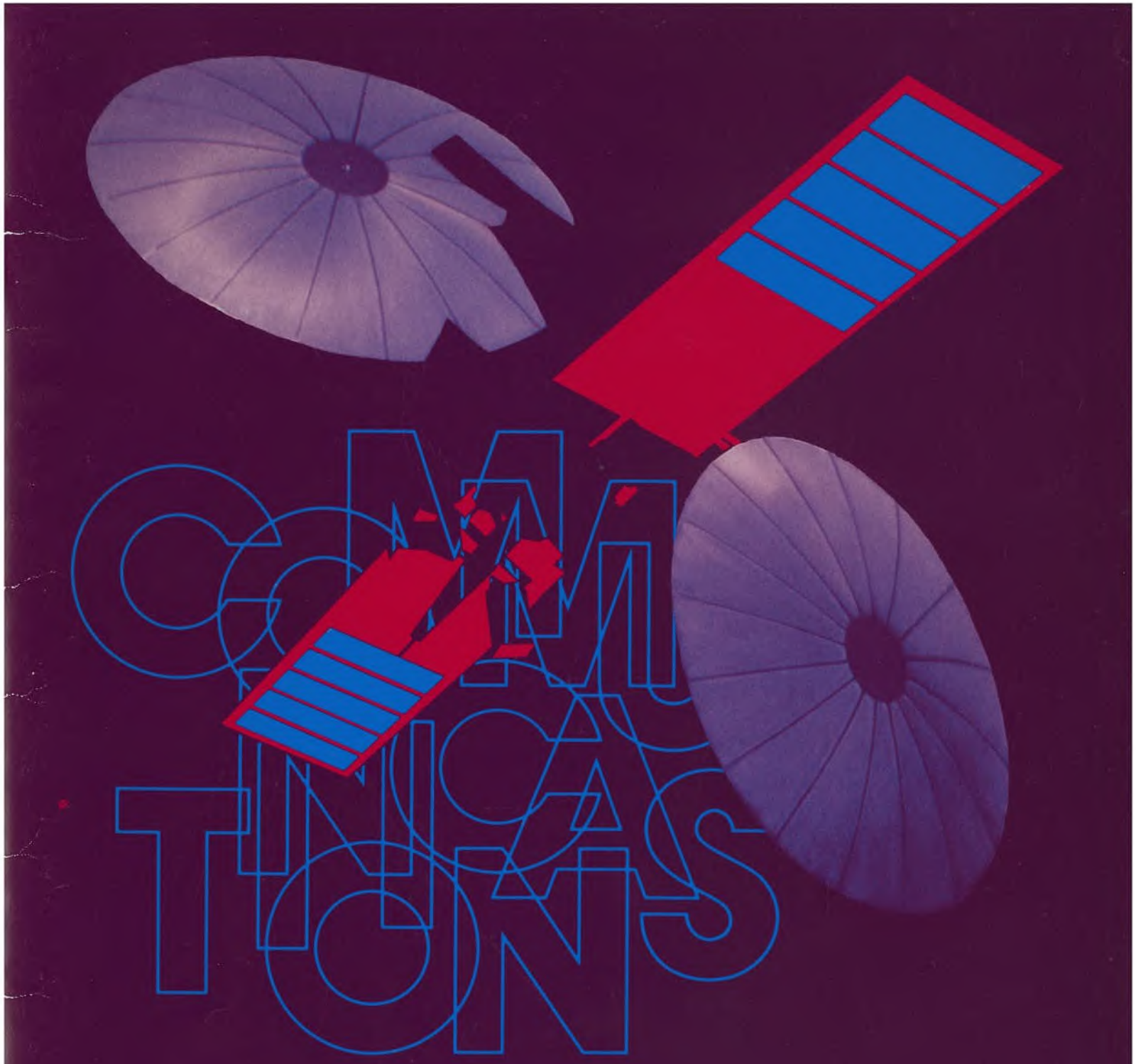

Discussion Paper
Telecommunications Policy Proposals for Mobile Satellite Service

Government of Canada
Department of Communications

Gouvernement du Canada
Ministère des Communications

Canada

DISCUSSION PAPER

TELECOMMUNICATIONS POLICY

PROPOSALS FOR MOBILE SATELLITE SERVICE

FOREWORD

This document, which is issued for discussion purposes, proposes policies that would apply to the future mobile satellite service. It should not be considered as a government funding commitment or as prejudging any decision on the mobile satellite (MSAT) program beyond the current project definition phase.

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1.0 BACKGROUND

In September 1980, the Department of Communications (DOC) began a series of studies with three objectives: to assess the need and to explore the feasibility of using communication satellites to improve mobile communications in Canada, and to define preliminary concepts and plans for the possible establishment and operation of a government-supported demonstration system for mobile users. These studies, which were completed in March 1982, identified a need for such a satellite system, particularly as a means of serving mobile users in rural and remote areas. The studies also confirmed the technical feasibility of a mobile satellite system, and its potential to become economically viable over the longer term.

The studies emphasized that the availability of an adequate allocation of radio frequency spectrum would be critical to ensuring the technical and commercial viability of a mobile satellite system. To this end, DOC in September 1981 published a discussion paper entitled Radio Licensing Policy for Cellular Mobile Radio Systems and Preliminary Mobile-Satellite Planning in the Band 806-890 MHz. While this paper was primarily concerned with the Department's cellular radio policy, it also requested comment on possible frequency allocations for mobile satellite services in the above-mentioned band. Respondents to the paper generally supported the concept of a satellite service that would be complementary to, but not necessarily compatible with, the Cellular Mobile Telephone Service (CMTS).

In July 1982, the Government of Canada approved the Project Definition Phase of the MSAT program. The major objectives of this phase included the definition and design of a first-generation demonstration MSAT system, the development of the required technology, the performance of commercial viability and socioeconomic benefit studies, and the development of a departmental post-launch communications program to support

introduction of the service. Telesat, Telecom Canada, other telecommunications carriers, radio common carriers (RCCs), the manufacturing industry and prospective users of MSAT services are among the many private sector participants in activities related to this phase.

As part of the Project Definition Phase, DOC established several working groups responsible for exploring potential requirements and applications of the MSAT system and advising on systems design, services and other related matters. Members of the working groups include federal government departments and agencies, provincial governments, telecommunications carriers and RCCs. These groups have made a significant contribution to the concept definition and overall system and service planning of the future MSAT system.

DOC has a long history of successful cooperation with the U.S. National Aeronautics and Space Administration (NASA) in the execution of jointly funded and managed space programs. This experience led to early DOC-NASA discussions aimed at reaching an agreement on a demonstration MSAT system that could serve the needs of both countries, while realizing significant savings on the costs of nonrecurring R&D expenses, and space, ground and launch facilities. During the course of these discussions, it became evident that Canadian and American commercial interests were willing to become involved in the establishment of a commercial MSAT system. After further consultation with NASA, Telesat Canada and American commercial interests, DOC decided in October 1983 to reorient the MSAT program from a government demonstration project to a commercial venture.

On November 21, 1983, DOC signed an Arrangement with NASA for cooperation in the definition of a space communications program leading to the joint development of a mobile satellite communications system to meet the needs of both countries. Under this Arrangement DOC authorized Telesat, as owner and operator of Canada's domestic telecommunications satellite network, to enter into negotiations with an American satellite operator* for the establishment of a cooperative agreement regarding the commercial implementation of mobile satellite systems to serve Canadian and American requirements.

In order to achieve the overall objectives of the MSAT program, DOC and Telesat have also signed a Memorandum of Understanding that defines the appropriate roles and responsibilities to be fulfilled by both parties during the different phases of the MSAT program. It should be noted that neither the Government of Canada nor Telesat Canada have made any commitment concerning the MSAT program beyond its Project Definition Phase, which is currently underway. This document should not be considered as prejudging the government's decision to extend the MSAT program beyond that phase.

DOC has invited Telesat Canada to submit by September 30, 1984 a detailed business proposal for the introduction of commercial mobile satellite services in Canada. The proposal is to be consistent with plans for taking maximum advantage of the benefits of cooperating with an American domestic satellite operator. Should such an arrangement not materialize, DOC and Telesat will consider proceeding alone with the establishment of a Canadian domestic MSAT system.

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*While the American government has not taken any action to authorize a mobile satellite service provider, it is assumed that, for the purpose of this paper, only one satellite operator would be authorized to implement a mobile satellite system serving that country's needs.

Copies of the Arrangement signed between DOC and NASA, as well as copies of the Memorandum of Understanding reached between Telesat and DOC, are available for public inspection at the regional offices of the Department in Vancouver, Winnipeg, Toronto, Montreal or Moncton or at the Department's library at 300 Slater Street in Ottawa.

2.0 MSAT SYSTEM DESCRIPTION

The MSAT system to serve Canadian needs, as currently proposed, would comprise one operational satellite located in geostationary orbit. In-space restoral capacity could be provided by a spare satellite shared between the Canadian operator, Telesat, and the authorized American satellite operator. Alternatively, back-up service to the American operator could be provided from Telesat's satellite, and vice-versa.

The Canadian satellite is proposed to operate in the UHF bands 821-825 MHz and 866-870 MHz, providing nationwide coverage using a number of large North/South spot beams. The SHF bands 11.65-11.70 GHz and 13.20-13.25 GHz would also be used to provide a single nationwide SHF beam. The earth segment of the MSAT system would include a satellite control station, a central communications network control station, SHF gateway stations, UHF and SHF base stations and UHF mobile stations for land vehicles, ships, aircraft, and other mobile applications. Communication between the mobile earth terminals and the satellite would be at UHF frequency, while communication between base stations and the satellite would be possible in both UHF and SHF bands.

The proposed configuration of MSAT transponders would provide UHF/SHF and UHF/UHF communications capability. A UHF/SHF transponder would allow single-hop communications between a mobile earth station and an SHF base earth station located either in the

same beam or in a different beam, assuming that a single SHF beam covers Canada. A UHF/UHF transponder would allow single-hop communications between a mobile earth station and a UHF base station located in the same UHF beam, while a double-hop link would be required if the two stations are located in different UHF beams. Mobile-to-mobile coverage may require double-hop links. The MSAT transponder configuration will be more fully described in the business proposal currently being developed by Telesat. This proposal, which will take into account perceived service and system requirements and design constraints, will be available for public comment in late September, 1984.

Another constraint that will influence the final planning of the MSAT system is the choice of frequency bands to be used for the Canadian service. Both domestic and international consultations must be successfully completed before any final decision is reached. The UHF allocation issues are discussed in a DOC Notice published in the Canada Gazette, Part I, on May 19, 1984, No. DGTP-003-84/ DGTR-014-84, entitled Spectrum Reallocation Relating to the Mobile Satellite Service.

Technical studies indicate that two 4 MHz slots will provide adequate first-generation satellite capacity for service development in Canada if the speech signal is transmitted using new technologies, such as Amplitude Companded Single-side Band (ACSB) or low-rate digital voice coding. The required bandwidth per voice channel with these techniques does not exceed 5 kHz, in comparison with 25-30 kHz for conventional Narrow-Band Frequency Modulation (NBFM) presently in use for terrestrial mobile services. The Department is proposing that the MSAT system use a 5 kHz channeling plan with 45 MHz duplex separation in the 800 MHz band. Although future spacecraft antenna technology is expected to permit reuse of the frequency spectrum among the beams, this might not be available to any significant extent on the first-generation MSAT system.

To achieve efficient spectrum utilization it is proposed that the Demand-Assignment Multiple Access (DAMA) technique be used to assign satellite channels. This will ensure optimum loading and use of the limited satellite circuit capacity. This dynamic service concept means that satellite communications channels will generally be shared among users on demand rather than on a polling or fixed assignment basis.

Management of the communications channels would be performed by a demand-assignment signalling and switching centre, needed to receive channel requests, select and assign the channels from the available pool, perform appropriate connections with other systems and generally control and monitor the entire system. All service signals (channel requests, assignment messages, busy signals, system status reports, etc.) would be handled through one or more routing channels under the control of the demand assignment centre.

The Department proposes that Telesat, as owner and operator of the MSAT space segment, have the lead responsibility for establishing the satellite communications network management and control system that would best serve the needs of users.

3.0 MSAT SERVICES

Based upon demand studies, it is anticipated that the mobile communications services to be offered by the MSAT system will, in general, be similar to those provided by conventional terrestrial-based mobile systems. Other studies indicate that the relatively high cost of mobile satellite communications, together with the limited availability of frequency spectrum, precludes any

possibility of widespread competition between terrestrial and MSAT facilities. Accordingly, the MSAT service is expected to primarily complement and extend the range of existing terrestrial facilities to locations that, for technical and economic reasons, cannot be served by any other means.

The implications of the preceding paragraph are twofold. First, MSAT, for all practical purposes, is not an economic alternative to the use of the public switched telephone network (PSTN) for local or long-distance telephone traffic; therefore any concern for the potential impact of MSAT on terrestrial carrier services and revenues is purely hypothetical. Second, while the services to be offered by an MSAT system may be several and varied, it is by no means certain that the institutions currently providing terrestrial mobile services in urban areas would want to extend their services to remote areas. The Department thus believes it is essential that Telesat be authorized to provide all mobile satellite services. At the same time, the Department believes that marketplace forces should also be allowed to influence the type and scope of MSAT services and the entities that will provide them. The Department seeks comments from private users, and from institutions currently providing mobile communications services, as to their interest in using or providing similar services via MSAT. For the purpose of this document, the following are considered the major services to be carried via MSAT.

(a) Mobile Satellite Radio Service (MSRS)

The MSRS service is defined as one intended primarily to render private communications between mobile stations and/or mobile and base stations belonging to the same organization by means of a space station.

(b) Mobile Satellite Telephone Service (MSTS)

The MSTS service is defined as a service providing, via a space station, automatic or manual telephone communications between subscriber mobile units or between such units and the public telephone network.

(c) Mobile Satellite Remote Telephone Service (MSRTS)

The MSRTS is defined as the conventional basic telephone service extended to locations not currently served by basic telephone service and not accessible by other means. This service would use a radio station to access the space station, which would act as a relay station to provide direct access to the PSTN.

(d) Mobile Satellite Paging Service (MSPS)

This is a one-way signalling radio communication service (tone and/or digital messaging) originated from a base earth station and relayed by the satellite to activate mobile satellite paging receivers.

(e) Mobile Satellite Data Acquisition and Control Service (MSDAC)

This service would facilitate the transfer of sensor data information from mobile or transportable terminals to acquisition stations via the space station and the transmission of control messages in the opposite direction. The applications include remote data collection and industrial monitoring and control.

(f) Mobile Satellite Data Transmission Service (MSDTS)

This is a radiocommunication service for the transfer of information in the form of data transmissions at different speeds and for the provision of data circuit setups between a base station and mobile(s) via a space station. Police forces or resource exploration teams, for example, could use this service to interrogate data bases.

This does not constitute an exhaustive list of the services potentially available via a mobile satellite system. Other new and/or enhanced services could be identified as the first-generation system is developed and implemented. The Department would appreciate receiving the public's suggestions for other desirable mobile satellite related services and comments on their potential market demand.

The Department believes that the eventual demand for truly mobile satellite services will be such as to fully utilize the frequency spectrum available for the first-generation system. It may thus be necessary to propose some restrictions on the initial utilization of the MSAT system, so that the mobile user will be assured of access as demand increases. MSRS and MSTS, for example, are considered to be primary services that should be available on demand anywhere in Canada. Such services as MSRTS are, for technical and economic reasons, more likely to be provided by other means; one example being Single Channel Per Carrier (SCPC) services in the 6/4 GHz and 14/12 GHz bands. Similarly, the use of the MSAT satellite as a repeater station between two base stations is inappropriate where such services would technically and economically be provided by other means. At the same time, the Department recognizes that the ability of MSAT

to offer non-mobile services could be an important factor in assuring the system's economic viability in its early years. Comments are solicited from interested parties on the need for and use of MSAT for other than mobile services, both with respect to the technical and economic advantages, and the degree of protection that should be offered to non-mobile services as and when mobile user requirements approach available satellite capacity. The Department also seeks comments on whether "essential" or "emergency" services should be provided via an MSAT system and, if so, what are these services, and what satellite access priority should apply.

4.0 MOBILE SATELLITE SERVICE CONSIDERATIONS

4.1 Spectrum/Technology

As noted earlier, the Department currently proposes that MSAT operate in two 4 MHz slots in the 800 MHz frequency band: the 821-825 MHz and 866-870 MHz bands. In comparison to fixed satellite operations at SHF bands, where a 3° to 4° orbital spacing is generally quite adequate to prevent intersystem interference, current mobile satellite system technology does not generally permit the simultaneous operation of a number of geostationary satellites in the same frequency band.

This restriction, along with the limited amount of spectrum available at 800 MHz, limits the number of subscribers that might be serviced via a first-generation mobile satellite system. There is also the possibility that Canada will have to share the available spectrum with the United States. To offset these constraints, and to achieve the most efficient use of the spectrum, DOC (as noted earlier) proposes a basic 5 kHz channelling plan with 45 MHz duplex separation for mobile satellite operations.

The allocation to MSAT of two additional 6 MHz blocks of spectrum in the 806-960 MHz band is also under consideration. This additional spectrum should not be required for the first-generation Canadian satellite system, but as anticipated market demand materializes, its use for future mobile satellite systems could be coordinated jointly with the U.S. and other affected administrations. It should be noted however that, internationally, the 890-896 MHz band is not currently allocated to the mobile satellite service. The allocation issues in the 890-960 MHz band are discussed in a DOC Notice published in the Canada Gazette, Part I, on June 2, 1984, No. DGTP-006-84/ TRS-015-84, entitled Proposed Changes to the Canadian Table of Frequency Allocations and Proposed Spectrum Utilization Policy for the Fixed, Mobile, Radiolocation, Mobile Satellite and Amateur Services in the Band 890-960 MHz.

The MSAT developmental plan requires additional spectrum options to prevent spectrum shortage from inhibiting long-term system growth. Accordingly, the Department is also currently studying the possibility of allocating to the mobile satellite service portions of the two 14 MHz blocks in the 1500 MHz range (L-Band) currently reserved for the aeronautical mobile satellite service. Due to the absence of an ITU allocation, the greater mobile power requirement, higher signal attenuation, less well developed mobile system technology and higher costs, the L-Band is not proposed by Canada for the first-generation commercial MSAT service. Nevertheless, it represents a sizeable spectrum reserve which could eventually be used in conjunction with the 800 MHz band in a second-generation satellite system in accordance with market demand and eventual agreements on international allocation and coordination. These L-Band allocation issues are also discussed

in DOC Notice DGTP-003-84/DGTR-014-84 entitled Spectrum Reallocation Relating to the Mobile Satellite Service, which was published in the Canada Gazette, Part I, on May 19, 1984.

4.2 Satellite and Earth Station Licensing

The Department proposes that the licensing policies currently applicable to mobile and base stations operating in the conventional terrestrial radio services, and the policies that will apply to satellite earth stations effective April 1986, be extended to mobile and base stations used with MSAT. These policies allow any person to apply for a radio licence to own and operate a radio station. Before a licence is issued, mobile stations operating with the existing terrestrial mobile telephone service must show evidence of a contractual arrangement with the operator of the service. Similar rules will apply to transmit earth stations in the fixed satellite service. The Department seeks comment on these proposals, and any other regulations that should apply to the licensing of radio stations used with MSAT.

4.3 Radio Station Frequency Licensing

The Department has, in the past, exercised its responsibility to assign each single frequency within preestablished national and regional frequency allocation plans. For the MSAT system, the Department believes it may be necessary to suballocate frequency channels to certain mobile satellite services, some of which may develop at a slower pace than others. To ensure the future growth of the new satellite mobile services, it might be necessary to dedicate a minimum amount of spectrum for each of the proposed end-user services with the remaining nondedicated spectrum available on a first-come first-served basis. This approach

could, however, affect overall spectrum utilization efficiency if the suballocations did not correspond to the realities of the marketplace. The Department requests comment on whether a spectrum suballocation for each service is desirable and feasible, and, if so, should Telesat be the entity responsible for such suballocation of the MSAT frequency spectrum between end-user service categories based on marketplace considerations, or should DOC exercise a direct or oversight control on the suballocations. It should be noted that the proposed DAMA arrangement provides for a dynamic assignment of channels on demand. The Department solicits comments on whether one or more dedicated channels should be assigned to specific services or users and, if so, what guidelines should be applied.

Once the frequency assignment methodology is established, DOC believes that Telesat should be responsible for managing access to the satellite air-time radio spectrum available for each MSAT service and should ensure that no discrimination occurs among service providers and end-users. Telesat is subject to CRTC regulation pursuant to the Railway Act, which contains specific provisions on the non-discriminatory provision of services.

4.4 Services and Equipment Compatibility

The Department proposes that all services provided via MSAT be available on a compatible basis throughout Canada. It is also expected that a mutually acceptable arrangement may be made with American authorities, so that equipment and services can be standardized across North America. As the same frequency channelling plan and possibly the same basic mobile equipment would be used for MSRS and MSTS services, DOC is of the opinion that equipment compatibility between MSAT services is also technically feasible.

Compatibility between space and terrestrial services is defined as the capability of a given system to enter into a direct active communications link with another system for the purpose of exchanging information. Compatibility between MSRS and conventional terrestrial mobile radio services would not be possible initially, and service interoperability would require suitable interfaces, as each service uses a different technology, bandwidth, modulation and protocol.

The MSTS service will not be compatible with the terrestrial mobile telephone service (at VHF and UHF frequencies) or with the new cellular mobile telephone service (at 800 MHz) due to technical and spectrum-related considerations. Interoperability of the two services could, however, be provided via the PSTN, which would be used as the baseband interface between the two services. The Department seeks comment on the extent to which compatibility between MSAT and terrestrial mobile facilities would enhance the value of both services.

5.0 MOBILE SATELLITE SERVICE PROVIDERS

5.1 Mobile Satellite Radio Service (MSRS)

Preliminary market forecast studies conducted by consultants under contract with DOC indicate that providing MSRS via an MSAT system would take up 60 to 80 percent of the total MSAT air-time traffic. A substantial part of this demand was identified from large private and government users who are accustomed to owning and controlling their terrestrial mobile systems.

Conventional mobile radio services are licensed on a nonrestrictive basis. Radio station licences for private systems are issued to users with very small spectrum requirements as well

as to governments and corporations with large communication needs. Large telecommunications users are licensed discrete frequency(ies) based on predetermined loading criteria, which are a function of the type of service to be rendered by the station and the number of mobiles associated with it. Users who do not require a full channel are assigned a frequency they share with other small users. Very small users, for economic reasons, usually subscribe to RCC services, which are licensed to operate radio repeaters, thus allowing a number of small users to obtain wide area coverage at minimum cost. In many areas, the telephone company also competes with one or more RCCs for the provision of terrestrial mobile radio services. While spectrum availability has limited the number of RCCs licensed in certain areas, competition between RCCs has proved effective in fostering development of innovative services.

DOC believes that the current terrestrial mobile radio service infrastructure meets the needs of large and small users, and that a similar infrastructure should be permitted to evolve to meet the needs of MSAT service users. It is, however, envisaged that the service requirements of MSAT users would be slightly different from those of the existing terrestrial mobile radio service users, in that the MSAT service would mainly be of interest to users in unserved or underserved areas, or those requiring extended service area coverage or long range mobile communications.

The Department does not intend to limit access to MSAT for any class of users. However, it may well be that the needs of small users could best be served by RCCs, which could arrange for the sharing of base station and other high-cost facilities. The Department seeks comment on which entities should be authorized

to contract with Telesat for access to MSAT services and capacity, including recognized telecommunications carriers, RCCs and private users, and the contractual requirements that should apply.

5.2 Mobile Satellite Telephone Service (MSTS)

There are three possible approaches to the provision of MSTS service. In the first scenario, all MSTS customers, whatever their location in Canada, would be served by Telesat. The routing of mobile to PSTN calls would then be from the mobile via the satellite to a gateway station from which a connection would be made to the PSTN, whereupon the mobile would dial the required number. Telesat would bill its subscribers for each call, the amount to include a space segment charge plus a charge for the terrestrial facilities used to complete the call. Calls from the public switched network to a mobile unit would be billed to the caller by the telephone company serving the caller. Alternatively, consideration could be given to a "postalized" tariff, so that a call to or from a mobile unit would cost a fixed amount per minute, regardless of distance. In either case, normal industry accounting and revenue settlement procedures would be used to compensate participating carriers for the use of their facilities.

The second approach would be for each major telephone company to establish a gateway station at some convenient point within its operating territory to provide a connection to the public switched network. In this scenario, mobile users would be telephone company subscribers; each telephone company would bill its mobile users and remit a portion of the charge to Telesat to compensate for the use of the space facilities.

A third scenario would be to license one or more other entities to provide MSTS service in competition with Telesat and/or the telephone company, similar to the arrangements in the cellular mobile radio service established by the licensing of CANTEL. This approach would require the negotiation of interconnection agreements that would allow the non-telco service providers to access the public switched network. The agreements, which may be negotiated between CANTEL and operating telephone companies, could provide a model for mobile satellite telephone service. However, the Department notes that CANTEL is licensed to serve the major population centres of Canada, where the long-term market potential is expected to support two service providers. The market to be served by MSTS is of course smaller, and the duopoly option may not be viable.

The Department is aware that any of the three scenarios described above could raise jurisdictional and regulatory issues. It is DOC's view that the needs of underserved mobile users should take precedence over jurisdictional concerns. A slight modification of the existing institutional approach to the provision of telecommunications, so as to accommodate the needs of mobile users, would be preferable to the development of new and potentially costly institutional structures whose only purpose would be to extend the jurisdictional and regulatory status quo to the provision of new services. The Department seeks comments on the scenarios and views outlined above, and on other possible arrangements for the provision of MSTS services.

5.3 Mobile Satellite Remote Telephone Service (MSRTS)

The mobile satellite system is primarily designed to provide service to and between mobile terminals, such as radio-equipped vehicles. However, recent departmental studies have identified the existence of a possible market for provision of a basic

conventional telephone service to locations that, for technical or economic reasons, are not currently served by a terrestrial fixed telephone infrastructure. Noting that telecommunications access to remote camps, provincial and federal parks, isolated houses, farms in remote areas and unserved northern communities is of prime importance to all levels of government, the Department proposes not to prohibit the use of the MSAT satellite to provide basic conventional domestic telephone services. The use of MSAT for this purpose should, however, be considered an interim measure that would be phased out as other alternatives to the fixed satellite service are brought into use.

Subject to whatever arrangements are developed for the provision of MSTS services, the Department proposes that the use of MSAT as a telecommunications infrastructure to provide basic remote telephone service should be restricted to Telesat or to the authorized local telephone companies that would use MSAT to complement other technologies.

5.4 Service Providers for Other Mobile Satellite Services

Other potential mobile satellite services are not well defined, due to the newness of the product and the technology; in addition, the forecasted launch year (late 80's) is far enough away to hinder the interpretation and extrapolation of the different market study conclusions. Such services include the nationwide paging service, the data acquisition and control service, and the data transmission service described in section 3.0. Since these services could develop as private and/or public services, the Department asks those who would wish to use or provide such services to comment on the conditions that should apply to authorized service providers.

6.0 OPPORTUNITIES FOR CANADIAN INDUSTRY

Mobile satellite technology presents significant opportunities for Canadian manufacturers of both the space and terrestrial components of an MSAT system. A substantial domestic market is foreseen as necessary to support the establishment of a viable Canadian mobile satellite system on a long-term basis. Canadian industry's successful deployment of this new technology could also lead to export market opportunities. Accordingly, DOC will continue its efforts to ensure to the maximum extent practicable that Canadian research, design and industrial personnel, technology and facilities are used to maximize Canadian content in the space and terrestrial components and to optimize economic benefits to Canada.

The views of manufacturers would be appreciated on all aspects related to the MSAT system, but particularly on the industrial involvement and potential benefits and on Canadian/American industrial collaboration on the program.

7.0 CONCLUSION

The Department of Communications is actively engaged, in collaboration with Telesat and the telecommunication service and manufacturing industries, in planning for the development of a commercial MSAT system and the services needed to meet the economic and social objectives and requirements of Canada.

The Department invites comments on all aspects related to the development of a mobile satellite service for Canada as outlined in this paper. All submissions received will be made available for public inspection at the departmental offices in Ottawa, Vancouver, Winnipeg, Toronto, Montreal and Moncton.

Attention of the reader is drawn to the associated proposals on spectrum reallocation relating to the mobile satellite service in the 806-890 MHz and 890-960 MHz bands that were published in the Canada Gazette on May 19, 1984, soliciting comments until August 17, 1984, and on June 2, 1984 for comments prior to August 31, 1984.

APPENDIX

DEPARTMENT OF COMMUNICATIONS

RADIO ACT

Notice No. DGTP-007-84

Discussion Paper

Telecommunications Policy Proposals for Mobile Satellite Service

In cooperation with Telesat Canada and other interested parties, the Department of Communications (DOC) is currently engaged in the Project Definition Phase of the MSAT program as approved by the Government of Canada in July 1982. The major objectives of this phase include the definition and design of a first-generation commercial system, the development of the required technology, the performance of commercial viability and socioeconomic benefit studies, and the definition of a post-launch program to support the introduction of mobile satellite services in Canada.

In November 1983, DOC signed an Arrangement with the United States National Aeronautics and Space Administration (NASA), for cooperation on the development of a mobile satellite communications program. Under this Arrangement DOC designated Telesat Canada as the Canadian entity authorized to negotiate, with an American satellite operator, a cooperative agreement for the implementation of compatible Canadian and American mobile satellite services and systems.

As a further step in the development of the MSAT program, the Department now wishes to invite comment on the matters set forth in a discussion paper bearing the same title as this Notice. Copies of the paper may be obtained from departmental offices in Ottawa (613-995-8185), Moncton (506-388-6511), Montreal (514-283-5862), Toronto (416-966-6233), Winnipeg (204-949-3166), and Vancouver (604-666-3406).

The discussion paper reviews the proposed MSAT system and services and provides details of agreements negotiated between the Department, NASA and Telesat. The paper also seeks comment on certain proposals related to the introduction of an MSAT system by the end of the decade.

Notice is hereby given that the Department is proceeding with MSAT project definition leading to public and private sector involvement in the construction of a first-generation commercial mobile satellite system, and the development of policies for the implementation of MSAT services. Any interested person may make written representations to the Department concerning the matters outlined in the discussion paper and any other related matter, through an association or otherwise.

Submissions should be addressed to the Director General, Telecommunications Policy Branch, Department of Communications, 300 Slater Street, Ottawa, K1A 0C8. To ensure consideration, they should be postmarked on or before November 15, 1984 or delivered by that date to the Director General's office.

Submissions received in response to this Notice will be made available for public inspection at the Department of Communications Library, 300 Slater Street, Ottawa, for a period of one year from close of comment period and at the regional offices of the Department for a period of six months. All submissions must cite the Canada Gazette Part I publication date on the Notice reference number.

Dated at Ottawa, this 31 day of Aug 1984.

V. Hill
Director General
Telecommunications Policy Branch
Department of Communications