risk that the *range* and *quality* of programmes across the various broadcasting outlets might be reduced. This risk seems greater the more new programme services have to compete for the same sources of finance with each other, with the existing services, or with both.

It can be seen that the U.K. broadcasting policy already holds considerable flexibility in relation to such concerns. Not only is there a clear and unambiguous distinction between public and private services, but both are directly administered by public authorities.

Consideration is also given to community versus individual reception of DBS. While the possibility of relying on local distribution systems is deemed to be attractive because of the lower power and lower satellite transmission costs, and as well the avoidance of environmental harm (the proliferation of individual dish antennae) and the possibility of better reception through the more sophisticated receiving equipment used, say, by cable, the conclusion is that individual reception is preferred.

The key reasons given are:

- It would permit unserved areas, and areas without cable, to receive an improved service.
- It will be more likely to provide the British equipment industry with an opportunity to exploit international markets.
- If other countries use the maximum powers permitted by the WARC-BS plan, DBS transmissions at less than full power, even if received by more sensitive and sophisticated receiving equipment, might be susceptible to interference.

From Canada's point of view, the first reason is also of prime importance and given the current debate over power levels, the comments made on the second reason are also of interest:

A second disadvantage of community reception only is that it would fail to provide a home market for equipment for individual reception--a base from which the receiver industry might be able the more effectively to compete in overseas markets. There would be a market for the more sophisticated receiving equipment in which cable operators might be prepared to invest and, perhaps in the longer term, for a new generation of home receiving equipment capable of receiving the many channels which cable would be able to offer, but the market for such equipment may not compare in size or speed of growth internationally with that for individual receiving equipment if high-powered DBS services were to develop world-wide and were to prove popular.

Moreover, if community reception proved attractive, the market for the equipment would develop, albeit perhaps more slowly, even if DBS services were provided at powers sufficient for individual reception. In other words, DBS for community reception-only might inhibit the exploitation of some potential markets, whereas DBS for individual reception would not.

(ii) Services to be provided by DBS

The U.K. study appears to reject the notion of using DBS to broadcast existing services on the grounds that, while they would be a benefit to unserved areas, there would be little incentive for most viewers to acquire DBS receiving equipment. Furthermore, regional or area services do not adapt well to the DBS concept* and only existing national services would be likely to benefit. In any event, it is felt that existing services should not be the first priority for DBS.

While consideration is given to repeat broadcasts via DBS (rebroadcasting existing services at different times of the day), in general, the introduction of entirely new services is preferred.

As the report points out, there has been an increasing tendency to define new broadcasting services in the U.K. in precise terms. For example, the fourth channel content is defined far more carefully than were the earlier services provided by the BBC and the IBA. In considering whether a similar degree of precision is needed in describing the DBS

*Not true in Canada, of course, because of the larger territorial area involved.

service so as to avoid what it calls "a reduction in the range of programmes across all broadcasting channels." The report sees a value in both approaches, i.e., defining the content of the service relatively precisely, and taking a more liberal attitude. It is felt that the latter might encourage more program innovation and may, in fact, lead to the diversity required.

In the Summation of this issue, the report concludes that:

...the extent to which this opportunity would be seized (that of providing diversity) and the risks minimized (lack of diversity) would depend to some extent, however, on who was providing and supervising the new services and what arrangements were made for financing them.

As regards the program standards to be applied to DBS, it is presumed that there will be strong pressure to continue those already applied to existing services and the fourth network. For example, the BBC and the IBA require that some 86% of their programs should be of British (or European Community) origin. It is recognized that this requirement could give rise to difficulties if applied to DBS services consisting mainly of feature films, since there is presently no quota for the showing of films on the BBC and IBA services.*

In addition, the report identifies other important programming issues such as program balance, impartiality in the presentation of news and public affairs, and advertising standards.

*In this connection, it should be noted that operators of pilot schemes of subscription cable television (pay-TV), in the U.K. will be required to adopt the feature film quotas applying to cinemas, i.e., at least 30% British/EC feature films and at least 30% British/EC supporting material.

Interestingly, the report associates many of these controls to the older system, with limited broadcasting outlets and with its necessary preoccupation with a scarce frequency resource. In the light of this, it questions a continuance of older practices with new systems like DBS,* however it does not reject the idea of imposing present standards on a DBS service.

(iii) Providing and Supervising the DBS Service

A key conclusion is that it is not essential to vest the responsibility for the operation of the satellite in the organization responsible for programming. Indeed, it is felt that there are many advantages to be gained by such a separation. For example, DBS might be used by more than one broadcasting service, it might carry other telecommunications services in addition to broadcasting services, and it might be practical to introduce information services to special classes of users, such as business or industry.

Mindful of the key role that DBS can play in extending broadcasting services and fulfilling public service objectives, the report looks favourably on the system already in place where public service objectives are carried out by public broadcasting authorities like the BBC and the IBA. The question is seen to be largely, which arrangement of public authorities is most appropriate to manage a DBS service? Operation by the BBC and IBA singly, or in combination, is

*It is of interest to note that this trend of thinking is evident in the U.S. in relation to the COMSAT DBS proposal. It is also evident in recent practices followed by the CRTC as the relaxing of Canadian Content obligations in relation to pay-TV applications.

one possibility as is the idea of establishing a new public entity. In all of these arrangements, the management of the DBS service, i.e. the program service, is seen as separate from the provision and operation of the satellite transmission system. The latter, it is felt, could be best provided by a common carrier leasing space to users.

In this sense, the concept differs from any used thus far in the U.K. in that the authority running the satellite transmission system is separate from the body which would control the program services.

In the present system, the BBC provides and operates the transmitter network as well as providing the program service. The IBA provides the transmitters and acquires programs from program contractors.

(iv) Financing

The report recognized the great uncertainties inherent in trying to identify sources of revenue for DBS and to assess its financial viability. Various methods of financing are considered including an increase in the present television receiver licence fees, subscription revenues and advertising. Given the relatively small potential audience for DBS, and its probable slow growth, particularly in the early years, it seems most unlikely that a DBS could be financed solely by DBS receiver licence fees, or by advertising. A combination of advertising, subscriptions, and licence fees might be the only solution.

The other unknown is considered to be the attractiveness of the service to advertisers. This will depend on the nature of the programming and the audience reach. In this respect, the spillover effect might be used to reach European audiences. This issue is of course somewhat delicate since European DBS services could invade U.K. markets as well.

While the introduction of a DBS subscription service by any organization other than the BBC would involve new legislation, it is of interest to note that the BBC's new charter will enable the BBC to introduce a DBS subscription service subject to the approval of the Home Secretary.

The general economic situation, as is the case in most countries, does not favour additional large government expenditures at this time. The report believes that several major private industrial corporations are likely to be willing to finance construction of a DBS system and to operate it in a common carrier mode.

Comment

While the U.K. study of DBS involves very different factors than those which exist in Canada, particularly the size of the territory to be served and the dispersion of the population, there are some considerations which are most relevant, especially those dealing with the fulfilment of public service objectives, the nature of the program services, and the kinds of organizations which might operate a DBS system.

c) Developments in Australia

(i) General Considerations

Australia provides some further useful comparisons in considering the possible form of a Canadian DBS service. Australia has the same service problems as Canada with the population concentrated in a few urban areas, mostly near the coast, but with dramatically low population densities in the interior of the continent. Like Canada and Britain, its present broadcasting system is a mixture of public and private interests. Unlike Canada whose CBC relies on part funding from commercial advertising, the publicly-owned Australian Broadcasting Corporation (ABC) is supported entirely by public funds. The ABC, unlike the CBC or the BBC in Britain, does not operate radio and television transmitters; these are provided by the Australian Telecommunications Commission (Telecom Australia).

Australia is primarily interested in using DBS to improve services to the underserved segment of its population. It envisages a multipurpose role for DBS using it to improve health and educational services, to improve point-to-point communications for aeronautical and maritime services, to assist national public telecommunications (this includes public radio and television), and to distribute commercial television programs. The Task Force which studied the implications of establishing a National Communications Satellite System* decided against a high power DBS system. It opted instead for a satellite system capable of providing the national radio and television services (probably one

*Report of the Commonwealth Government Task Force, Australia, July 1978.

channel of television and a radio service) to underserved households and communities via a limited number of high power transponders in a multipurpose satellite providing overall the kinds of services outlined above. There were several reasons for this conclusion:

- The impracticability of expecting that DBS could, "for at a least a generation," replace existing terrestrial services.
- If DBS is to be additional to the services presently available, there is the question of the source of additional programs. If new programs are to be generated and accepted by the Australian people, there would seem to be a need for considerable development in the economic capacity of the television industry and in general viewing habits.
- Submissions received by the commercial television industry expressed a concern about the impact of DBS on regional television services and how such services could be maintained if the present structure of the broadcasting system were, as everyone expects it to be, profoundly changed by DBS.*

*An extensive report prepared by Publishing and Broadcasting Ltd. (formerly Television Corporation Ltd.) envisaged, in essence, the establishment of three commercial networks via DBS, Australia-wide. The plan required some 200 additional commercial television stations with about 150 translator stations. The concept was to be supported by advertising. While the Task Force gave much thought to the plan, it finally rejected it largely on the grounds that foreign experience, notably in the US, has demonstrated that networking does not necessarily achieve greater program diversity nor aid local and regional program service development. As well, the advertising revenue estimates were felt to be overly optimistic.

Weighing the advantages and disadvantages of DBS, the Task Force clearly opted for the prioritization of public service objectives in any DBS plan. For example, it is estimated that more than 80% of the expected use of the first generation system is likely to be by government organizations.

While the commercial television sector would benefit from DBS by using it to improve point-to-point distribution of programs, it was generally felt that the massive changes which would result from a general introduction of a direct-to-home system needed to be better understood before such a system was put in place.

(ii) Ownership and Control of a National Communications Satellite System

Various types of system ownership were considered, such as a Department of State, an Existing Statutory Authority, a totally-owned government company and a Consortium of Government and Private Interests.

With Telecom already providing the country's basic telecommunications services, including the radio and television transmitters for ABC, a logical step was to include DBS within its mandate. However, this approach was rejected primarily because of the concentration of power which would be vested in one agency.

The Task Force also decided to separate the ownership of earth-receive and uplink stations from control of the satellite agency, preferring instead to allow users to establish and operate their own earth stations or to form consortia for that purpose.

Eventually, the Overseas Telecommunications Commission was given the responsibility for satellite development and it has already signed an agreement with Arianespace in Europe to launch one or two satellites in 1985.

Comment

The Australian approach, in terms of service provision, is comparable to Canada's early decision to extend the CBC service to the North via Anik Satellite, although it builds as well on the Canadian Hermes experiments.

The fears about over-extending the commercial television service have a particular significance in the light of Canada's experience with third television service, where the competitive effect not only increased the cost of program purchases, but often did little to significantly improve local television services.

The recommendations to divorce the ownership of earth stations from the functions of the Commission is obviously based in part on Canada's experience, and in the light of subsequent development here seems to make good sense.*

Overall, the Australian approach provides an interesting comparison with the British. Both seek to improve the public service function of broadcasting and a similar underlying set of principles are evident in each.

*The Australian Task Force studied the Canadian experience during the course of its research.

d) Developments in Japan

The Japanese launched the first satellite in their BSE (Broadcasting Satellite for Experimental Purposes) program in April 1978. Its signals were receivable on one metre dishes in almost all parts of the Japanese mainland. In the northernmost part of Hokkaido, an antenna of 1.6 metres was used, while in the remote islands such as Ogasawara and Yonaguni, an antenna of 4.5 metres was used successfully.

The Japanese approach to broadcasting and telecommunications is of interest because of a strong commitment to hertzian wave delivery systems. Because the country is quite well served by off-air transmitters, cable has not achieved high penetration levels. DBS is therefore seen as an essential supplement to the present off-air system, enabling presently unserved areas to be reached and, as well, providing a capacity to undertake experiments to improve broadcasting services generally.

For example, the first BSE system was used to undertake a variety of experiments such as:

- transmission of multiple sound channels in a television signal;
- transmission of characters by inserting digital modulation into the vertical blanking interval;
- transmission of high definition television signals;
- transmission of still pictures through a television channel; and
- transmission of high quality stereophonic sound by pulse-code modulation.

The second BSE system, BSE 2, will consist of two satellites, one operational and one spare, and will be aimed primarily at improving signal reception in areas presently encountering reception difficulties from off-air terrestrial transmitters. It is estimated that by the time this satellite system is launched in 1984, some 400,000 households, out of a total of 38 million households, will still be suffering terrestrial reception difficulties which can be overcome by the satellite service.

BSE 2 will also continue the experiments started with the first BSE system aimed at further evolution of the DBS concept.

Of particular interest to Canada is the fact that NHK, the publicly supported broadcasting service, is heavily involved in the experimental work associated with DBS, including the high definition television experiments, and the stereo sound and still picture transmission experiments.

Comment

Perhaps most of all, the Japanese approach to DBS emphasizes the need to not just use DBS for existing purposes. While the Japanese DBS will be used to extend service, the concern is also to find a natural, and new, role for the DBS technology and to enhance video and audio services to the public.

REGULATORY AND POLICY IMPLICATIONS
OF A DIRECT BROADCAST SATELLITE
SYSTEM

VOLUME 2

VOLUME 2

PART 5

THE TRANSITION TO A DBS INFLUENCED
SYSTEM

C O N T E N T S

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PART 6: Conclusions and Recommendations

PREFACE

PRIMARY OBJECTIVES OF THE DBS SERVICE

At the end of Part 1, Volume 1, eight key objectives of a DBS influenced system were defined:

1. The need to find better solutions to local service provision in the face of further audience fragmentation, lower operating revenues, and increases in competitive services.
2. The need to continue the process of service extension.
3. The need to increase the range and diversity of services available to the public.
4. The need to create a better interface between program and data providers and those entities which control access to the distribution system.
5. The need to maximize the exposure of Canadian materials by opening up the electronic distribution system more widely for their use.
6. The need to more effectively direct revenues earned towards the financing of Canadian programming.
7. The need to develop new perceptions of what constitutes a suitable Canadian presence on the telecommunications system.
8. The need to exploit Canadian expertise in the production of specialized programming, not only in domestic markets but in international markets as well.

It is important to keep these objectives in mind as consideration is directed to the factors involved in moving the present system to a DBS influenced system.

In Volume 1, the nature of the presently evolving system was examined and in the process the roles of various elements of the system were reviewed. While this enabled some appreciation to be gained of the impact of DBS on presently established institutions, it is useful to return briefly to this matter and to give further consideration to their possible contributions in a DBS environment. In this way, the implications of the transition to a DBS influenced system can be explored with greater efficacy.

SECTION 1

POSSIBLE ROLES FOR EXISTING ELEMENTS OF
THE SYSTEM IN THE LIGHT OF DBS

a) The CBC

The CBC has long been faced with the problem of maintaining a large "extension of service" activity providing services not only in both official languages, but constantly reaching out to more and more communities and providing them with service. The CBC's problems in providing adequate service to northern and remote regions, and as well, effectively serving the native population, are well known.

The progressively greater expense incurred in getting basic services to remote populations by conventional distribution methods is obviously a major drain on the total resources available to the CBC. Creating a balance between program production and service extension has clearly been one of the major continuing difficulties faced by the Corporation.

In addition to the pressure for the extension of service, and for the increase of Canadian content on its existing services, the CBC has been faced with increasing pressure to improve its regional program production activities. While new centres are being established in most of the major urban areas, the problems of providing adequate budgets for these operations at a time when the overall CBC budget is not being increased is all too evident. The need to establish priorities has always existed, but in its decision renewing the broadcasting licences for the CBC issued in April 1979, the CRTC provided some new perspectives on the regional programming issue.

Basically, the CRTC urged the CBC to place more responsibility on radio for local service and thus reduce its expenditures on local television programming. The CRTC's argument was that, by better coordination between radio and television services in each locality, improved use could be made of local radio, thus freeing television production revenues for more effective regional television production. With excellent, commercially provided, local television services already available, the CRTC argues that the need for CBC local television service is less important, and that the CBC programming dollars could be better spent in regional activities, rather than duplicating the existing private local service.

This recommendation relates well to the characteristics of a DBS system in that regional programming produced by the CBC would benefit from the use of regional beams which could be available in a typical DBS configuration.

The CBC 2/Télé 2 concept, recently rejected by the CRTC,* envisaged the provision of an alternative programming service distributed to the public via cable television systems. One of the major disadvantages of the plan was the fact that the service was to be carried on the cable converter service, and consequently would only be available to a limited number of cable subscribers. In the context of a DBS plan, the CBC 2/Télé 2 concept could be made broadly available while still retaining the option that it could be provided as a subscriber pay service through signal scrambling.

*The CBC has, however, developed a revised plan for second service television channels.

The much discussed plan to have the CBC relinquish its dependence on commercial revenue might be made coincident with CBC plans to utilize a DBS concept. For example, the CBC would have the option of either providing a free service to DBS users or to introduce a scrambled service on a pay-per-view basis. Furthermore, the possibility exists for cross-subsidization between the pay-per-view service and the free service. In essence, DBS could provide the CBC with an opportunity of returning to a direct publicly supported system approximating that which existed when the CBC radio service relied on the revenue obtained from radio receiver licensing.

The relationship of the CBC to its private affiliated stations will need to undergo extensive change if the CBC moves to place a greater emphasis on regional programming and to rely on radio to provide a local program service. From the CBC's point of view, all that would be needed for the television service would be local CBC television rebroadcast transmitters, and even these could be eventually phased out as the public receives the service via cable and DBS direct-to-home transmissions.

On the other hand, the CBC could adopt principles reflected in the Hubbard proposal,* making its present network affiliates, affiliates of the DBS network as well. Unlike the Hubbard proposal where affiliates are free to take or not take, all, or portions of, the DBS feed, the CBC DBS service would presumably have to be mandatory carriage by the affiliates

*The proposal by Hubbard Broadcasting in the U.S.A. to establish an advertiser-supported DBS system. (see page 154).

with the affiliates' scheduling freedom derived in the times that DBS service is not available. There are obviously severe limitations inherent in this approach, and it may be far more realistic to use the occasion to abandon the present private affiliate system.

If all local stations become O & O's, there will likely be varying degrees of local CBC production, but with the majority of stations simply becoming rebroadcast stations.

It is not, however, necessary to consider the local service at such a reduced level, in that the concepts already explored in the north, where local community groups access CBC transmitters, might be capable of adaption in southern areas to good effect. Under such an arrangement, one might even envisage the possibility of a closer relationship existing between the cable community channel and the local community accessed CBC transmitters.

In any event, experimentation of this kind should be encouraged. The Broadcasting Act, Section 3(j), states that: "The regulation and supervision of the Canadian Broadcasting System should be flexible and readily adaptable to scientific and technical advances;"

The integration of DBS into the Canadian Broadcasting and Telecommunication System reflects the foregoing principle, but it would be unfortunate if other related possibilities inherent in this system, beyond the purely scientific and technical, were not fully explored. Just as Canada has taken a leadership in the development of teletext, so it could also take a leadership role in exploring evolutionary methods of

original television production and program delivery. The CBC's capacity for research and development is well known, and it would seem ideally suited to explore such matters as high definition television and its utilization in relation to DBS. Furthermore, it would also be in an excellent position to complement and extend the work being carried out by such groups as OECA in relation to teletext-type services. Both of these concepts require the investigation of new programming formats and ideas.

Summary

All in all, the CBC would appear to have much to gain by becoming heavily involved in planning for DBS's introduction. Given the operational autonomy enjoyed by the CBC, it is hard to assess at this time whether such a plan would coincide with present management objectives. It would seem that the government has limited powers to direct the CBC to enter this field if its management decides otherwise. On the other hand, it seems difficult to see how the CBC can ignore the important opportunities for the realization of its mandate which are offered by the DBS concept.

b) Private Broadcasters

As has already been seen, private broadcasters are already providing extensive local services to the public. The CRTC has made strong arguments for the phasing-out of the CBC's heavy involvement in local television programming because of the effectiveness of local commercial television broadcasting. This important local role of private broadcasters is likely to be strengthened when DBS is introduced.

But, whereas it has been relatively easy to foresee a role for CBC and cable in the light of the introduction of DBS, it is less easy to decide what might be the most effective relationship between commercial broadcasters and DBS. The situation is complicated by the unknowns presently surrounding the introduction of pay-TV in Canada. At present, the CRTC has left open the possibility that pay-TV could be delivered either by cable or over-the-air in the local service area. Furthermore, it seems prepared to allow for the possibility of several regional "stand alone" pay-TV systems rather than necessarily accepting the concept of a single, or a limited number of, national service providers.

A pay-TV type service lends itself well to DBS delivery. Unlike locally delivered off-air pay services, the DBS concept permits the immediate access by the pay-TV entrepreneur to a much larger audience base.

It is not unexpected that various studies undertaken in the U.S. conclude that a DBS subscriber pay service, while not having a major impact on cable, would have a major impact on existing STV and MDS services. In this respect, one could argue that Canada presently has an advantage in that it has not yet licensed any STV systems, and is therefore in a much better position to take into account the potential effectiveness of a DBS-type delivery system for pay-TV type services.

It is difficult to make an overall assessment of the potential economic value of DBS to private broadcasters in Canada. Unless a DBS service can offer cost advantages which exceed those presently obtainable by terrestrial delivery systems, there would seem to be little incentive for private broadcasters to entertain the DBS concept. The Hubbard proposal in the U.S. foresees the possibility of independent broadcast stations becoming affiliates to a DBS operation. These local independent stations, as affiliates of a DBS delivery system, would be free to either take portions of the DBS service and/or be compensated for the impact of the DBS service in their market area. While it is too early to say whether such an approach, which is based on advertiser-supported television service, will be successful, it would essentially become a fourth U.S. commercial network (see footnote page 154). If the Hubbard concept were applied to CTV it might provide a way of phasing in a commercial DBS service, allowing for a gradual adaptation to the new system by the present affiliates, but it seems likely that the local programming service would not be improved by this approach, and it is questionable as to the advantages likely to be gained over the present arrangement.

At this point then, it would seem that Canada's private broadcasters have little motivation to seriously consider the DBS concept. What might change such a view would be the emergence of a public and regulatory attitude favourable to the reception of U.S. DBS services. If this occurred, one might conceivably expect two kinds of pressures:

one from cable systems asking to be allowed to redistribute U.S. DBS services, and the other from conventional broadcasters anxious to develop alternative systems that could reduce their loss of audiences to foreign DBS services. In such circumstances, one might expect private broadcasters to seek the introduction of a DBS service providing an alternative programming service to that which is already available. If at this time Canada already has operating pay-TV systems in place, as well as a vast array of cable services, and also if the U.S. DBS service offers further alternative viewing possibilities, it can be seen that the options left for a private broadcaster supported DBS service are greatly reduced.

Some of the future options available to Canada's private broadcaster seem to be as follows:

1. To accept the trend towards becoming program suppliers rather than suppliers/distributors of programs, leasing space on the most appropriate distribution systems.*
2. To reconfigure existing distribution arrangements, including the present network and private affiliate relationship, in order to exploit the DBS concept.
3. To become more locally oriented independent stations.
4. To continue as at present regularly assessing the impact of new services on existing off-air services, and investigating new means of service provision like DBS, based on the emerging U.S. and Canadian experiences.

*In a sense, the Canadian superstation concept being used in the CANCOM service (see page 199) turns broadcasters into program suppliers of this type.

Private broadcasters are of course also in a position to undertake experiments with services like video-text and high definition television, but here again the economics would not seem to favour an early entry into such activities. Certainly, it would appear that some time will be needed to make such services a viable proposition.

Summary

In the light of the various changes taking place in the present system, it would seem unwise to unduly restrict the activities of private broadcasters because this group is likely to be faced with the greatest order of adaption to meet the challenges and the competition provided by the various new systems being introduced. It seems highly likely that private broadcasters will be forced to rely even more heavily on foreign programming in order to maintain sufficient revenues to continue with existing services. As has been indicated before, it seems unrealistic to continue to see off-air broadcasters as being the primary contributors to Canadian content objectives.*

*The plight of Canada's private broadcasters in the light of DBS is somewhat invidious. To offset the effects of competition which will be produced by new services, they probably need to utilize more foreign programming. While they are restricted to specific Canadian content requirements, the new services, like Pay-TV, and perhaps DBS, may escape this constraint. U.S. broadcasters, on the other hand, may not be unduly harmed by new services because they have a greater programming flexibility and are already diversifying their activities into cable and other media services. Much depends on whether the regulator sees the Canadian private broadcaster's difficulties as worthy of specific solutions.

c) Cable Television

It is difficult to obtain reliable projections on the possible growth of cable television over the next decade. If the CRTC allows cable to introduce a variety of new services, then one could expect an increase in cable penetration as well as a resulting increase in cable revenues. On the other hand, if major restrictions are placed on the introduction of new services, then it is reasonable to assume that cable will not grow and that many of the functions that it may have provided will be taken over by new systems such as DBS, MATV, STV, and MDS. It should be remembered too that unlike the U.S.A., where new systems are being introduced which from the outset are capable of providing upwards of 50 to 100 channels, many of Canada's systems are now quite old and need extensive technical upgrading before licensees can even contemplate the provision of a range of new services. Canada's cable systems, therefore, need new revenue for system development, yet without improved systems, many are incapable of providing the new revenue generating services that are badly needed.

The TAMEC Study* envisages a steadily increasing number of Canadian homes passed by cable with potential penetration reaching some 90% of total television households by the year 2000.** Optimistic predictions seem to indicate a potential converter penetration of close to 100% by this time.

*A study of the feasibility of a Canadian DBS program package, undertaken by TAMEC Inc. of Montreal for D.O.C.

**However, the TAMEC Study projects only a 75% penetration for Quebec by this time.

As we have already seen, the CRTC's Call for Pay-TV Applications and the implication that it, the CRTC, might be open in the future to a consideration of cable tiering (providing services of various types at various subscriber fees), suggests that in the next decade cable will be able to provide an attractive range of services to the public. The recent extension of service plan being undertaken by CANCOM is likely to further increase the effectiveness of cable in serving smaller communities.

It seems unlikely that cable will be adversely affected by the introduction of DBS. In fact, as cable penetration increases, potential DBS direct-to-home penetration is likely to decrease. Furthermore, cable systems providing one to three levels of pay-television are likely to further reduce the potential penetration of a DBS system if it relies on a single national pay-TV service (available in French and English).

It seems that cable can assume a unique role, different from DBS, as long as it, cable, is allowed to expand into new services and to be able to exploit its high channel capacity. In this respect, cable is in as good, if not better, position to experiment with high definition television and various forms of videotext services than are the various hertzian wave dependent systems. In practice, it would be highly desirable to encourage both hertzian wave based systems, like conventional broadcasting and DBS, to experiment with these new types of service as well as cable television.

Cable systems will probably wish to pick up and redistribute DBS signals. Consequently, regulators will be faced with similar problems to those experienced in relation to terrestrially distributed signals. The same need to strike a balance between optional foreign signals and priority domestic signals will exist.

Summary

Although cable is unlikely to be adversely affected by DBS, neither should its further evolution be retarded because of it. In fact, there would seem to be strong arguments for increasing cable's ability to provide a wide diversity of new services for those members of the public willing to pay for them. Furthermore, interfacing between cable and other components of the system, like conventional broadcasting and DBS, should be encouraged where they are likely to improve overall service to the public.

d) Common Carriers

Perhaps the concept most challenged by all these new developments is that of the common carrier. The simple established concept of a common carrier, i.e., a provider of the means of distribution, with no control over content, and with its rate of return regulated, seems to be more and more inadequate in the light of the changes now taking place in broadcasting and telecommunications.

The inadequacies of simple definitions and designations is everywhere apparent. The advent of cable forced the use of the term hybrid, and the admission that a simple choice of broadcasting or common carriage was impractical. More and more, cable is taking on the appurtenances of both a common carrier and a broadcaster. In the U.S., the F.C.C. and other agencies are finding themselves involved in legal contestations attempting to decide, for example, whether MDS is a common carrier or a broadcaster, how STV should be regulated, and whether DBS should be regulated as a hybrid system instead of as a broadcaster.

Should the operator of a DBS program service also run the satellite system? In the U.S. COMSAT model, the two functions are combined. If the CBC was licensed for DBS on this basis, it would merely extend the principle it already uses in its conventional radio and television service. On the other hand, there are many other sources of Canadian programming which could benefit from access to the DBS concept. For example, the National Arts Centre, the National Film Board, and the various educational organizations such as OECA, Access Alberta, and Radio Québec. In the light of this, the granting of a licence to operate DBS to, say, the CBC, would need to be accompanied by a proviso that it must also make space available on its transponders to other services. Whether this would be done using common carrier principles with users serviced on a first-come-first-served basis, would have to be determined.

SECTION 2

OTHER CONSIDERATIONS

While not directly related to the DBS concept, it seems impractical in the long term to continue to see conventional common carriers like telephone companies with no involvement in content. For example, there are many occasions in which it is clear that there should be no control over content by the carrier such as in telephone messages, but on the other hand, there may be good reasons to allow carriers to enter the data provision field under carefully selected conditions.* Similarly, as has been demonstrated in the U.S., there is some merit in allowing the cross-subsidization of cable services with telephone services in remote areas. The need for this sort of co-operation is already evident as steps are taken to licence the local distributors of a CANCOM service. In some areas of British Columbia, it seems apparent that involvement of the telephone company will be crucial if the economics of a local distribution system are to be viable in small communities.

Summary

It would seem important to fully explore the possibility of operating DBS in a purely common carrier mode with access on a first-come-first served basis, or, conversely, to see DBS licensed in the broadcaster mode. Furthermore, even these two forms of utilization should not preclude the possibility of various hybrid arrangements combining both common carrier and broadcaster operational principles.

*In the U.S. the telephone carriers have been allowed to enter the data field if they form arms-length subsidiaries.

CONSTRAINTS ON A CANADIAN DBS SYSTEM

Studies undertaken in the United States, primarily in relation to the development of the COMSAT proposal, indicate that a 3 channel DBS service which is highly differentiated from existing services, will attract some nine million potential subscribers or some 4% of total television households in the period 1983-1990.

This compares favourably with the Canadian TAMEC results which estimates the total TVRO households* (homes passed and not passed by cable) in 1985 at 229,000 or some 3% of total television households.

While TAMEC estimates that the total DBS clients in 1985 will be 3.6 million households, or some 42% of Canadian television households, this figure includes households receiving the DBS service via cable.

It is clear from this that the success of DBS in Canada will depend on its attractiveness to cable subscribers (unless the DBS signal becomes mandatory cable carriage anyway), rather than its relevance for remote area audiences.

In this respect, the U.S. studies are interesting in that they show that the least attractive market for DBS is represented by those households with 2 to 3 pay cable channels. On the other hand, the attractiveness of DBS to STV households is almost identical to its attractiveness to households with minimal or no television services. These results confirm the U.S. view that DBS will have a major impact on present U.S. STV services.

*Households receiving the DBS signal directly from the satellite.

If a Canadian DBS service was supported wholly by public funds, or a combination of public and subscription funding, it could conceivably be oriented towards remote and rural area needs (assuming again that cable carriage was mandatory) since its economic viability would not be dependent on achieving a high differentiation from the cable programming services in order to maximize audiences for the DBS service.

On the other hand, if cable carriage was optional and/or if the DBS service was advertiser dependent, its economic viability would be highly sensitive to its differentiation from present cable services; and it would therefore have to be planned so as to effectively compete with existing cable services. By the time DBS is introduced, this will likely include at least one, and possibly two or more, levels of pay cable.

To further complicate this problem, even if the DBS service is designed to serve remote and rural areas, it is here that it is likely to be subject to the most severe competition from U.S. DBS services. Present U.S. planning trends suggest that at least one U.S. DBS system will be "free" television, i.e., advertiser supported, and at the anticipated DBS power levels would be receivable in a large part of Canada. One might conclude from this that remote area communities, while desirous of Canadian services, will also value access to U.S. signals. In other words, we will not escape the well known cable phenomenon where subscribers expect to be able to receive U.S. programs directly from U.S. signals.

To be effective then, a Canadian DBS service will need to be attractive, on its own merits, as an alternative service.

It is also evident that even if a Canadian DBS service can be made reasonably competitive with existing services, it will probably need to have at least three channels to draw sizeable audiences.

Economically speaking, as the TAMEC findings suggest, it would seem to be necessary to channel revenues back to one entity administering at least three channels if the service is to become self-sustaining.

TAMEC also concludes that advertiser support will continue to be a key element in financing television program production and has postulated a DBS service with a mix of subscription and advertiser revenues.

Irrespective of the sources of programs or revenues, it would seem important to retain some simple form of coordinated control over the enterprise. Such an approach will also be required if the subscriber/service interface is to operate with minimal complexity. One can imagine the billing problems if a number of individual services are involved, each with their own subscriber billing systems.

EXTENSION OF SERVICE: THE CANCOM CONCEPT

The rapid increase in the number of pirate ground-receive stations operating in Canada for the express purpose of receiving U.S. delivered satellite signals, has resulted in a major effort by the Government to try and develop alternative Canadian services expressly designed to serve the needs of northern and remote communities.

The CRTC's decision to license the CANCOM concept involved the acceptance of a number of specific operating characteristics:

1. The service is being operated in the 6/4 Ghz band using the facilities of Anik B.
2. Major sources of television programming are CHAN-TV Vancouver, CITV-TV Edmonton, and CHCH-TV Hamilton, as well as a number of FM radio stations. The Commission has also asked that arrangements be made to deliver the French TVA service.
3. The service is provided via a scrambled signal and delivered to users at a rate of around \$4 per subscriber per month.
4. The means of local distribution is via cable systems and by local rebroadcast transmitters.
5. Communities clustered to include 160 households and above will provide the economic base for the introduction of the service.*

*It is assumed that in the Yukon and NWT, communities of 75 households and above could be served if forms of government subsidy are provided.

The CANCOM concept uses the satellite to deliver services to local community distribution systems and is similar in nature to the U.S. DOMSAT fixed satellite service. While individual households could also receive the service directly, the earth terminal equipment required would be considerably more expensive than that needed for a high power DBS system.*

The CANCOM concept will increase the number of local distribution systems and as a consequence will reduce the number of potential TVRO households that might acquire a future DBS service. On the other hand, the existence of a local distribution system makes possible a local program service.

The 6/4 Ghz receiving equipment will be incompatible with the 14/12 Ghz band which will be used for DBS and Anik C. This disadvantage is outweighed to some extent by the fact that the 6/4 Ghz facility is available now and the earth receiving equipment needed is compatible with that used to receive, illegally, U.S. satellite signals.

CANCOM affects DBS to the extent that it reduces potential direct-to-home DBS households through the use of community distribution systems and incompatible earth-receive equipment.**

*Although attempts are being made to develop low cost earth receive terminals for individual households.

**However, the increase in community distribution systems is not unfavourable to DBS.

THE DBS SUBSCRIBER UNIVERSE

An appreciation of potential DBS clients is provided by the study undertaken by TAMEC. This study takes the view that DBS would provide an alternative to existing services and its potential user universe is all Canadian television households. A distinction is made between three potential categories of users: households not passed by cable; households passed by cable, and households with cable converter service.

It is assumed that households not passed by cable would be the primary users of DBS and that penetrations of some 87% of these households might eventually be achieved. For households passed by cable, which do not take cable and elect to receive DBS signals directly, the penetration is assessed to be 3%. Households with cable service would have a DBS penetration of 86%, based on the assumption that cable systems would carry DBS signals. In other words, DBS penetration in this category would match cable converter penetration.*

Based on this approach, some 9,652,000 DBS clients** (households) are projected for the year 2000.

Of particular significance is the fact that some 89% of these DBS clients are cable subscribers.

*TAMEC envisages a gradually increasing converter population increasing eventually to 100% of cable subscribers. The above figures represent penetrations in the period 1985-1990.

**DBS clients represent all categories of DBS users including those receiving DBS services via cable.

Unlike CANCOM, DBS is not, in the preceding context, envisaged as primarily a vehicle for basic service extension, and its success, both in a public service as well as in a commercial form, would appear to depend largely on the extent to which it becomes an alternative program source.

A qualification is however necessary at this point because DBS could be used to replace existing terrestrial distribution systems as well as to bring direct service to individual homes. Used in this way, it could both provide basic as well as alternative services to users. This latter mode of operation would appear to depend on transponder use costs and regulatory and policy factors. Obviously, a public service use of DBS to extend basic service would not necessarily be compatible with a commercially viable DBS service.

For the purpose of system transition considerations then, one can assume that DBS will not be adversely affected by an increase in local distribution systems since it is likely to be heavily dependent on this method itself. On the other hand, this dependency does not suggest that the pure DBS role should be compromised.

While transforming a CANCOM-type service to DBS might severely limit the effectiveness of DBS,* DBS could be used to further extend and improve the process started by the CANCOM concept, i.e., improving service diversity. The extent to which CANCOM could exist in company with DBS will depend on the extent to which it is an alternative to DBS, or DBS an alternative to it, and whether CANCOM subscribers consider the cost of the two services to be acceptable.

*For example, it might be deemed to be inadvisable to use a superstation concept to create DBS program services.

DBS AS A FORM OF PAY-TV SERVICE

For purposes of comparison, DBS subscription services can be regarded as increasingly sophisticated derivations of existing pay-TV services. In fact, DBS subscription-type services represent an enlarged STV (over-the-air) pay television system. Unlike STV, DBS can reach more audience simultaneously with more channels.

In view of the foregoing, the previous studies undertaken in Canada in relation to the setting up and operation of a pay-TV system would appear to be of direct value in planning a Canadian DBS service.

For example, the same questions arise: Should a DBS service be provided by a public or private entity or a combination of both? Should a single national organization run the operation? Will the service siphon programs from existing television services?

Although DBS could provide a form of regional pay-TV service, it appears questionable whether this arrangement would be economically viable. As well, there will be a limit to the extent of regional revenues if local STV or pay cable services are already in place.

The CRTC's Call for Applications for Pay Television service (CRTC Public Notice, April 21, 1981), envisages the licensing of national or regional networks or local "stand alone" systems. By the time DBS is introduced, one might anticipate one or more pay-TV systems providing national and/or regional services. As well, there could be locally based pay-TV service.

The CRTC's public notice would seem to allow the possibility of both cable delivered as well as off-air pay-TV services, perhaps with both delivery methods existing in a given area.

One might therefore assume that the service will be distributed via terrestrial or satellite systems, with perhaps even some bicycling of programs between "stand alone" systems.

The advent of DBS would appear to offer some opportunities to improve upon an existing pay-TV service. For example, it could extend the pay-TV service more efficiently to remote populations. It could combine in one delivery system the advantages of off-air pay-TV and cable-delivered pay-TV. As well, unlike off-air pay-TV, it could offer more channels.

While DBS delivered pay-TV would seem to be compatible with any existing cable delivered pay-TV service, for example, DBS could add another channel of pay-TV to cable or could absorb an existing cable delivered pay-TV service, it would not be as easily reconcilable with off-air pay-TV. In the latter case, DBS would compete directly with the licensee of the off-air pay-TV system.

Basically then, it would seem to be practical to assume that DBS could upgrade existing pay-TV services without too much disruption.* The motivation for this to occur would be dependent on the cost advantages that a DBS system would provide to pay-TV entrepreneurs.

The penetration achievable with Canadian pay-TV systems is still a subject of some controversy. While some entrepreneurs envisage pay-TV to basic cable ratios of around 35 to 40%, others doubt that this is possible given that Canadian cable subscribers are generally able to get more signals than their U.S. counterparts. Furthermore, experience has shown that older U.S. cable systems adding pay-TV services obtain consistently lower penetrations than do new systems offering pay-TV channels at the start of cable service.

TAMEC envisages a pay-TV to DBS client** ratio of around 20% after 1987 for a high penetration pay-TV service. Medium and low penetration services are expected to achieve a pay-TV to DBS client ratio of around 10% and 5% respectively.

This suggests that if DBS pay services are added to existing pay-TV services, as opposed to absorbing them, the expected subscriber levels may well be insufficient to support the levels of original production required to ensure that the service offers attractive alternative programs.

*Except that it would have an adverse impact on over-the-air delivered pay-TV services.

**Includes cable subscribers receiving DBS signals via a converter.

Although it is too early to form any firm conclusions, there are indications that pay-TV services, which will be in operation when DBS is introduced, could seriously impair the viability of a DBS subscription service. The only alternative would seem to be to shift existing pay-TV services into a DBS delivery mode. Whether this could be done would depend on the cost benefits that might result.

INTERIM ANIK C SERVICE

Anik C, due for launch in late 1982, and to be in operation in 1983, offers the possibility of developing an interim DBS service. Anik C will operate in a band adjacent to the DBS band, so a retrofit to Anik C receivers would be necessary to receive the DBS service unless wide tuning receivers are available at the outset.* While the availability of these receivers is a possibility, it is more likely that a mod kit will be used to carry out the conversion.

The beam configuration of Anik C may be different from the eventual DBS configuration. For example, with Anik C, 1/4 Canada and 1/2 Canada coverage beams could be provided with, say, eight television channels per beam. While, for the purpose of this report, a six beam DBS system has been considered, it does not preclude an eventual four beam DBS. In any event, even using Anik C in the four beam mode, a transition to a six beam DBS would not pose undue difficulties.

*It is difficult to assess the exact nature and order of the changeover process. Antenna realignment and a frequency change would seem to be the major issues.

The Anik C signals could be received in the primary signal areas with 1.8 metre, or smaller, dishes. In the fringe areas, particularly in the north, which would be reached by tilting the satellite antenna, dishes of 3 metres to 4.5 metres and above would probably be required.

In spite of these differences, Anik C would appear to provide a valuable facility to test the characteristics of DBS in a practical working environment. Furthermore, it seems to fit logically into an evolutionary process, extending and refining the service extension capability of CANCOM while providing further opportunities to explore service diversification. As well, it brings the technical characteristics of the ground-receive equipment closer to the DBS parameters making the transition to DBS easier.

If Canada used Anik C to provide DBS services, it would gain a considerable lead over other countries in the introduction of a DBS system. Aside from the advantages to national prestige is the valuable experience that would be acquired in operating a DBS system. In fact, some opinion suggests that if both Anik C 1 and Anik C 2 were used in the DBS mode, they could satisfy Canada's DBS needs into the 1990's.

This raises the question of what role a DBS system beyond Anik would perform, and if further evolution of the DBS concept can be anticipated. With this kind of scenario, it would appear that a pure DBS concept, that is one designed from scratch as DBS as opposed to an Anik-based DBS approach, might explore several new parameters such as:

- High Definition Television
- Higher power satellite transmission
- High channel capacity
- New data services

The use of Anik C for an interim Canadian DBS system would seem to provide a strong incentive to increase the number of local distribution systems, yet, at the same time, offer individual households the chance to receive DBS signals directly via reasonably sized dishes. Increasing local distribution systems helps maintain effective local service provision facilities while taking advantage of the program diversity that DBS can bring to all areas of Canada.

To take full advantage of Anik C it will be necessary to remove restrictions on the reception of Anik-type DBS services. For example, the present constraints on CANCOM, restricting it to households receiving two or less television signals, would severely limit the effectiveness and economic viability of an Anik DBS service.*

*Another potential problem is a footnote appearing in the WARC 79 agreement and conceding that broadcasting services may be employed (in the fixed service), ...only if it is incidental or peripheral to the total service. This view is based on interpretation of the footnote which states "transponders on space stations in the fixed satellite service may be used additionally for transmission in the broadcasting satellite service (but) this band shall be used principally for the fixed satellite service." Thus, some conclude that only some Anik C channels might be used for DBS services, not a full satellite for DBS. See Telesat study, Anik C Regulatory Analysis, p.75.

THE TRANSITIONAL PROCESS

It is clear that the present broadcasting and telecommunications system will be influenced by DBS but the extent of this influence and the nature of the changes that will occur will be directly related to the role that DBS is to assume. DBS could occasion a major change to existing system structures, or it could improve and extend their effectiveness without major changes to the roles of the present contributors.

The transition from the present system to a DBS influenced system will be influenced by a number of factors:

- The regulatory and policy decisions related to DBS.
- The role of DBS. For example, it might provide some services presently provided by other existing elements of the system or it could bring new forms of service.
- The public's need for, and acceptance of, DBS.
- Whether public or private funds are available to support DBS.
- The kinds of programming provided by DBS.
- Whether DBS is largely a community, or an individual service.
- The impact of DBS on present services.
- The nature of the presently evolving system.

In identifying and describing the factors and events which will characterize the transition from the present system to a DBS-influenced system, it is necessary to recognize the dynamic nature of the process. For example, it is not practical to assume that the operation of the present system can be frozen in space and time so as to permit a sort of static analysis, for it is constantly changing and adapting to events.

Similarly, the postulation of what DBS models might be adopted has to be based on existing knowledge and the "state-of-the-art," and these factors too are constantly changing.

At best then, one can join the dynamic events already in progress, which reflect the evolving system, and attempt to follow them, and the evolving DBS planning process, to gain some sense of the forces and the events which will shape a DBS-influenced system.

In addition to the impact of technological development and commercial marketing considerations, the present system is being influenced by regulatory decisions. For example, the recent CRTC decisions to call for pay-TV applications, and to licence CANCOM to provide service to remote areas via satellite, are already influencing the evolving system.

A decision concerning the use of Anik C will also affect the introduction of DBS.

Decisions affecting common carriers, such as the CRTC decision concerning the rates charged for satellite use, will directly affect the economics of a DBS service.

In essence then, a series of seemingly unrelated events can profoundly affect the form and the contribution of DBS and could determine its ultimate success or failure.

While the retention of a degree of policy and regulatory flexibility is desirable, it can result in reactive or "ad hoc" decision-making, and it seems more necessary and more prudent to strive for some clear long-term objectives, otherwise immediate pressures will mask long-term opportunities and foreclose suitable regulatory and policy options.

In examining the transition to a DBS system, one must start with known trends and progressively add the effects of potential future events.

SECTION 3

POTENTIAL MODELS OF A CANADIAN DBS SYSTEM

INTRODUCTION

The following models have been developed to provide some insights into the kinds of evolutionary processes that are involved in introducing DBS into the present broadcasting and telecommunications system.

The models do not attempt to validate, by statistical and data analysis, the economic or market viability of the approach, nor do they explore all of the detailed structural implications; the intention is to isolate the broad principles which might guide the evolution of a Canadian DBS system and to gain some appreciation of what kinds of results will follow.

For the purposes of this examination, it is assumed that Anik C will be used as an interim DBS system. This will eventually be replaced by a pure DBS system.

The matter of power levels is not introduced as a major concern. Put simply, it is assumed that power levels will be adequate to enable the system to function in a direct-to-home mode. Whether this involves the use of dishes larger or smaller than 1.2 metres is not considered relevant to this particular modelling process.

Each model is examined from a number of different points of view so as to gain an appreciation of the various factors that form part of the DBS introductory process.

MAJOR CONSIDERATIONS ARE:

- . The role of the government and the types of legislative action required.
- . The role of the CRTC and the forms of regulation that will be involved.

The impact of DBS on:

- . The CBC
- . The Private Broadcasting Sector
- . Cable
- . Educational and other public service users

The identification of "trigger mechanisms" which might aid the transition process.

The value or otherwise of DBS to:

- . Canadian Content
- . Program Diversity
- . Third Party Access
- . Local Services

Where practical and relevant, the cost factors involved in moving to a DBS-influenced system will be considered.

Throughout the analysis, it is assumed that a pure DBS system will eventually be constructed to serve six discrete regions of Canada, as follows:

- . Atlantic
- . Quebec
- . Ontario
- . Manitoba/Saskatchewan
- . Alberta
- . British Columbia/N.W.T./Yukon

In the interim DBS stage, however, Anik C would be used in a 4 beam configuration using some 8 channels per beam.* This system would serve four discrete regions as follows:

- . Atlantic/Quebec
- . Ontario
- . Manitoba/Saskatchewan
- . Alberta/BC

While a combination of public and private services are likely to be carried on any given DBS system, for the purpose of this analysis, the mechanisms of private and public service provision are examined, both individually and collectively.

*The actual number of channels used will of course be determined by the services offered.

M O D E L 1

Basic Priority: to extend and improve the diversity of Canadian Broadcasting services. Must have a major orientation to public service objectives.

In this case, the emphasis would be on Canadian services. Although the economic viability of the concept is important, it takes second place to the fulfilment of basic public service objectives.

The logical major instrument for implementing the program service would be the CBC. There appears to be no particular value in requiring the CBC to own the technical system as its role would be to provide the programming services. The space segment and its associated facilities would therefore be provided by a common carrier with the CBC leasing transponder space. Ownership of earth facilities would be open to the most effective arrangement. The carrier could own them but has no exclusive right to this function.

In this model, it would seem important to achieve a number of objectives; to add to present service diversity, to extend service, and to improve, if possible, present service provision.

As a first step, the basic CBC national television service in both English and French would be carried on two channels available to all regions with appropriate time zone adjustments.

Next, two channels would be devoted to CBC 2 English service and the French language Télé 2 service.

Finally, two channels would be kept for other special public services such as contributions from agencies like the NFB and the NAC, education, services to native peoples, the House of Commons service, and health services. These public service channels would be leased directly from the carrier by the appropriate federal agencies and provincial educational authorities. Native programs would either be provided with CBC assistance or through direct access to transponder space.

The basic CBC television service channels would consist of both regionally and nationally distributed, and produced, programming. This would enable the CBC to improve its regional service activities, giving them broader exposure and a more visible presence on the system. For example, it would be possible to uplink programs for distribution to all or some of the six regions being served.

The regional emphasis would remove the CBC from a major involvement in local television production, and the local CBC service would become essentially a radio service.

Because a restructuring and rethinking of current CBC operational practice is involved, this would be an opportune time for the CBC to phase out of commercial television advertising. As well, since such move would directly affect the CBC affiliates, a plan could be effected to phase them out or replace them with CBC-owned and operated stations.

The CBC second services should strive to develop the highest possible proportion of original program material so as to bring about a measurable increase in the overall diversity of the CBC program service.

The configuration of the six beam system is such that not only will individual regions of the north be served, but, as well, native programming will be accessible for the first time, on a regular basis, to southern populations.

The entire concept would be supported out of public funds supplemented by other income derived by the CBC from the sale of its programs to other than commercial advertisers.

VARIATIONS

If public funds are not available, or limited, for such a concept, it would be possible to turn the second CBC services into subscription services. The revenue generated would be used to assist both basic and second service provision via DBS.

If a public service channel became a subscription channel,* the collection function would presumably fall to the agency supplying the service, however, since the bulk of the subscribers would probably receive the subscription DBS service via cable, it may be advantageous to have the cable systems undertake the collection function.

*Supporting a CBC service via this means is similar to the principle of support via licence fees, since it is based on the public's direct support of the service rather than support by advertisers, and the influence on programming schedules, that this method entails.

IMPACT OF MODEL 1 ON....

a) The Government

Introduction of the technological DBS system could be done in a number of ways. The government could assign the task to Telesat, create a new public agency of some kind to provide a DBS system, or invite proposals from the private sector to set up a private DBS carrier.

There are clear advantages in assigning the task to Telesat, but, presumably, Telesat would need to be convinced of the commercial value of entering this new field. Under the present Telesat Act, the government has no precise power to require Telesat to take on such a role, but presumably it would be in Telesat's interest to do so.

Setting up a new public carrier agency would not appear to offer any major advantages unless it was coupled to other changes in the system. For example, the new carrier agency could assume responsibility for all the radio and television transmitters used by the CBC. However, even this function could presumably pass to a restructured Telesat.

Offering the DBS carrier role to a private agency would involve similar considerations to those applying to Telesat. First and foremost, the concept would need to be commercially viable. The basic question is whether private interests will find the opportunity attractive. In some countries, notably the U.S.A. and Britain, there appears to be considerable private interest in taking on the DBS carrier role.

Whichever option is chosen, it will be necessary for the government to consider revising existing legislation, or to create new legislation, to establish the agency. Using Telesat would be the least complex way to proceed since it may only require some minor restructuring with minimal changes to the present Telesat Act.

If, as proposed, the CBC is to become essentially a programmer, gradually phasing out its dependence on terrestrial television transmitters, the government will need to consider an extensive revision of the present Broadcasting Act. As with Telesat, since the government has limited powers to direct the CBC, yet certain precise new objectives are being sought, it will probably be necessary to embody such objectives in new legislation. Examples would be the removing of a dependence on commercial revenue and the contracting out of a larger proportion of work to the private sector.

The influence of the CRTC on the evolution of this new role will be critical and increasing the government's power to direct the CRTC in the manner outlined in Telecommunications Bill C-16 may be crucial to achieve a coordinated broadcasting and telecommunications strategy.

b) The CRTC

Given the importance of the shift of public sector services to DBS, it will be necessary for the CRTC to review its present licensing process. For example, could it licence DBS service providers like broadcasters, combining the technical function with the programming

function? In the context of MODEL 1, the CBC or other public agencies might be licensed to supply the programming and to transmit it from a satellite station.* The question that then arises is whether this combination can satisfy the present legal definition of a broadcasting undertaking (see page 83 - The CRTC's licensing powers). If this is not possible, the CRTC might find it necessary to establish a new type of licence related to the program exhibition function.

Yet another approach could be to leave the program exhibition function unregulated. In this latter case, regulatory control, if it was deemed to be necessary, would presumably need to be exercised at the carriage stage. To some extent, this is similar to the network licensing concept being used by the CRTC for pay-TV where the local, licensed, distributor is required to seek CRTC approval to carry the pay-TV service. Such an approach can work only if there is a local, licensed, redistribution system and will not work in the pure direct-to-home DBS mode unless the common carrier is given responsibility for content.

The TAMEC study of the feasibility of various Canadian program packages for DBS concludes that most potential DBS clients will be cable subscribers and only some 12 to 13% of these DBS clients will receive DBS signals via individual home earth-receive units.

*The use of the terms "earth station" and "satellite station" is based on the definition of a "satellite telecommunication system" set out in the Telesat Act.

In the light of this, it will be important to ensure that public services occupy a preferred position in the range of services offered by cable systems. At a very minimum, public services must be accorded a priority on the basic cable service. With the impending introduction of tiered cable services, it has been suggested that a basic Canadian service be offered free, with cable revenue generation being achieved by services beyond the basic service. In principle, this approach retains the concept of a "free" service which has long been the basis of the off-air system.

As has been mentioned earlier, the policy and regulatory environment will exert a considerable influence on the options available. For example, the recent CRTC decision in respect of Telesat rates, which denies rate structure advantages to preferred customers like the CBC, could act to alter the net advantages/disadvantages of the evolutionary processes described. On the other hand, it may provide clear advantages to private sector activities. Thus it is that apparently simple rate setting practices can affect system evolution in major ways.

Because of the separation of the content and DBS carriage functions, the CRTC will need to become much more involved in third party access considerations. Even if a set of broad guidelines can be evolved, it is not unlikely that the CRTC will be forced to act as an arbiter if disputes concerning access arise.

c) The CBC

MODEL 1 envisages a major rethinking of the current CBC operating philosophy and the order of the changes suggested implies that a large-scale restructuring of the CBC will be necessary.

If adaption to DBS is simply considered as an add-on to present activities, the exercise could be extremely costly, adding considerably to the burden carried by the taxpayer. On the other hand, if adaption to DBS is seen more broadly as a chance to prepare for and exploit new opportunities, by undertaking structural changes to the CBC, then there could be not only major benefits for the public and for the fulfilment of Canadian social and cultural objectives, but greatly increased operating efficiencies making for better use of public funds.*

While it is difficult to obtain accurate assessments of the economics involved in implementing MODEL 1, it is possible to arrive at some initial calculations based on existing sources of information.

The TAMEC Report estimates probable space segment costs for various system configurations. For a six channel, six beam, DBS system (the type selected for modelling) space segment rates are estimated at around \$1.4 million per channel.

*While in MODEL 1, the CBC will be relinquishing its dependence on commercial television advertising revenue, it could still acquire new forms of commercial revenue by marketing its programs and services more broadly in the expanding audio/visual marketplace. The CBC has already taken some steps to explore this potential.

For the four channel CBC service envisaged in MODEL 1, space segment costs would therefore run to some \$5.6 million annually.

Based on statements by Mr. Johnson, President of the CBC, programming for a CBC 2/Télé 2 service would cost around \$30 million.

Assuming that the basic CBC television services would be simply transferred to a DBS format without incurring major additional costs, one might assume that the total extra costs for the four channels of CBC DBS programming, plus space segment costs would be around \$36 million annually.* Added to this would be the costs of a DBS operations group, and based on the CBC 1980-81 annual report (i.e., ratio of operational management and services to total program and distribution costs), a figure of some \$3.96 million (11% of \$36 million) might be appropriate.

The present CBC 2/Télé 2 proposal is based largely on repeat program material with some 40% of the schedule containing original, generally small scale, productions. If the concept was modified to include more original production, the costs could easily double. Allowing for this factor as well as uplink costs, and providing a suitable contingency overall, could raise total costs to perhaps \$80 million.

*Depending on the configuration of the regional beams, and allowing for varying uplink arrangements, this cost could be higher.

If, concurrently with these developments, the CBC were to abandon its practice of seeking commercial revenue for its television service, further cost increases would be involved.

In its financial report for 1980-81, the CBC estimates its advertising revenue to be \$131,495,000, or some 36% of the total television program production costs of its English and French services. To maintain a somewhat reduced schedule without advertising would require an increase of at least \$130 million in the present television production budget.

Since the loss of advertising income would impact directly on the private affiliates, who presently receive a proportion of the revenue the CBC obtains from its network advertising sales, it would also be necessary to reassess the private affiliate system.

Even without active local television transmitters, the CBC could still presumably provide some local television service, if needed, by acquiring time on local cable channels or by sharing a local off-air delivery system paid for on a subscription basis by the local community.*

If for the sake of generating some overall appreciation of relative costs** one assumes that to move the CBC into the MODEL 1 services will cost around \$80 million plus an

*For example, the community redistribution systems envisaged under the CANCOM concept.

**This cost assessment is based on publicly available information and is not offered as a detailed economic analysis. Its purpose is merely to emphasize that some structural and economic flexibility appears to exist.

additional \$130 million to remove the advertising revenue dependency, then the total additional funds required would be some \$210 million.

If, at the same time, the CBC phased out its terrestrial off-air transmitters, some \$100 million might be saved in distribution operating costs plus a proportion of the \$71 million presently devoted to operational management services.* This could leave, say, some \$60 million and this amount might be saved through a concentration on regional services and a general simplification of present operations due to the use of the DBS concept.

While it is not suggested that these oversimplistic calculations can stand without extensive further study and assessment, there is enough evidence to suggest that major advantages could follow from a planned exploitation of the DBS concept. While major rethinking of present CBC structures are involved, it could result in a better use of CBC resources and a much improved use of the CBC as the "chosen instrument" for the achievement of Canadian social and cultural objectives.

The CBC would not, of course, be able to move directly into a DBS-type delivery concept, and it would be necessary to consider the use of conventional local off-air signal delivery** as an interim step until DBS clients have reached

*Based on the financial statement in the CBC's 1979-80 Annual Report.

**If one assumes that the CBC will concentrate on regional and national services, and rely on DBS for service distribution, then the problem is essentially one of achieving a smooth transition from present local terrestrial stations, to DBS delivery via cable and direct-to-home. Various options would therefore need to be explored to cover the transition, from buying out the present affiliates retaining the present affiliate arrangement and gradually phasing it out, to variations of the U.S. Hubbard proposal. (See page 157)

a level where continued provision of service via terrestrial off-air transmitters is unnecessary. At this point, the terrestrial facilities could be sold or leased to other users. This scenario underlines the value of passing the responsibility for present CBC terrestrial transmitters to a separate agency based on a Telesat-type model. Alternatively, the CBC could establish a holding company to manage its terrestrial facilities.

In presenting MODEL 1, it was recognized that public funds might be supplemented to some extent by the introduction of a subscription technique for the second CBC services. While the revenues obtained are unlikely to be sufficient to offset the cost of the CBC 2/Télé 2 services, it could moderate the demands on the public purse. For example, if only 2% of television households took the CBC 2/Télé 2 service, and its cost was, say, \$1.50 per subscriber per month, the annual national revenue would be some \$4 million. In practice, it is probable that much higher levels of subscriber penetration and monthly service fees could be achieved.

The disadvantage of the subscription approach is that it turns the CBC 2/Télé 2 service into an elitist service receivable only by those households willing to pay an extra monthly fee.* Perhaps of greater importance is that it moves the CBC into a form of service provision that should be left to the private sector, and which may well be of critical importance to the eventual entry of the private sector into DBS services.

*But the majority of Canadians receiving the CBC television services will receive them by cable in any case.

The question of CBC service to native communities is another important factor but this too seems amenable to a DBS solution. Whether delivered via Anik C or via DBS, regional native services could be delivered simultaneously to the north, and to the south, via DBS. In this way, native concerns will, as well, become better understood by southern populations.

Native communities have already recognized the superior value of radio for local services, but they also seek access to local distribution systems for television programs conceived and chosen by local communities. An interim DBS using Anik C would encourage the development of local community distribution systems which will facilitate local program production and distribution.

d) The Private Broadcasting Sector

While MODEL 1, with its emphasis on public sector services, does little to encourage private sector involvement in DBS, neither is it likely to be strongly opposed. If the CBC moves out of commercial advertising and concentrates on regional and national services more revenue should be available to the private sector. While this might not aid the most needy local stations, it should aid the private broadcasting sector as a whole. Furthermore, the present CBC private affiliates, and owned and operated stations, will be reducing local programming activities leaving the way open to the private sector to further strengthen its local programming.

The private sector can be expected to complain of the increased audience fragmentation posed by the MODEL 1 DBS service, but the fragmentation argument is weakening anyhow as more and more sources of programs become available to the public. In the future, broadcasters will have to live with increasing orders of audience fragmentation as the public is better served with increased program choice.

e) The Cable Industry

Because MODEL 1 will provide additional services, it will aid, rather than retard, cable development. A DBS service based on MODEL 1 is likely to increase the viability of cable in smaller communities and provide important alternatives to foreign programs. If the CBC and other public services are provided free for cable redistribution, they will help to enlarge the range of the cable program service while still leaving ample room for subscriber-pay services in a tiered system.

The cable industry's greatest concern will probably be in the area of MATV type services. While MATV is presently precluded from receiving and distributing satellite signals, the CRTC may well be forced to change this (see page 27). If this happens, MATV competition to cable in major urban areas could increase.

Like the private broadcasters, the cable industry will need to re-evaluate its current operating practices in the light of DBS, especially in relation to the carriage of public services.

f) Educational and Other Public Services

The public service channels envisaged in MODEL 1 would be paid for by the various users. Channels might be leased, in whole or in part, depending on the user's needs and objectives.

Since most educational authorities have started services using terrestrial facilities, some major re-thinking will be required to convert to a DBS oriented delivery system. While some authorities like TV Ontario are already well advanced with experiments based on DBS use, other authorities like Radio Québec appear to have a continuing interest in a terrestrially based distribution system. While Radio Québec seems to favour microwave and off-air transmitter program delivery, British Columbia has evidenced a strong interest in cable delivery.

In spite of these differences in approach, a common desire is evident to maximize the use of Canadian educational material and the use of DBS in a regional, as well as a national, context could greatly aid this objective. Since present off-air educational service transmitters are essentially used in a rebroadcast context, and no local programming is involved,* DBS would appear to offer a more cost effective method of distributing the service.

Other potential users like the NFB and the NAC would need to reorient their current operations to exploit the DBS potential, but a reassessment of their roles in the light of overall telecommunications developments would be timely.

*This is not necessarily true for Quebec where there is a major emphasis on local/regional programs.

TRIGGER MECHANISMS

The importance of identifying trigger mechanisms, which can start the process of change within the system, must be recognized since not much is likely to happen unless a catalytic process can be started.

In MODEL 1, the trigger mechanisms are created by changes to the CBC. Altering its mandate to include DBS, requiring the phasing out of commercial revenues, and introducing a greater use of the private sector, will inevitably set in motion a series of changes to operational practices. These will have far reaching implications on both the public and private sectors. For example, they force the private sector to re-examine its role and leave it with opportunities for further growth in areas formerly occupied by the public sector.

TRANSITIONAL PROCESS

The seemingly major shifts in present structures, which could be required to effect MODEL 1, would take place over a relatively long time period. For example, if an interim Anik C DBS is used, followed by further DBS evolution in a subsequent "basic design" DBS system, then one could expect the transition to a new structural form to be targeted for, say, 1990. This is not to suggest that structural evolution would cease at this point, but that the major shift to a DBS-influenced public system could be effected within this time frame, without major disruption to needed services even though some existing services would be replaced with alternatives.

To a very large extent, MODEL 1 relies on a principle widely accepted in Canadian Broadcasting and Telecommunications development, that major public initiatives can point the way for eventual private sector participation.*

Anik C is especially important because it not only aids the transition process, but permits active and early experimentation with the DBS concept at a time when other countries will be forced to experiment with pure DBS type systems. Anik C could therefore enable Canada to introduce a pure DBS system of a much more highly developed form than would otherwise be possible.

OTHER ISSUES

a) Canadian Content

Overall, MODEL 1 will greatly assist in the development of Canadian Content objectives. Not only will it provide more, but it will provide for different types of Canadian services. For example, CBC 2/Télé 2 will provide a major viewing alternative, especially in the prime time viewing period.

New program creators will gain access to the system through a greater use, by the CBC, of the independent production sector.

*While the emphasis has been on program services, public sector involvement in DBS development will have major benefits to the industrial sector as a whole.

With the CBC relying wholly on public funds,* there will be a more logical separation of discrete types of program financing from public, through advertiser supported, to subscriber purchased, services.

b) Program Diversity

It is hard to see how this will not increase substantially. The CBC will be able to concentrate on national and regional services and in providing more real alternatives to private sector programming. Similarly, the private sector is freer to develop styles and formats better suited to the commercial marketplace determinants. The phasing out of the CBC's involvement in local programming will overcome the present duplication of effort between the public and private sectors. This enables the CBC to increase diversity at the national and regional levels, while allowing radio, private television, and cable, to evolve more strongly as local service providers.

c) Third Party Access

MODEL 1 begins a process of separating content from carriage and to allow broader access by independent program suppliers. Although it still leaves a strong element of control in publicly funded agencies, for example, independent producers will still need to obtain much of their funding and distribution access via the public programming institutions, nevertheless, direct access to the DBS carrier is available.

*Supplemented by revenues from sales of its programs to users other than commercial advertisers.

Overall, Third Party Access is greatly improved but, bearing in mind the propensity of existing public agencies to develop their own production capability, it will be necessary to encourage wider use, by them, of independent producers as well.

Improving overall access in this way will pose new questions as to who should be allowed access. For example, as has been indicated elsewhere in this study, broadcasters, cable companies, and telephone carriers, as well as independent producers and information providers, could eventually become potential program and service providers.

d) Local Programming

At first sight, local programming appears to suffer adversely by the adoption of MODEL 1 in that the present, extensive, local CBC services are eventually phased out entirely.

The present local television services will, however, likely be improved if alternatives are allowed to develop. To a large extent, present local television service is largely a fiction in that both the CBC and private stations rely heavily on network programs. If the way can be opened for local television stations, operating on a less grandiose scale, with smaller operating budgets, then this will provide better local service in the long term.

While MODEL 1 does initially decrease local television service, it can open the way to new initiatives. In this sense, MODEL 1 is a good catalyst to new local service development, although the form and scale of what might emerge cannot be predicted with certainty.

M O D E L 2

Basic Priority: To extend and improve the diversity of Canadian Broadcasting services consistent with the constraints inherent in a commercially financed system. To achieve such basic public service objectives as are consistent with these conditions.

In this case, the primary emphasis will be on the operation of a successful commercial enterprise. While public service objectives will be required, these objectives will be imposed with due regard to the realities of operating in the commercial marketplace.

As was the case in MODEL 1, the satellite system would be operated by a carrier with transponder space leased to the program supplier.

In MODEL 1, it is assumed that the public organizations using the DBS facility would be charged lease rates sufficient to generate a regulated rate of return to the carrier. The same conditions would apply to MODEL 2, except that in this case the private sector program suppliers, as well as the DBS carrier, will wish to ensure a suitable return on their investments. The basic questions are therefore, what services are likely to attract sufficient audience levels to create profits for the private investors? and, who is likely to be interested in seriously considering the provision of a DBS program service?

At first sight, there seems to be little incentive for the present private television networks to use the DBS facility. With a terrestrial distribution system already in place, and with little prospect of gaining significant economic advantages by the use of DBS, it does not appear to be realistic to expect major DBS initiatives by the existing networks. The extensive study investigating the feasibility of a variety of commercial program packages for DBS, undertaken by TAMEC, offers substantiation for this view. The TAMEC study concludes that viable program packages for a commercial DBS service would consist essentially of pay-TV and superstations.*

In summary then, a viable commercial DBS program package must offer the public some alternatives to the present network and local television services. As far as the established networks are concerned, there would appear to be little advantage in distributing existing network programming via DBS unless DBS rates become highly competitive with terrestrial microwave rates.

For the existing networks, the fundamental question is whether their present services can effectively compete with new domestic and foreign DBS services and whether new program service concepts, based on DBS use rather than on the network affiliated station concept, can be evolved.**

*i.e., presently existing independent broadcast television stations distributed nationally or regionally via DBS.

**In this connection, the principles used in the U.S. Hubbard proposal (see page 157) should not be discounted since they permit the structuring of a DBS network-type service based on local affiliates.

It is evident that a successful commercial DBS program package will rely on popular appeal. Consequently, the use of foreign programs, particularly entertainment programs, will be considered essential as has been the case with presently planned pay-TV services.

IMPACT OF MODEL 2 ON....

a) The Government

While the cost to the government of MODEL 2 could be minimal, it will be necessary to weigh the social and cultural value of a commercial DBS program package. Since there is likely to be an increase in foreign program use, will this use be matched by an increase in Canadian programming? Based on past experience and mindful of the present trend to seek a higher level of quality, rather than an increased quantity of programming, and to reduce Canadian Content demands on new services like pay-TV, it is hard to see how Canadian social and cultural objectives can be improved by a wholly commercial DBS program service.

Other devices could of course be used to assist Canadian program production such as taxing profits, or the revenues derived from foreign programs, but this implies that some access facilities must still be preserved for what might be unprofitable Canadian programming.

As in MODEL 1, it is assumed that new legislation will be needed to enlarge the scope of Telesat's operations to include DBS or to create a new DBS carrier facility. Whatever solution is adopted, it is assumed that the DBS carrier would be operated on a cost-recoverable basis.

b) The CRTC

Opening the provision of a DBS service to the private sector would involve the CRTC in a wide range of regulatory, policy, and licensing considerations. For example, although MODEL 2 assumes a separation of content and carriage, it might be extremely difficult for the CRTC to deal with this question within the present legislative framework.*

If, as the TAMEC study concludes, a commercial DBS needs pay-TV and superstations to succeed, then the CRTC is faced with a reassessment of the use of the network principle used for CANCOM and presently planned pay-TV services, since in the direct-to-home mode no local licensed redistribution facility need be involved.

Presumably, the CRTC would begin its considerations of a commercial DBS system by a general policy public hearing, aiding such deliberations by publishing a working paper in advance of the hearings. Following the policy hearing, a policy statement could be issued and DBS applications accepted on the basis of criteria set out in the policy

*See page 83.

statement. In essence, this process would follow the pattern set for the consideration of Canadian pay-TV services.

Given the difficulty of reconciling a commercial pay-TV service with Canadian social and cultural objectives, it is evident that the introduction of a commercial DBS system will pose almost identical problems to those encountered in considering a Canadian pay-TV service and will further exacerbate the planning of appropriate long range strategies. In view of this, some clear government policy direction to the CRTC will be needed.

If an effective evolution to a pure DBS system is to occur, the CRTC will need to project a scenario which includes an interim use of Anik C, with experiments to aid design and development of the pure DBS system, but which does not result in the public being deprived of important services in the transition stage. The matter of local services will be especially critical since the CRTC's licensing policy has traditionally been based on the concept of local licensing and the servicing of discrete local areas. This policy has resulted in a reluctance to increase local broadcaster audience fragmentation by the introduction of new services like pay-TV and to permit entry, via cable, of distant Canadian broadcast stations into local markets. The commercial DBS program package therefore raises anew all of the familiar past concerns.

As has been indicated in MODEL 1, the advent of DBS might well provide an appropriate time to challenge previous practices and to seek new forms of local service provision. If greater recognition is to be given to the dictates of the commercial marketplace, then it would appear logical to remove those regulatory and policy devices that protect the private sector from competition.

c) The CBC

If the emphasis is placed on a commercial DBS service of the type outlined in MODEL 2, the CBC will face problems similar to those encountered by the private networks. Tied to a terrestrial system and relying on commercial revenue, it will be faced with a major re-appraisal of its existing programming philosophies and practices. In such circumstances, it will need to aggressively seek alternative services to those provided by the private sector or risk a further loss of credibility and public support.

While the competitive effect could strengthen the CBC's resolve to offer a unique service, it could also seriously undermine the CBC's ability to effectively fulfill the social and cultural role which it has traditionally attempted to provide. Surrounded by a host of new commercial services, based on extensive use of foreign content, and itself locked in to commercial determinants, it is hard to see how its "presence" will differ from the commercial competition.

MODEL 2, therefore, presents the CBC with a difficult dilemma; if the private sector is given a preferred place in DBS development, the CBC must find within itself the energy to change and adapt to the possibility of lowered status in the system. In the process, it may well achieve greater effectiveness. On the other hand, if it is given the advantages of the MODEL 1 approach, its future direction will be largely externally imposed. If this is accepted as an opportunity, positive change could also result, but if it is resisted, the CBC's long term value and effectiveness could be seriously comprised.

d) The Private Broadcasting Sector

MODEL 2 will likely have a contradictory impact on the private broadcasting sector. Independent stations and those broadcasters with a strong sense of entrepreneurship will see a commercial DBS system as an opportunity for growth and development. By contrast, the established networks and their affiliated stations will likely see the MODEL 2 approach as a further threat to their existence. Ironically, MODEL 2 poses a similar threat to the private networks as it does to the CBC. It could cause them to improve their adaptability to new developments or force an even greater reliance on protective policies. Since protective policies are unlikely to be maintained, a major shake-up in the industry would be inevitable.

It is of interest to speculate on what might happen if the present private networks were dismantled. For example, what if local stations--the present network affiliates--separated from the network to become independent local stations? This would leave the networks free to concentrate on regional and national program services supported by national advertising.

Under such circumstances, the local stations could adopt a number of approaches. They could:

- Alter the scale of their present operations so as to exist on local time sales.
- Cherry-pick programs from a variety of services, (at costs set by the program originators), such as DBS and fixed satellite systems, to form their own local schedules.
- Enter into co-production or co-ownership relations with local radio or cable.
- Act partly as local carriers for locally produced community programs.
- Form a DBS-based third service network based on the U.S. Hubbard Broadcasting concept. (See page 157, Volume I of this Report.)

These alternatives are not exhaustive, nor are they necessarily practical in all cases. They are listed to suggest that alternatives do exist to present operational practices. For example, while new DBS private services supported by advertising could suggest an erosion of present private broadcasting services, this may not in fact happen. New private entrepreneurs could come forward to establish new forms of local television service operating at a more modest level than existing services, and perhaps more comparable to radio in scale and format.

With such a scenario, it may be possible to envisage pay television services and superstations, together with other specialized DBS or cable services, with existing networks operating more as program providers.

If advertising revenue becomes a major source of funding for DBS, local and regional markets could lose revenues in proportion to the DBS system's gain. For this reason, there would be a strong tendency for commercial broadcasters to move towards some degree of interest and control in any DBS model of this type.

At present, CTV affiliates' national time sales represent some 53% of total revenue, and local time sales 26%, with the rest coming from syndication and network payments.

For independent stations, some 77% comes from national time sales and some 16% from local time sales.

e) The Cable Industry

MODEL 2 is unlikely to be resisted by the cable industry because, like MODEL 1, it increases the potential range of services that cable can offer.

The cable industry has long felt that Canadian distant television stations should be carried by cable and the superstation concept will effectively allow this to happen. Furthermore, pay-TV service will also correspond to the emerging plan which will enable cable to be the prime distributor of this service.*

As with MODEL 1, it will be necessary for the private sector DBS program system to have assured, priority, cable carriage.

f) Educational and Other Public Services

Educational and other public service users would not be precluded from access to the DBS carrier by the MODEL 2 approach since they can negotiate directly with the carrier for transponder space, although it may be necessary for the CRTC to ensure them a priority.

TRIGGER MECHANISMS

The complexities involved in both identifying trigger mechanisms and in assessing their impact have been reflected in the discourse on the role of the CBC and the private broadcasting sector in relation to MODEL 2.

*Although it raises questions as to the flexibility available to cable to choose between pay-TV services.

The key trigger mechanisms in MODEL 2, however, would appear to be:

- The establishment of superstations
- The DBS Pay-TV Service
- The emergence of DBS rates which are competitive with terrestrial microwave rates.

TRANSITIONAL PROCESS

As with MODEL 1, Anik C utilization in the DBS mode will be extremely important since it will allow early implementation of key commercial services. It is essential, for example, that pay-TV services utilize the Anik C, interim DBS, mode of delivery.

OTHER ISSUES

a) Canadian Content

MODEL 2 is unlikely to be of much value in increasing the quantitative Canadian program content of the overall system. As the TAMEC study has pointed out, the commercial DBS services would need relief from the present broadcaster Canadian Content rules if they are to be successful.

b) Program Diversity

MODEL 2 is unlikely to increase the overall program diversity in the system. The DBS commercial services will all be of the popular appeal type and if the CBC remains dependent on advertising revenue, its schedules are unlikely to be dramatically different from those of the commercial sector.

c) Third Party Access

Third Party access in MODEL 2 will be similar to that of MODEL 1. Separation of content and carriage will help this process but the bulk of the programming will still be originated and packaged by a relatively small number of program suppliers who have acquired leased access to the DBS system, (i.e., superstations and pay-TV services). Even so, as with MODEL 1, the DBS carrier is the ultimate controller of the transponder space and the principle of broad access to the system, outside of the large program distributors, is thereby assured.

d) Local Service

Superstations could have an adverse impact on the economic health of small market broadcasting stations. On the other hand, cable and off-air local redistribution systems could be encouraged by use of Anik C. This will open up the possibility of more effective local service via alternative local distribution systems, like low power transmitters and cable.

THE RELATIONSHIP BETWEEN MODELS 1 AND 2

Although for the purposes of this analysis the public and private sector involvement in DBS has been considered separately, (in the pure forms represented by MODELS 1 and 2), in practice a combination of both public and private sector services will probably constitute the DBS service package.

For example, the Telesat study of the use of Anik C in a DBS mode concludes that an 8 program package consisting of Basic, Extended, and Pay-TV services, would be the most cost effective.* The Telesat study assumes that the basic service would consist of CBC national and regional French and English services as well as regional provincial educational services. The Extended service would consist of advertiser-supported regional broadcasters, and the Pay services would comprise a French and English language channel.

If MODEL 1 is chosen, it could precede, not eliminate, a subsequent MODEL 2. Similarly, MODEL 2 could precede, and not eliminate, a subsequent MODEL 1. The requirement in each case, however, is to choose the catalyst carefully. The catalyst or trigger mechanism might be represented by, say, no commercials or no local programming in MODEL 1; or allowing superstations, or pay-TV, on DBS in MODEL 2.

While pay-TV represents a new source of revenue, advertiser based DBS services would compete with existing recipients of the available advertising revenues. If, however, the CBC relinquished its dependency on television advertising, an additional \$130 million of advertising revenue would be made available to the private sector, if one assumes no loss of sponsors. This would represent an increase of some 22% in private sector advertising revenues, an amount more than sufficient to support several superstations.**

*See Study of the use of Anik C for direct-to-home and community television distribution services, page 39, Section 3.

**Based on the results of the 1981 TAMEC Study on the feasibility of DBS.

While the CRTC has consistently opposed the distribution via cable of selected Canadian television stations, fearing that such a practice would erode the revenues of local television stations, it has relented somewhat in the CANCOM decision because the independent stations selected as components of the CANCOM service will enjoy only a relatively restricted distribution. The CANCOM service is aimed at households/communities with two or less television signals and market entry can be controlled by a combination of signal scrambling and the CRTC licensing of local distributors.

Nevertheless, the CANCOM decision moves a step closer to the Canadian superstation concept. If this concept is to succeed in the manner discussed in MODEL 2, it must, however, enjoy extensive regional and/or national distribution. If this is not accepted, the DBS superstation concept is unlikely to succeed.*

As regards a DBS pay-TV service, much depends on the evolution of the current process implemented by the CRTC to introduce pay-TV in Canada.

If DBS pay-TV is a second or third order service following a first pay-TV service licensed to local "stand alone" pay-TV systems, or national or regional pay-TV systems largely distributed via terrestrial means, it will probably be hard pressed to draw sufficient subscribers to make it a viable and interesting alternative pay-TV service. Much will depend

*It is difficult at this stage to assess the potential impact of CANCOM on future DBS development. Although the CRTC has restricted CANCOM to households/communities with two or less television signals, it might prove politically difficult to sustain this position (witness the difficulty of restricting cable importation of US signals via microwave). CANCOM, because it relies on local redistribution systems, could reduce potential DBS direct-to-home users; on the other hand, DBS will rely mainly on redistribution systems itself, particularly cable redistribution.

on the pace of the development of a Canadian pay-TV service. If, as seems likely, pay-TV becomes a user of fixed satellite capacity in the 6/4 Ghz band for program distribution, the transition to DBS could be easier since the basic principles of satellite use would be accepted from the start of the pay-TV services.* On the other hand, an even more satisfactory development would be to use Anik C capacity from the start of pay-TV service. Not only would this make transition to subsequent derivations of DBS easier, but it would make the pay-TV service more accessible to the Canadian public. As well, use of Anik C would gain a valuable competitive advantage over the impending introduction of the U.S. COMSAT subscription DBS service.

The use of scrambled services, although an essential part of the CANCOM concept, raises some difficult issues in relation to the cost of service to individual subscribers. Although reasonably foolproof scrambling systems are available for use with conventional off-air and DBS delivery systems, the equipment is still complex and costly. For this reason, local redistribution of DBS scrambled signals, especially by cable systems,** is likely to remain less costly than direct individual household reception and descrambling. This would appear to constitute another reason

*Several pay-TV applicants appear ready to adopt this approach.

**Cable distributors have more control over the signals being distributed, whereas cable might descramble satellite signals at the earth-receive terminal and distribute them to their subscribers unscrambled, off-air local delivery involves descrambling the satellite signals and re-scrambling them for local delivery in order to prevent illegal reception.

why interim use of Anik C in a DBS mode could be advantageous since it would encourage the maximum development of local distribution systems while retaining the individual option of receiving signals directly into the home.

As with MODEL 1, MODEL 2 transitions could be phased over, say, a ten-year period. Given the large variety of services that will develop over the next few years, it seems unlikely that needed services would be adversely affected. For example, if there are continuing demands for various levels of local television service, it is more likely that these will be provided if a variety of entrants are able to evolve new forms of service provision.

The most important result achieved by MODELS 1 and 2 is the shifting of the present system towards a separation of the content and carriage functions. This is achieved by adapting existing institutions to new roles without losing their existing resources and experience. The net result should be to bring about greatly improved production and distribution access opportunities for a wider range of potential program and service providers and in so doing provide greater program diversity in the system.

M O D E L 3

Basic Priority: To extend, and improve the diversity of, Canadian broadcasting services by combining public and private resources in a DBS Program Service Authority.

This model would combine private and public interests in order to maximize the available economic and other resources available to produce Canadian programs for the DBS service. It would give a high priority to Canadian social and cultural objectives, but would also provide foreign programming in the DBS program package.

This approach involves the setting up of an entity able to receive and disburse public and private funds. Financing of the program service could be accomplished through public funding, commercial advertising, and subscription services like pay-TV. Presumably, the organizational entity could be based on the model used for Telesat Canada, which is a mixed corporation combining private and government interests, and established by statute or incorporation. The entity would not own the DBS hardware and would be entirely devoted to the development of the program services.

The nature of the programming services would be determined by the programming entity and would, of course, be influenced by the kinds of interests involved.

For example, while it would be difficult for the CBC to distribute its present regional and national services without utilizing a large proportion of the available transponder space, it could, as a member of the program entity, develop an entirely new service expressly for DBS.

It is also assumed that the new program entity would aid the opening up of the DBS facility to a variety of users. In addition to the program origination capability of broadcasters could be added the independent production sector, and the resources of federally-supported cultural agencies like the NFB and the National Arts Centre.

If special interests are to be served, the mandate of the Corporation would have to be designed with specific service requirements. Some of these requirements might need to include a facility for replacing Corporation* material with direct access type programming.**

As in the previous models, the Corporation* could own uplinks and earth-receive facilities.

Providing an additional outlet for the work of existing federal cultural agencies could ease somewhat the problem of finding new sources of revenue for new production. If the Corporation provides subscription services, such revenues would further assist the enterprise in becoming a self-supporting activity.

As with MODEL 2, the program service would have to be attractive enough to draw and hold subscribers. Since it will be competing with pay television and existing broadcasting services, its options are limited. Nevertheless, it would be important to obtain an alternative service to those that will already be available.

*Corporation is used to describe the DBS Authority, not the CBC.

**The existence of the Corporation would not preclude other program service originators from leasing space directly from Telesat but the Corporation could do much to encourage broader access to DBS.

The difficulties of combining remote area needs with urban interests will, as with the other models, be difficult to reconcile. Many underserved areas will have high proportion of true DBS households, whereas urban households will likely obtain the service via cable, and the revenue generation in relation to population will be greatest from this latter source.

VARIATIONS

An alternative approach would be to base the Authority on the British model used with the Independent Broadcasting Authority (IBA).^{*} This would involve the setting up of a new Government Authority, responsible to Parliament, but with wide freedom of action. The Authority would not, of itself, make programs but would contract them from independent and/or public suppliers.

The IBA model offers a number of organizational and administrative possibilities:

- The Authority could concern itself with private sector contributions to DBS.
- The Authority could commission programs, rent transponder space, and collect DBS revenues.
- Alternatively, it could rent transponder space to users on condition that they fulfill certain program objectives. In return, the user could carry commercial advertising or subscription program services.

^{*}An interesting proposal, which is presently based solely on the distribution of program services via cable, has been proposed by Stuart Griffiths. This idea could be adapted to a DBS + cable distribution mode. See "For the 80's and Beyond: A Proposal for Restructuring the Canadian Broadcasting System," Stuart Griffiths, Ottawa, April 6, 1981.

The preceding conditions, applying only to the private sector, could be extended to all other program suppliers, including federal agencies and public broadcasters.

In such a model, the Authority would become a sort of transponder retailer and program acquirer and in this way could draw upon a wide spectrum of program services.*

IMPACT OF MODEL 3 ON....

a) The Government

MODEL 3 could reduce the financial burden on the government if a major portion of the initial capital outlay can be absorbed by the private sector and if the entire operation could eventually become self-supporting through the development of new sources of advertising and subscription revenue.

New legislation would be required to set up both the new program corporation and an IBA model, and to set out their terms of reference. As well, it would be necessary to ascertain whether the CBC could, or would, act independently to participate in the new concepts.**

*It should be recognized that while the authority would acquire and rent transponder space, it would not own and operate the technical DBS facility. This facility would be the responsibility of a Telesat-type agency.

**In the case of pay-TV, the CBC was prepared to form an alliance with the private broadcast networks.

Creating an IBA-type authority would turn present broadcasters into program suppliers, essentially creating a government buying agency for domestic and foreign programs.

While the mixed, private and public, program corporation could reduce government expenditure in DBS development, the IBA approach could be more expensive since the entire initiative for its introduction would fall to the government.

The overall financial ability of these concepts would also be more difficult to determine since the objectives would be neither completely public service, nor completely commercially based, but a combination of both.

b) On the CRTC

If the proposed corporations carried out both the programming and exercised control over the DBS distribution function, it would presumably be possible to licence these entities as broadcasters.* On the other hand, a discrete programming entity could not be easily related to present licensing practices. As has been discussed earlier, the network concept would not seem appropriate in that it will not appear to be reconcilable with a direct-to-home type service which has no locally licensed redistributor. Furthermore, there are also legal difficulties in licensing, as a broadcaster, just the combined programming uplink transmission functions, in view of the fact that the uplink transmission would not be a "public" frequency.

*If in some way the portion of the leased transponder space and its satellite-to-earth signal transmission can be construed as a broadcasting undertaking. See page 83.

This dilemma focusses back on the need to define new licensing powers for the CRTC and to embody them in a new Telecommunications Bill. This may require some facility to license program exhibitors.

The concerns about local service will increase with this model, as it has with MODELS 1 and 2. If the proposed corporations are to be economically viable, they will add more competition to local stations. The only solution would appear to be to develop alternative forms of local service rather than the over-protection of the present local service system.

If an IBA-type activity was created, this would presumably be accomplished by legislative action, whereas the mixed corporation would presumably first become the subject of CRTC public hearings.

Like the Pay-TV hearings, the CRTC could progressively evolve policy and licensing procedures to effect the new concept.* As with the previous models, however, the implications for the government's broadcasting and telecommunications strategy will be extensive and some government direction to the CRTC would seem to be highly desirable.

c) On the CBC

Unlike MODELS 1 and 2, MODEL 3 may tend to force more local programming responsibilities onto the CBC simply because it may represent the only way to fill the void if private sector energies become more identified with regional and national services.

*With the previous rider that the CRTC's licensing powers may be limited.

If this occurs, and the plan is still to have the CBC concentrate on regional and national programming services, steps would have to be taken to ensure that local programming by the CBC is an interim function until some new local programming initiatives by the private sector can be evolved.

If the CBC contributes to the mixed corporation, its role may become even less distinguishable from private sector activities, since its programming contribution to DBS could be directly combined with private sector services rather like the present CBC private affiliate arrangement. Furthermore, the corporation may well decide that commercial advertising must continue to be a factor in CBC programming. The same conditions could also apply in an IBA-type model, unless specific operating criteria are set out in the enabling legislation.

d) The Private Broadcasting Sector

The MODEL 3 concept will confront the private sector with difficult economic problems. The mixture of public and commercial objectives will be difficult to reconcile with the profit motive.* Like MODEL 2, the present private networks may resist the evolution of this concept on the grounds that it will seriously impair existing services. If, in spite of this position, the concept is adopted, the networks may feel forced to phase down, or modify, their present network system in order to take advantage of the new concept.

*In this regard, the IBA model might be less detrimental to these goals.

While these considerations may not be undesirable, it reveals the difficulties inherent in mixing public and private goals in one organizational entity. The resulting compromise, which is so evident in the present system, is seldom conducive to effective results.

e) The Cable Industry

While the cable industry is unlikely to resist the MODEL 3 approach, it will surely look to a fair opportunity to participate. Like pay-TV (of the type already considered by the CRTC), the cable industry will again be part of the main redistribution system.*

This will require a further examination of cable's role, and the value of extending the hybrid concept, i.e., neither purely broadcaster nor carrier, but a combination of both.

In this case, because local off-air redistribution systems will also perform a "carrier" role for the DBS service, it would appear important to rethink previous policy and to not preclude either cable or broadcasters from ownership positions in the public/private corporation.

f) Educational and Other Public Services

Given the combined public and private participation in the mixed program corporation, and the wholly public commitment to the IBA model, it should be easier to integrate the educational and other public service users in the MODEL 3 approach to program service packages.

*In the previous, non DBS, Pay-TV considerations, the CRTC was concerned about the carrier, cable, also having too great an involvement in the program service.

TRIGGER MECHANISMS

In this case, the trigger mechanism would be represented by the creation of the mixed corporation or the IBA-type agency since both approaches will cause extensive changes throughout the present system.

TRANSITIONAL PROCESS

As with MODELS 1 and 2, Anik C would be an important part of the transitional process. The program corporation could provide valuable development experience to facilitate the design of a pure DBS system.

OTHER ISSUES

a) Canadian Content

It is doubtful whether MODEL 3 will result in a major increase in Canadian Content. While the IBA model may be somewhat more effective in this regard, both the corporations proposed in MODEL 3 rely heavily on revenues from a continuation of the present mass-audience programming philosophy, which is not necessarily favourable to Canadian Content.

b) Program Diversity

The constraints on Canadian Content will also affect the degree of program diversity. Because of the combining of public and private sector objectives, a compromise is inevitable and the likelihood of an emergence of a number of discrete program service styles seems remote.

c) Third Party Access

MODEL 3 also allows for broad third party access. From the point of view of the mixed programming corporation, it will possibly provide better third party access opportunities than either of MODELS 1 or 2. The reason is that a broader control is possible. This will be especially so if public, as well as cable, broadcasting, and independent production sector participants contribute to the formation of the mixed corporation.

In the IBA model case, the terms of reference for the new corporation can encompass precise access requirements.

In any event, direct third party access to the DBS carrier is still assured.

d) Local Programming

This question has already been reviewed at some length. While it remains a critical factor in all three models, it is essential that it be approached with new perspectives. Allowing for the possibility of new local service providers is essential.*

*It might be easier in the IBA model to develop a variant of the U.S. Hubbard proposal and to establish affiliates which carry a set proportion of Canadian programs.

COMMENTS ON MODEL 3

The considerations applied to MODEL 3, with the inherent complexities involved, suggest that certain overall efficiencies would be possible if the idea was extended to introduce a broader system of carriage and content separation.

As an example, all hertzian wave based television delivery systems could be operated by a Telesat-type corporation with program originators providing program services through the IBA-type authority described above. The authority would concern itself with matching the program service providers with the appropriate hertzian wave delivery systems.

In such a model, the authority would be involved in the balancing of CBC, NFB, and other federally-supported program services, with those provided from the private sector. It could also acquire foreign programs for resale to Canadian distributors.*

The overall effect of such an approach would be to move the hertzian wave delivered television distribution system into a common carrier mode. If this was done, it would also be necessary to consider similar developments with cable.

*While MODEL 3 would appear to offer just as good, if not better, access opportunities, it does not permit the existing components of the system to gradually adapt to the content/carriage separation concept as MODELS 1 and 2 do.

The massive restructuring required by such a plan, and the difficulties involved in achieving a smooth transition from the present system, seems to place severe doubts on its practicality. On the other hand, it could be implemented in relation only to DBS, and private sector involvement in DBS, leaving perhaps a MODEL 1 approach to the provision of public DBS services. In this case, Telesat would handle DBS in the same manner as it handles present fixed satellite services with the program authority concerning itself only with privately developed program services.*

*However, it is assumed that the program authority would require program contractors able to provide a high proportion of Canadian programs in their program schedules.

OVERALL COMMENTS ON ALL THREE MODELS

Based on U.S. studies, it seems unlikely that DBS will, in the long run, deprive the public of services; in fact, it should aid new service development. Although the U.S. situation is different, the Canadian models outlined would all be competing with well-established services, including pay-TV and the CANCOM concept. The question seems to be whether a DBS system can survive economically if it is to rely on subscription or advertiser revenue alone.

The impact of DBS on the existing system would be least with MODEL 1 and greatest with MODELS 2 and 3. Although extensive adjustments in local service provision will undoubtedly occur over the next decade, it is unlikely that DBS will have a significantly negative effect in the long term.*

The question of cable carriage of DBS signals, whether scrambled or not, is of course critical, given the high cable penetration in Canada. Cable carriage is not only desirable but essential to DBS,** and, furthermore, some way will have to be found to channel subscription DBS revenues acquired through cable redistribution, back to the operator of the DBS service.

*Providing specific steps are taken to encourage, and allow, new forms of local service provision.

**As the TAMEC Study shows.

Cable licensees could be required to carry the DBS service by regulation and, if it a subscription service, elect to provide it to cable subscribers in its DBS form or include it in their own price tiering structure, but recompense to the DBS operator will be a necessary part of such an arrangement.

It would seem important in all three models to leave ample room for experimentation both with programming and technical systems. High definition television represents an example of an important concept, not only for the improvements it can bring to picture quality, but because of the potential it represents for further creative exploration of television images and formats.

While radio, videotext and data services have not been included in the models, it is assumed that some bandwidth might be allocated to these purposes as well. However, the primary focus of DBS in the Canadian context would appear to be in providing television services.*

While, like the CBC, private stations could contribute to regional programming, the viability of this concept will be directly dependent on revenue levels attained.

MODELS 1 and 2, either developed separately or together, seem to offer the greatest transitional advantages. Because they build from existing structures, disruptive effects can be better controlled. As well, new opportunities are offered to both existing and new entrants; even so, major changes to present structures will be required.

*At least in the initial stages.

MODEL 3 should perhaps not be rejected without further study, since it offers alternative ways of achieving a restructuring of the present system. Even if some variant of MODEL 3 is considered appropriate, it would be necessary to weigh the public cost of implementing it and to try and ensure that it does not act against the release of innovative and creative ideas nor concentrate too much power and control in one place.

The models examined are all based on retaining a major responsibility for the provision of the programming services in a limited number of agencies. While it is hoped that these agencies will encourage broader access for program creators, assisting them with both financing and distribution, the dangers inherent in this type of control have been recognized. For this reason, it has been recommended that the mandates of the agencies outlined include broad access guarantees. As well, independent users of the DBS system must be able to lease transponder space from the carrier, especially in those instances where separation of the content from the carriage system is an accepted part of the concept.

There is, however, another approach which could be taken. Program providers, whether they be the CBC, the private broadcasters, independent producers, cable programmers, data providers, and others, could lease transponder space sufficient to provide their proposed services. It might then be possible to licence them as broadcasters.*

*See page 83.

since they will have control of the program origination and/or packaging function as well as the needed portion of the uplink facility, and the satellite-to-ground transmission.*

This approach would ensure broad access, but it would probably increase the difficulties of achieving a coordinated approach to Canadian social and cultural objectives and might force the CRTC to carry out a "gating" function. Such an order of regulatory involvement in content provision could be highly undesirable.

It is evident that the F.C.C. in the U.S.A., which is now considering some eight DBS applicants (see p.155, Vol. 1) intends to adopt a variety of approaches so as to maintain a competitive element in DBS service provision. In the U.S. case, it seems likely that some applicants may act as pure carriers, others as program and data providers, while others will combine both functions.

Although this order of flexibility has certain attractions, it will need to be weighed carefully in the Canadian content since competition has to be balanced against the need to achieve precise cultural objectives, and the resources available to launch DBS are less than those of the U.S. and could be unduly fragmented if too many options are introduced simultaneously.

*While this seems similar to the plan proposed, transponder time would not be blocked booked by a program agency, but related only to actual program scheduling.

Throughout the examination of the models, it has been assumed that the design, development and operation of the DBS system would be carried out by an independent carrier type organization. The advantages of operating in this way, and enabling a separation of the content and carriage functions, have been alluded to throughout this study.

It would, of course, be possible to adopt an opposite position and combine the content and carriage function, preserving the principles upon which off-air broadcasting and cable television undertakings have been traditionally regulated.

In this respect, any one of the three models and their variations could combine the programming function with the development and operation of the DBS technical facility.

While this study recognizes that cost savings and operating efficiencies might accrue if the DBS technical facility was entirely managed by private interests, there seems to be little value in tying the technical facility to the programming function. The argument presented by this study is basically that there are likely to be a wide spectrum of potential DBS users and locking the DBS facility wholly to one or two service suppliers would act against the basic objective of achieving broader access to the system.

Anik C has an essential role in all the models, providing, as it does, a unique Canadian advantage to explore DBS without delay.

Given the attractiveness of the Anik C1 and C2 systems, one is led to speculate whether it would not be highly advantageous to contemplate a more advanced form of DBS, providing more channels and permitting experimentation of all kinds, particularly with high definition television and new data services. With the hoped for life expectancy of the Anik C series, such new DBS developments could logically follow an effective period of experience with embryo DBS services on Anik C.

The accompanying chart attempts to provide a comparison between the various models. While all the models require changes to existing legislation and provide good third party access, the performance differs in respect of Canadian content and program diversity.

It is concluded that Canadian content and program diversity increases as public participation increases. Increased private sector involvement reduces public expenditures but lowers the effectiveness of results achieved in Canadian content and program diversity.

While these conclusions could be modified by performances which differ from existing norms, nevertheless, it is felt that these broad trends are likely to be followed.

| | Government Legislation | Cost to Government | Change to CRTC Regulatory Powers | Impact on CBC | Impact on Private Broadcasters | Impact on Cable | Improvement to Canadian Content | Improvement to Program Diversity | Impact on Local Service | Separation of Content and Carriage | Education & Other Public Service User Access |
|-------------------|------------------------|--------------------|----------------------------------|---------------|--------------------------------|-----------------|---------------------------------|----------------------------------|-------------------------|------------------------------------|--|
| Model 1 | Yes | Moderate | Yes | Major * | Minimal | Positive | Yes | Yes | High | Yes | Good |
| Model 1 Variation | Yes | Moderate | Yes | Major * | Minimal | Positive | Yes | Yes | High | Yes | Good |
| Model 2 | Yes | Minimal | Yes | Minimal | Major | Positive | No | No | Moderate to High | Yes | Good |
| Model 3 | Yes | Moderate | Yes | Major ** | Major | Positive | No | No | High | Yes | Good |
| Model 3 IBA Type | Yes | High | Yes | Major ** | Major | Positive | Yes | Yes | High | Yes | Good |

* Structural Change.

** Lessens CBC role.

All models have a major impact on existing local services but alternative types of local service can be developed, given suitable incentives.

The impact of four of the models on the CBC alters in form, but not in degree. For example, the two MODEL 1's require extensive structural changes to the CBC, whereas the two MODEL 3's have the effect of greatly altering the significance of the CBC's role in the system.

All the models have a generally favourable impact on cable in that they provide new services and rely largely on cable for program redistribution.

The impact of DBS on the present Canadian Broadcasting and Telecommunications System will be significant, and structural changes will be a logical part of DBS introduction. Even if Canada were to delay its entry into DBS, the presence of DBS services in the U.S., with major spillover into Canada, would force the implementation of protective regulatory measures similar to those pursued in the past. Basically, this study rejects this approach because it is felt that protective regulatory devices, at least of a major order, are unlikely to be effective either in the immediate present or long-term future.

DBS is becoming an accepted long-term goal of most countries in the world and it would be foolhardy of Canada to think that it can opt out of these developments. While it has to be admitted that technological advances are setting the pace of development, it would be most unwise to conclude that this is essentially a negative occurrence in relation to program or "software" development. In fact, there is ample evidence to show that DBS can aid "software" development and provide the public with improved services, both in urban, rural, and remote areas, and as well offer a greater choice of services.

It would be equally unwise to view DBS only in relation to domestic services. Although the problems relating to the settling of agreements between states with regard to DBS signal spillover seem far from a satisfactory resolution, there is little doubt that the signal spillover

phenomenon will be exploited for a variety of reasons which may be either political, social, cultural, or economic, or all of these in varying degrees.

This suggests that planners and regulators should regard DBS as an opportunity, a chance to rethink present philosophies and practices, rather than an excuse to become more insular, more protective, and more fearful of contemplating change to existing institutions and structures.

In any event, few countries will have the luxury of retreating behind their borders because DBS respects no conventional territorial limits. Even if the DBS technology evolves to such an extent that highly precise signal "footprints" are possible, it is unlikely that states will be able to resist exploitation of its universality. The economics involved are too enticing to pass up and already DBS planners in Europe are becoming interested in the extra digits they can add to advertising revenues and audiences through the use of DBS.

For Canada, DBS seems to aggravate the cultural sovereignty problem creating more distribution space and drawing further attention to the difficulties of even partially filling it with Canadian programs and services.

Furthermore, DBS repeats the cable experience over again in a more devastating way, promising to bring foreign signals to individuals, not via Canadian regulated systems, but direct, unhindered, to Canadian homes.

In the face of this, Canada must turn to its program production industry. Furthermore, it must use it, enlarge it, and ~~develop it as never before~~. In the past, we have not succeeded in realizing the necessary objectives and we have tended to cover our failure to develop our program production industry by looking to regulatory solutions to control foreign programs. At the same time, the public is making its choices on the basis of a growing array of international programs which can be accessed more easily than in the past. The advent of DBS and its natural association with cable development will aggravate the problem and will leave no alternative but to develop quality Canadian programs, of a broader range, not only to be watched by Canadians, but by international audiences as well. Future regulations and policies must allow the artists and creators to respond to the challenge.

In the face of these immense possibilities, because that is what they are, possibilities--opportunities to be seized with imagination--a variety of options are available. What follows then are some of the issues which emerge from this speculative look into the future. This is not an exhaustive list of the issues or the options because the full weight of Canada's developing expertise in this field must be tapped. What is provided is hopefully a start at enlarging the horizons of all concerned, policy makers, regulators, technologists, and above all, programmers, the "software" people, to the potential of DBS and of the Canadian system of which it will be come a part.

Basically, this report assumes that there will be a Canadian DBS system and that the immediate task is to plan for its effective introduction. It is felt that the transition to a DBS-influenced broadcasting and telecommunications system can best be accomplished by identifying "trigger" mechanisms which will start a process of constructive change.

The following represents some of the key issues and options which it is felt must receive priority consideration:

1. It is evident that DBS cannot be effectively introduced into the present telecommunications system without some restructuring of that system. Essentially, the restructuring should be undertaken to bring about the introduction and effective use of DBS rather than simply to adapt to its implementation. There would appear to be several options available:

- a. To use the CBC as the chosen program service instrument to introduce DBS.
- b. To allow DBS services to be developed largely by the private sector.
- c. To allow a combination of a. and b. by establishing a new programming corporation charged with the task of introducing a DBS program service.

PART 6

CONCLUSIONS AND RECOMMENDATIONS

Option a. would be best accomplished by restructuring the CBC's present operations so as to take maximum advantage of a DBS-influenced broadcasting and telecommunications system. To effect the order of change that has been outlined in this report would probably entail a revision of the existing Broadcasting Act. Basically, the CBC would phase out of terrestrial off-air delivery relying entirely on DBS and cable. Present television programming services would be extensively modified to take advantage of the changed method of program distribution. While the expectation is that the CBC would phase out its dependence on commercial revenue, it could develop subscription based services.

Option b. envisages a wholly private sector based approach to DBS service. Based on studies done thus far, it would appear that the primary services would be Canadian "superstations" and pay-TV services.* This could result in a major change in the existing private television structure with the present networks becoming program providers to a DBS service with existing local stations disaffiliating from the networks to become independent local stations and/or forming new affiliation arrangements to exploit the DBS concept.

Option c. involves the creation of a new entity charged with operating the DBS program service. This entity could be public or private or a combination of both. Given the importance of public service objectives, a public entity is favoured.

*The extent to which other services will emerge will depend on their economic viability.

While the operation of the DBS technical facility could be combined with the programming function in each of the models, this approach is not favoured because it tends to run counter to an overall improvement in access to the systems of distribution.

Of the various options, this report favours Option a. followed eventually by Option b. Although this timing is not critical, given that private sector pay-TV service will already exist by the time of DBS introduction and could be transferred to DBS.

It is felt that this approach makes maximum use of existing instruments, like the CBC/Radio Canada and Telesat, and restores the primacy of the CBC in the overall system. As well, it gives ample scope for private sector initiatives.

2. Anik C represents an important interim DBS-type service. Particular attention should be given to the use of this facility for the provision of services such as pay-TV which might eventually occupy DBS service channels. In this way too, Canada can maintain its lead in satellite development.

Option a. could be proceeded with as early as 1983 if Anik C is used in an interim DBS mode. If this is accepted, planning for a full DBS system should look well ahead to an advanced type of service which could also provide a full experimental capability, particularly for high-definition television and other kinds of advanced audio, video and data services.

In addition to the Option a. service, Anik C could also be deployed to assist Option b. development, particularly with subscription-type services.

3. An extensive review should be undertaken of the existing Broadcasting Act and the proposed Telecommunications Act in order to render them more suitable to the introduction of the operational techniques needed to facilitate effective implementation of a DBS service. While this report has placed considerable emphasis on the separation of content and carriage activities, and competitive licensing, and it is felt that the broadcasting legislation should be able to accommodate such concepts, the desire is not to make new legislation more limiting. Nevertheless, the new Act should be at least capable of permitting the recognition of a program supplier, or exhibitor, who could become a licensed entity, and providing for the possibility of competitive licence applications both in the initial, renewal, and transfer stages.

The primary purpose of this recommendation is to render the Act more amenable to administrative changes in the present policy and regulatory process. This will require consideration of the content/carriage issue and a determination of the extent to which the federal government would control content. In the process, the form of control over closed-circuit vs. broadcast-type services would need to be more clearly defined.

4. The existing work undertaken in relation to cross-ownership and ownership concentration should be extended in order to encompass the possibility of facilitating new degrees and forms of cross-ownership at the local level to enable the introduction of new types of local service provision.

In early 1979, the CRTC issued a Notice of Intention that it planned to look into the whole question of cross-ownership, but due to the very limited response to the issue, and the fact that the Commission itself is becoming more and more involved in more and more complex forms of ownership, the hearing was not proceeded with. The Commission subsequently decided that it would proceed to handle ownership questions in a manner appropriate to each specific case.

In general, however, the attitude of the Commission to ownership issues seems to be growing somewhat more flexible than was the case in the past. For example, there seems to be less resistance to the principle of allowing broadcasting interests to have some degree of ownership of cable television. In cable television itself, the Commission has shown a willingness to allow ownership concentration in the interest of strengthening the cable industry's ability to improve service to the public and to experiment with new forms of service provision.

While considerable work has therefore already been done by the CRTC in relationship to the ownership issue, it would appear important to re-examine the matter in the light of major changes to the present system structure.

For example, given the need for new forms of local service provision, what types and degrees of cross-ownership and ownership concentration should be used to further this objective?

As well, new domestic and foreign-based organizations are entering the data and program provision field, increasing the number of originating sources existing outside of the present broadcasting and telecommunications regulations. If the government is to push for increased influence over data and program services as a means of preserving Canadian sovereignty, and as a way of increasing the origination of Canadian materials, forms of ownership control may represent a primary instrument.

5. The importance of enabling a variety of program information and data suppliers to develop suggests that the concept of establishing arms-length entities, as spin-offs from current cable, broadcasting, or common carrier activities, will be important.

Thus far there have been strict limitations on cable acting as a programmer, or carriers providing content as information and/or data providers. Given the urgent need to develop Canadian content, ways should be explored to utilize every available capacity including cable and carriers.

This will require extensive exploration of the concept of "arms length" subsidiaries, capable of making an effective contribution to "software" but removing the undesirable effects of monopolistic control of both content and carriage systems.

6. While it is not within the scope of this report to explore the complexities of federal/provincial jurisdiction in relation to broadcasting and communications, it is evident that DBS poses further jurisdictional issues, or highlights the need to resolve existing issues.

Of particular importance will be the delineation of such things as programming and non-programming services, and the extent of federal versus provincial jurisdiction over them. The regulation of tariffs, both for use of the distribution system and for the various levels of service provision contemplated to the public, will require the establishment of precise areas of federal and provincial control.

A critical area will be the extent to which tariffs assist the fulfilment of Canadian content objectives, especially television program content and the content of information and data services.

7. There would seem to be little advantage to be gained by introducing complex regulatory and policy mechanisms to control the reception of foreign satellite signals. While there are obvious grounds for controlling the redistribution of fixed satellite and DBS received signals, there appears to be no merit in restricting the reception of satellite signals intended only for private use.

It will, however, be necessary to re-examine the existing MATV exemption policy since at present it appears to exclude the reception of both Canadian and foreign DBS signals. This will involve consideration of the competitive relationship between cable and MATV systems.

8. Some restructuring of Telesat would appear to be appropriate in the light of the new demands facing this Corporation as more and more satellite delivered facilities are introduced. For example, broadening the ownership of Telesat to include broadcasters and cable would seem to provide many advantages, particularly in maintaining a competitive rate structure. There would also appear to be value in exploring the practicality of Telesat becoming responsible for the operation of present publicly owned terrestrial broadcast transmission facilities.

9. While the recent CRTC Telecom Decision seems to generally assist DBS development, there are certain areas which might need further review in the light of DBS. For example, if the CBC or a like entity was used as the chosen instrument for introducing DBS, it might be advantageous to consider lower DBS rates for such an entity.

The decision to require partial channel leasing and direct leasing of satellite facilities via Telesat would appear to aid the introduction of DBS in the ways that have been suggested in this report.

10. DBS should provide an excellent opportunity to not only restructure the present system, but to improve the nature of the present programming services. For example, the present reliance on the three major U.S. commercial networks and the Public Broadcast System might be considerably de-emphasized, if not removed, if sufficient program diversity can be achieved with the aid of new DBS programming services. This would have very clear advantages in that some of the present, and highly complex, regulatory and policy devices like the 3 + 1 rule, and the simultaneous substitution regulation for cable, could be discontinued.

11. In keeping with the plan to consider the licensing of exhibitors, a more flexible policy should be introduced in relation to both earth-receiving and transmitting station ownership, allowing a far greater range of potential users.

12. The most effective means of improving the Canadian content performance of the system would appear to be the introduction of many new program contributors, the use of chosen instruments like the CBC primarily in a programming capacity, and the introduction of competitive licence applications based on improved benefits flowing towards the

achievement of Canadian cultural and social objectives. This latter factor involves a much greater attention to the monitoring of promises of performance and the replacement of licensees who fail to achieve desired performance levels.

13. It would seem important to plan a Canadian DBS system which is reasonably technically compatible with U.S. and other foreign systems, otherwise Canadians may be inclined to use readily available, and possibly cheaper, receiving equipment to receive foreign signals. Such a development could defeat the whole purpose of introducing a Canadian DBS system in the first place.

Such an approach should be made more practical if Anik C is used as an interim DBS system and the subsequent full Canadian DBS is planned to incorporate advanced DBS technology.

14. There would seem to be special merit in setting up a group specifically charged with the task of constantly monitoring and updating domestic and international trends in software development, both in the interest of evolving satisfactory policies, and as well, to ensure that the maximum advantage is taken of new service concepts. While such studies are part of preparations for the upcoming RARC 1983 Conference, there would appear to be a continuing need for an operational working group whose mandate covers both the regulatory and policy implications as well as the technical and operational considerations related to software.

15. In the course of this report, a number of legal issues have been identified which require further study.

Among these are:

- The power of the federal government, under existing legislation, to direct the CBC/Radio Canada and Telesat.
- The extent to which the CRTC's present licensing powers can be extended to DBS without limiting the value of the DBS concept.
- The extent to which the CRTC can licence non-broadcast type activities, particularly closed-circuit services, and the desirability of clarifying this, by new legislation if necessary, to enable the option of licensing exhibitors and separating content from carriage.
- The need to consider the introduction of competitive licence transfers for program service providers. This would appear to require changes to the present Broadcasting Act and the proposed new Telecommunications Act.
- The need to revise the current cable television regulations to encompass the priority carriage of DBS signals.
- The extent to which it would be possible to direct other agencies like the NFB and the NAC to carry out specific objectives in relation to the implementation of an effective DBS-influenced system.
- The legal status of native and ethnic groups in the light of the Broadcasting Act's recognition of only two official linguistic groups. For example, the CBC presently provides multicultural and native services but it is not legally obligated to do so. This issue could become much more critical as space in the distribution system increases and more special interest groups can be reached more effectively through systems like DBS.
- Clarification is required as to what constitutes a broadcast signal "intended for the public." For example, is a scrambled signal via DBS a public or private broadcast?

16. Space should be provided in a DBS system for both regional and national educational services, and the concept of a national educational service should be encouraged. This would raise anew the definition of educational broadcasting and could involve the licensing of provincial educational authorities as exhibitors. As well, the cable regulations will need adjustment to maintain a priority for educational services delivered via DBS.

17. The resources of agencies like the National Film Board should be brought into the mainstream of new communications development. This could involve (see Item 15) complex problems associated with the government's powers of direction. As well, like the CBC, it could require major restructuring of existing NFB activities.

18. Given the worldwide development of DBS and the possibilities provided of reaching larger audiences, it would be valuable to explore the processes involved in leasing space on foreign satellite services, just as Canada may find it advantageous to lease satellite space.

19. The particular problems likely to be faced by private broadcasters in the next decade, as they adjust to DBS, must, it is felt, be given special recognition. Without protecting the status quo, regulations and policies should aid constructive transition to a DBS-influenced system.

20. The emergence of data and information providers is an important new trend which has Canadian content software implications. It will be important to recognize this in assessing the Canadian content of the overall broadcasting and communications system. Forms of information provider licensing or registration may be necessary, although care will be needed to avoid unnecessary administrative and regulatory complications.

Finally, how have these conclusions and recommendations responded to the desirable objectives identified earlier in this study?

1. The need to find better solutions to local service provision in the face of further audience fragmentation, lower operating revenues, and increases in competitive services.
 - DBS, by forcing a change to the present concepts of local service provision opens the way to the evolution of new types of local services. These new local services can be more truly local, operating at different economic levels, and combining perhaps the present resources of cable and broadcasting with new entrepreneurial skills.
2. The need to continue the process of service extension.
 - DBS finally overcomes the last remaining barrier to full service extension because of the distance insensitivity of the DBS concept.
3. The need to increase the range and diversity of services available to the public.
 - Until now, the range and diversity of the services offered to the public have been limited by the restrictions of the terrestrial off-air frequency spectrum and by regulations and policies which tie new systems like cable to these restrictions. DBS provides the opportunity to use both an expanding

hertzian wave system, as well as an expanding closed-circuit system, to bring the public more diverse services. By breaking down the present monopolies over production and distribution, and by recognizing discrete and different kinds of program revenue support and distribution, new opportunities for program diversity are created.

4. The need to create a better interface between program and data providers and those entities which control access to the distribution system.
 - While in the models examined organizational entities are created to handle both the origination of program and data services, as well as their exhibition, these entities do not own and operate the carrier system. Even when major service financing comes from these entities steps have been proposed to ensure that a high proportion of the services are produced by independent program and data service providers. The independent producers can therefore expect more access to the system via the organizational entities which develop and exhibit services as well as having a direct access facility by renting space from the common carrier.
5. The need to maximize the exposure of Canadian materials by opening up the electronic distribution system more widely for their use.
 - While many Canadian products and services are available which could be usefully distributed via the electronic distribution system, a large number of such services have been denied access in the past. By separating content provision from carriage, by creating more spaces in the system, and by permitting more varied forms of revenue support, many more Canadian services can be accommodated.
6. The need to more effectively direct revenues earned towards the financing of Canadian programming.
 - The examination of potential models for DBS has shown that there is no longer a need to combine publicly supported activities with commercial activities in one operational entity. Furthermore, revenues directed to Canadian production can be devoted to qualitative goals rather than being used to reach arbitrary quantitative requirements.

Because DBS permits a range of new services and new revenue sources, new devices, based on incentives rather than regulation alone, should be employed to direct revenues into effective Canadian programs and services. Direct public support of services and the competitive forces of the marketplace can be effective methods of creating programs of interest to a broad spectrum of Canadians.

7. The need to develop new perceptions of what constitutes a suitable Canadian presence on the telecommunication system.
 - The existence of DBS and cable and the increasing availability of other sources of programs other than from conventional broadcasters underlines the need to re-examine Canadian Content rules directed only at off-air broadcasters. As well, it seems unrealistic to expect a predominance of Canadian materials on a system more susceptible to the reception of foreign programming. In view of this, a new approach to the establishment of what constitutes a suitable Canadian "presence" on the broadcasting and telecommunications system is required.
8. The need to exploit Canadian expertise in the production of specialized programming, not only in domestic markets but in international markets as well.
 - Previous operational practices, dictated largely by policy and regulatory considerations, have focussed on the production of popular programming for domestic use. The increasing importance of new systems of distribution like cable, DBS, and videodiscs and video cassettes, opens up many new opportunities for Canada to develop specialized programs and services for international, as well as domestic, markets. Rather than just protecting Canadian services against foreign competition, regulations and policies for the future should encourage Canada to compete aggressively in international markets.



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