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CONSULTANTS

D.O.C. STUDY

Re:

THE EFFECTS OF LICENSING ON  
INDUSTRY STRUCTURE

Part I

July 7th, 1978

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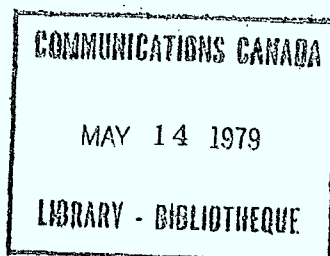
THE DEPARTMENT OF COMMUNICATIONS

OTTAWA

PART I

Summary & Policy Options

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InTel Consultants Ltd  
Suite 709  
77 Metcalfe Street  
Ottawa, Ontario

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SUMMARY AND POLICY OPTIONS1.0 STUDY SYNOPSIS

The primary study objective was to determine entry policies used in other industries which might find useful application in the telecommunications field, the purpose being to ease telecommunications entry conditions wherever possible. To this end, three transportation areas, the oil and gas sector of the energy industry and mining were reviewed on both sides of the border; telecommunications and broadcast were also reviewed in the US. Particular emphasis was placed background material which related to the structure of each industry, its problems and entry conditions.

A wide range of people was contacted on both sides of the border in government industry, industry related organisations etc., to obtain background and other relevant data. Extensive use was made of libraries to obtain access to periodicals, and material published by specialists in various fields of interest to the study. A large proportion of this researched material is contained in Part III of the report.

It was only after becoming deeply involved in the detailed work associated with the study that the true extent of the subject matter became fully evident. Hence the depth to which each area was treated was limited to that necessary to obtain a broad appreciation of the more important factors associated with each review area; nevertheless, background research absorbed a disproportionate amount of the study time. Part II of the report formalizes the gathered information, and presents an overview of each industrial activity together with summaries of the more important influences affecting entry conditions.

Comparisons between the telecommunications industries in Canada and the US indicated that the division of regulatory responsibilities between federal and state administrations is more clearly defined than that between Ottawa and the provinces. As in Canada however, individual state policies governing intrastate activities may vary considerably from one administrative area to another.

US policies with regard to competition in the traditional common carrier fields are more relaxed than in Canada; typically the FCC maintains what effectively amounts to an open entry policy in the specialized common carrier area. On the other hand, entry requirements associated with Canada's restricted common carrier operations are substantially less than for operators wishing to provide similar services in the US. In the private commercial field, entry requirements are essentially the same in both countries. DOC frequency management and regional administrative policies are more flexible and adaptable to Canadian needs than those employed in the US, and contribute to simplification of the entry process for all types of applicants concerned.

Parallels to the telecommunications situation were identified in other industrial areas reviewed. The more important similarities were noted in the air and highway transport fields where regulatory policies and entry conditions are particularly alike. Parallels may be drawn with the telecommunications industry not only in terms of regulatory policy objectives, but also in terms of the nature of the controversies currently surrounding each of these industries in the US.

The main value of this type of comparison lies in observing the effects various policies and factors have had on industry structure. Typically, the fact that a large sector of the highway transport industry is exempt from entry regulation has opened up extensive opportunities for entrepreneurial trucking activities of many types. Similarly, the lack of entry controls on US commuter air carriers has resulted in the development of highly competitive and efficient transport services on the fringes of the air industry. Not only have

these entrepreneurial activities demonstrated the ability of air operators to function in a wholly competitive environment, but also that they are willing and able to: provide such services over routes which are marginally profitable, interline passengers, adopt sophisticated reservation methods, etc.

The study of parallels resulted in nothing radically new which could, in the long run, be of significant benefit to the telecommunications entry situation. Policy options derived largely from a review of specialist's opinions, US telecom practices, etc. For the most part, the options relate to peripheral factors which, taken as a group, could have an easing effect on existing entry conditions.

## 2.0 POLICY OPTIONS

The major entry barrier to the common carrier field is created by policies designed to protect the common carrier industry. Except for frequency considerations, open entry conditions already exist in most other telecom areas outside of cable and broadcast.

The review of entry requirements in parallel industries produced no dramatic results in terms of policy options which could be directly adapted in telecommunications entry situations. For the most part those which have been identified relate to peripheral entry factors which, as a group, would make an effective contribution to entry ease; however no single option stands out as one which would have dynamic effects on its own.

### 2.1 Redistribution of Federal and Provincial Administrative Authority

Present provincial pressures for a greater degree of autonomy in various areas are leading to constitutional and/or administrative changes which will affect the present distribution of federal-provincial powers. The degree to which this can be effectively accomplished without significant alterations taking place in the existing administrative structure is a debatable point, and one which is unlikely to be satisfactorily resolved in the immediate future.

Effective federalism is dependent on a rational division of powers which leaves the central government free to deal with national issues, the more parochial aspects of government administration being left to the provinces. The existing division of authority is such that some areas which should be under federal control are either under provincial or no control at all, while others which should be primarily of provincial concern come under federal jurisdiction. Typically the interprovincial sector of the road transport industry can not be efficiently regulated from the provincial level, nor can the national aspects of the telecommunications system be effectively regulated when federal control is limited to a small fraction of the participating carriers.

Beigie (10) points out the need for regulation of the transmission aspects of the national telecommunications system at the federal level; he suggests that decisions with regard to the regulation of message gathering, distribution, switching, etc., be left to provincial administrations. Recognising that provincial constitutional powers are blocking progress in this direction, he indicates that, at the rate at which basic telecommunication issues are emerging, present regulatory approaches will eventually prove unacceptable to regulators, to the public at large, and to the carriers themselves.

It would therefore appear that present trends are leading towards the adoption of the broad principles involved in the US method of administering the telecommunications industry. Typically all provinces would have the same measure of control over intra-provincial telecommunications activities, while federal control would extend over the national aspects.

#### Policy Option # 1

That policies be oriented towards a redistribution of power which will give the provinces a greater measure of authority over areas of intra-provincial concern, and the federal government a greater measure of control over areas of interprovincial concern in the telecommunications industry.

## 2.2

### Allocation of Additional Frequency Bands

Current frequency shortages in US urban centers is being relieved by allocating a portion of the unused TV band (Channels 14-20), and the opening of a new band above 800 MHz, for general telecommunications services. Although US band congestion is substantially more acute than that being experienced in Canada, the point has been reached in our larger metropolitan areas where additional assignments are necessary. Otherwise, the expansion of many existing services, and the establishment of new services necessary to meet growth demands, will be inhibited.

## Policy Option # 2

That the policy concepts adopted in the US for reducing frequency congestion in urban areas be followed, and that additional spectrum space be allocated for general telecom use in the higher bands.

### 2.3 Policy Definition

Applications which are dealt with on a case by case basis lead to problems unless the policies which are applied during the decision process are clearly defined, and available to potential entrants. According to Wilson (15) the ground rules are pretty straightforward in areas other than those concerned with the licensing of private microwave systems. Von Baeyer (14) points out that the licensing process should only be concerned with the technicalities of the application; the desirability of entry should be controlled by an established and clearly defined policy. There should not be an ad hoc approach to policy, and policy decisions should be kept distinct from the responsibilities of the agencies concerned with technical detail.

## Policy Option # 3

That licensing policies be clearly defined in all areas, particularly as these may relate to private microwave system applicants.

### 2.4 Reducing the Effect of Entry Variables

US experience since the Carterfone and MCI decisions suggests that potential entry may have had a greater impact than actual entry in the interconnect and private line markets. According to Trebing and Melody (12), entry has not been a self sustaining force with continuing large scale entry of many new firms serving an ever expanding series of markets. Nevertheless, the beneficial effects of liberalized entry (whether actual or potential) have been significant. New services have been introduced, customer options expanded, constraints relaxed, and many traditional practices have either been overturned or re-examined.



Trebing and Melody recommend that regulators recognize that affirmative action must be taken with respect to the variables which impinge on entry decision if liberalized entry is to be given an adequate test. While the original recommendations were drawn up from the viewpoint of the existing US market, some apply equally to certain of the Canadian telecommunications areas:

Policy Option # 4

That explicit standards of accountability be established for determining the revenue contribution by class of common carrier service. This is necessary to minimize cross subsidization, and to curb the arbitrary allocation of overhead costs.

Policy Option # 5

That common carrier rate structures and tariff conditions be established which negate the capacity to engage in price discrimination.

Policy Option # 6

That entrants be assured of equal treatment in matters of access to, and the supply of common carrier facilities and services, without restrictive terms or conditions.

2.5 Frequency Allocation Flexibility

The block frequency method of dividing up the US spectrum limits flexibility in frequency assignment, and leads to irrational inequities in operational areas where there may be limited or no demand for services in one or more band segments. The US block frequency

allocation policy has, for all practical purposes, been dropped in the case of new bands recently opened. While Canada also reserves frequency groups for specific types of application, policy in this regard is not strictly adhered to except in two or three isolated cases where transcontinental activities are concerned. This has resulted in more efficient usage being made of the available spectrum, and has permitted services to be provided to many applicants who otherwise might have been denied then.

#### Policy Option # 7

That the flexibility of the present frequency assignment arrangement be retained in the interest of ensuring that maximum use can be made of the available spectrum.

### 2.6 Interconnection and Terminal Equipment

Interconnection privileges with the switched network would encourage entry into the RCC and other telecommunications fields (C). In the more populated areas, interconnection would offer significant competitive advantages to independent operators, while some services to small communities would become viable if interconnect were possible. A pseudo form of RCC paging interconnect is allowed with the Bell system, however up to a year of two ago, few, if any other common carriers, extended similar privileges to independent operators.

#### Policy Option # 8

That the Department continue to promote the interconnection of customer owned equipment with the public network in all areas where such activities are consistent with the purposes of public telecommunications policy.

#### Policy Option # 9

That Department policies be directed toward encouraging all common carriers across the country to grant similar interconnect privileges.

## 2.7 Recognition of "Value-Added" Carriers

Beigle (10) recommends that firms be allowed to set up arrangements for specialized services which are carried over existing common carrier loop and trunking networks. These firms would compete with existing carriers using facilities leased or purchased from the carriers at rates that are regulated to ensure fair competition.

Although services of the "value-added" type are not recognized in Canada, they do exist. However, in competitive situations it is possible that an applicant will be denied the use of carrier facilities. Von Baeyer (14) suggests that provincial bodies should exist which watch over the types of value-added service which should be permitted, and points out that the ideal situation would be one in which uniform policies are adopted across the country.

### Policy Option # 10

That special carriers of the "value-added" type be given official recognition, that the types of service which may be permitted by this type of carrier be defined by the agency/ies responsible for their administration, and that carrier facility rates for this type of application be regulated to ensure fair competition.

## 2.8 Exemptions

Exemptions, or partial exemptions tend to stimulate activity in industry sectors free from the controls applied to the main body of the industry concerned. Typical examples include the commuter sector of the US air industry, many sectors of the highway trucking industry, etc. It has been suggested that the exemption principle could be extended to CB licensing if the operating band were removed to a higher portion of the spectrum where TV interference would be eliminated, and communication could be effectively limited to horizon distances. To

encourage manufacturing activity, exemptions should be applied as broadly as possible to various industrial products dependent on the use of RF techniques, typical examples in the past have been diathermy equipment, microwave ovens, etc.

#### Policy Option # 11

That the broadest possible use be made of exemptions to stimulate the manufacture, sale and use of equipments which can be exempted from formal licensing processes; consideration should be given to the possible extension of this concept to CB radio.

### 2.9 Control of RCC Entry

RCC entry is limited only by frequency availability, former control mechanisms were dropped because of difficulties in resolving competitive situations; if frequencies are available, they will be issued on a first come, first served basis. The policy leads to abuses such as frequency hoarding; frequencies available for RCC use are limited and established operators with large systems must wait in line with new applicants for assignments needed for normal growth and expansion.

Competition has value as a regulating factor in situations where adequate frequencies are available to permit a practical policy of "open" entry (13). In a congested frequency situation, the contention (C) is that the market structure becomes distorted by such policies, frequency resources being too thinly distributed to permit existing operations to adequately develop their potential. In the past, uncertainty with regard to the availability of frequencies for system expansion has been a deterrent for potential entrants.

The US equivalent to the Canadian RCC is looked upon as a common carrier; a pre-requisite in many States, before filing application for an FCC license, is a certificate of public need from local administrations. Thus entry, together with any competitive issues, are for the most part resolved at the local level; strict commitments avoid the possibility of issuing frequencies which will remain idle for an undue period of time.

#### Policy Option # 12

Either, that adequate frequencies be made available to permit existing "open" entry policies with regard to RCC operations to be continued without unduly restricting the ability of existing and well established operations to develop, or

That existing policies be revised to limit entry to those who can reasonably be accommodated in the available spectrum in each area concerned. Due account to be taken of present/forthcoming state-of-the-art equipment capabilities.

#### Policy Option # 13

If the "open" entry policy is abandoned in congested areas, that consideration be given to the possibilities of leaving much of the responsibility for the resolution of competitive problems which will arise to local administrations.

### 2.10 Concern for the Small Operator

A basic impression received during the course of the survey work was that regulatory bodies, and in some cases industry associations, better served the interests of the larger operators in the various industries concerned. The impression derived from the fact that contacts appeared more conversant and familiar with the activities of medium and large operations than they were with smaller concerns which exist on industry fringes.

A basic problem exists in that many small operators, or potential operators, can ill afford to waste time fighting for issues which are unlikely to bring immediate or worthwhile return. Nevertheless, collectively the input from such people would have significance and would be of value in policy making decisions, particularly as these may relate to conditions of entry.

#### Policy Option # 14

That the views and needs of the small operators be accorded a greater degree of attention, and that they be encouraged and provided with an effective means of input to the agencies concerned.

#### 2.11 Information Availability

During the course of survey research activities, the lack of readily available factual information concerning the responsibilities and licensing activities of various government agencies was particularly noticeable in Canada. In contrast, most US departments of government support information offices which distribute publications and pamphlets of various types dealing with everything from agency organisation and policy, to the step by step procedures involved in entry to industrial areas subject to their jurisdiction. The usefulness of such publications to the potential licensee or entrant is inestimable in terms of time saved, and the frustrations avoided in researching the information from various government offices on his own.

#### Policy Option # 15

That the Department publish information designed to acquaint the public with all matters relating to its organisation, functional responsibilities, and policies in more important areas. Special attention should be given to publications which describe in layman's terms the various types of licenses and services available; the specific steps which should be taken to acquire them, and the problems which are occasionally encountered in acquiring them.

### 3.0 OVERVIEW OF FINDINGS

#### 3.1 General

The telecommunications industry as it applies to radio, is unique in the sense that its basic resource limitation is spectrum, an integral part of the technology of industry itself, and one which places strict limitations on its ability to "produce". Most other industries differ to the extent that resource limitations are the market place, raw materials, and other factors which are wholly external to the physical mechanics of the "production" activity; thus the ultimate telecom potential is limited by its very nature, while that of other industries is a function of wholly external constraints.

Typically the potential for mineral production in Canada is solely dependent on the extent of the natural resources which can be economically developed; if the resources exist, the facilities necessary to produce them can be constructed without limit. In the case of telecommunications services a natural constraint exists because of frequency limitation, a limitation which must be shared with all social and industrial needs making demands upon this restricted resource.

In the search for other areas similar to telecommunications, the air transport industry proved the most productive in terms of direct parallels. Both industries are highly regulated, particularly in the more important areas of common carrier operations; similarly, the high degree of protection afforded these carriers has the common objective of strengthening national networks by severely restricting entry. At the lower levels, carrier activities in both instances are less closely

regulated and protected. Pre-occupation with deregulation and the need to introduce a greater degree of competition in US air operations also have direct parallels in current telecommunications controversies.

The road transport industry is regulated in a less restrictive fashion than air operations, a major difference being in the fact the current regulation provides a broader range of exemptions for commercially oriented operators. Otherwise the administrative and control processes bear many similarities with those of the telecommunications industry.

Other industries reviewed, while less productive, provided some additional insight into entry methods.

### 3.2 Selection Methods & Entry Controls

The more important selection methods and entry influences encountered during the course of this study are listed in Table 1.

#### SELECTION METHODS:-

Selection methods fell within five general categories:

##### 1) Unrestricted Entry

This area includes any activity where licensing or other entry requirements, if they exist at all, are unrelated to any form of industry regulation per se. Typically the routine licensing of road transport vehicles is not related to the regulation of the trucking industry itself, hence is not considered an entry restriction.



2) First Come, First Served

Typically most radio licenses are processed on a first come, first served basis in areas where the main consideration is frequency availability; providing eligibility requirements are met, licenses, etc. are issued in order of receipt, (e.g. private radio, RCC licenses, etc.).

3) Value Judgements

The resolution of competitive situations of one form or another are generally dependent on value judgement which must be made by a disinterested individual or group of individuals. The selection board process, particularly where public hearings may be involved, comprises the most difficult and frustrating selection method which entrants must contend with.

4) Competitive Tenders

Competitive tendering is widely used in the disposition of prospective oil and gas lands. Some state administrations use competitive tenders (and negotiated contracts) as a means of selecting CATV franchise applicants.

5) Simultaneous Filing

This is a US method for selecting applicants in situations where financial competition is not an issue, and applications must be received within a given time frame. The procedure is used for leasing prospective oil lands not being put out to tender; final selection is by means of a public drawing.

## REGULATORY INFLUENCES:-

From an entry viewpoint, regulatory controls are of two basic types: those which have a primary or direct effect on entry conditions, and those which are of secondary importance only.

### 1) Direct Regulatory Influences

In situations where a new industry is planned. the demonstration of public need frequently comprises a major hurdle, particularly in more competitive areas. The alternate is the acquisition of an existing enterprise.

Ownership and control requirements vary to some extent with the industry concerned. In the case of broadcasting, regulations are strict; in situations where government policies are primarily directed towards industry development, controls may be considerably eased (e.g. in the exploration for oil and gas). Except in particular industries, ownership and control regulations are not generally considered to form a major entry barrier.

In many cases, particularly in the transportation field, entry into the more competitive industrial areas can only be realised by acquisition.

### 2) Indirect Regulatory Influences

While indirect regulatory controls are of concern to the entrant and have a bearing on his entry decisions, they have little or no direct effect on entry conditions as such. For the most part they relate to miscellaneous factors which may influence the ultimate viability of the proposed undertaking (e.g. rates, tariffs, operating rights, service restrictions etc).

## NON REGULATORY INFLUENCES:-

Non regulatory influences include all external factors which have significance from an entry viewpoint; to some extent these vary with the industry concerned. Assuming that a market is available, and that the resources necessary to serve that market exist in some form, then the most important and most frequently encountered external barrier is that created by the capital requirements involved. The importance of other factors noted vary with the type of industry, and the environment in which it will be operating.

MAJOR FACTORS INFLUENCING ENTRY

TABLE 1

<u>SELECTION METHODS</u>	<u>REGULATORY INFLUENCES</u>	<u>NON-REGULATORY INFLUENCES</u>
* Unrestricted entry	<u>DIRECT:-</u>	
* First come, first served	* Demonstration of Public Need	* Market Availability
* Value Judgements (Selection Boards)	* Ownership & Control Approval	* Resource Availability:-
* Competitive Tenders & negotiated contracts	* Approval of Mergers, Acquisitions, etc.	- Frequencies
* Simultaneous Filing, (Lottery Method)	* Demonstration of Financial Competence	- Transport Routes
		- Land & Mineral Rights, etc.
	<u>INDIRECT:-</u>	* Capital Requirements
	* Operating, Development, Production Rights, etc.	* Effects of Competition
	* Service Restrictions	* Infrastructure Needs
	* Rate & Tariff Approval	* Govt. Incentives, Taxation Policies, etc.
	* Conformance with Misc. regulations:	
	- Licensing	
	- Safety	
	- Production	
	- Environmental, etc.	
	* Exit	

### 3.3 Federal-Provincial Conflicts

#### 3.3.1 General

Actual and potential areas of conflict exist between federal and provincial administrations in many of the industries reviewed. Most issues are of long standing, and relate either to taxation matters or the sharing of administrative power.

#### 3.3.2 Air Industry

Typically, the provinces are made uneasy by their lack of regulatory power in specific areas where active promotional policies are being pursued. For example, with regulation and administration of Canadian air activities firmly under federal control, the governments of Ontario and Alberta find themselves in a difficult position over licensing and rate setting with respect to airlines which they own. According to Professor Langford (5), the correction of this unwieldy schism between the activities of the two levels of government would be to allow provincial government access to the policy-making process at the federal level.

By contrast, US Federal administrative authority over intra-state air activities is limited. While the FAA retain responsibility for the safety aspects of air operations, state administrations have full control over route certification, rates, schedules, etc; thus many of the potential problems inherent in the Canadian situation are largely avoided.

#### 3.3.3 Road Transport Industry

Traditionally, all forms of highway transport had been the sole responsibility of the provinces. However, a privy council decision in 1954 determined that inter-provincial road transport was subject to federal jurisdiction; this led to a series of events (6) which culminated in legislation in 1967 providing for federal regulation of

these activities. Because of provincial objections, the legislation has never been implemented, and inter-provincial transport is still administered at the provincial level by highway boards which function as agents of the federal government under the provisions of the Motor Vehicle Act of 1954. Provincial opposition to federal take over was based on the argument that provincial responsibility for highways should give the provinces jurisdiction over any transport undertakings making use of them.

The fact that inter-provincial road transports were subject to all laws and regulations applicable to intra-provincial operations in each province through which they pass, has seriously complicated the operational and administrative problems of the cross-country operator. Regulations relating to licensing, vehicle requirements, commodity carriage, exemptions, etc. vary from region to region. While the threat of eventual takeover by the federal government has forced the provinces to get together in attempts to resolve some of the regulatory inconsistencies which exist between the various regions, a great deal remains to be accomplished in this regard. The eventual outcome of the interprovincial road transport issue has yet to be determined.

In the US, interstate road operations are regulated at the federal level by the Interstate Commerce Commission. While state administrations have authority over vehicle licensing, they exercise no jurisdiction over routes, rates, commodity carriage, exemptions etc. as they may apply to interstate transportation activities.

#### 3.3.4 Energy (Oil & Gas)

In the oil and gas industry, federal control of pricing in inter-provincial and international sales has been an area of discord between federal and provincial administrations. For some time, the provinces

felt that the price maximums set by the federal government failed to allow adequate return in view of world prices. However, federal-provincial differences appear to have eased in this area for the time being. the premier of Saskatchewan having indicated at the recent prime ministers' conference that he felt satisfied with present pricing arrangements. Differences of opinion have also arisen between provincial and federal administrations over the matter of off-shore mineral royalty rights.

In the US, all oil prices are federally controlled at the well head. A two tier scheme is employed in which the output from wells discovered prior to 1973 is fixed at a lower price than that from wells developed after that date. The reported effect (4) of this policy has tended to discourage the development of further resources, particularly by independents, largely because the return from existing operations is considered inadequate to justify the risks and cost involved in searching for new deposits. Canada on the other hand, has adopted pricing, taxation and import policies which favoured producers and encouraged further exploration and development.

A problem was created in the US gas industry by the fact that the federally regulated price in interstate commerce was less than that which could be obtained for the product in intrastate markets. This is believed to have been responsible for apparent shortages in the gas available for markets served by interstate pipelines. Furthermore it s distorted the market situation by encouraging large industrial users to locate in the gas producing states.

### 3.3.5 Mining Industry

Since provincial charges against the mining industry had always been deductible when calculating income tax, an increase in provincial taxes imposed in 1974 resulted in the erosion of the federal tax base (3). To counter this situation, the federal government removed the

deductibility provision; as a substitute arrangement, 25% of the production profits could be deducted. The resulting increase in the mining tax load, combined with a general recession in mining operations in the 1974-1975 period, initiated a depression from which the Canadian mining industry still has not recovered.

The provinces considered the federal provision for allowing a deduction of 25 per cent of production profits in lieu of the deductibility of provincial tax charges as an unwarranted interference with the provincial right to manage natural resources. Furthermore they feel that federal refusal to permit the deduction from federal taxes of provincial royalties is unconstitutional.

Present negotiations between federal and provincial administrations are aimed at resolving taxation difficulties, and restoring investor confidence in the industry so that adequate risk capital can be obtained to maintain Canada's position as a major mineral producer.

#### 3.3.6 Broadcast & Telecommunications

Provincial pressures for a greater measure of control in the telecommunications field are growing, being particularly evident in Quebec. The Quebec government seeks control over all broadcasting, telephone and telecommunications operations in the province. The increasing seriousness of the matter was dramatically demonstrated in the situation which developed over cable television rights in the Rimouski area a few months ago, and more recently in the Quebec Communications Minister's speeches in which demands for provincial control over cable operations have been repeated. Federal Communications Minister Jeanne Sauvé feels that the logical solution to the problem lies in regulatory powers which are vested in a single level of government, but one which functions according to guidelines designed to safeguard the interests of both levels of government.



In both Canada and the US, all broadcast activities are controlled by federal agencies; however there are administrative differences in the handling of cable television applications. While the FCC is pre-eminent authority in licensing cable operations, the actual franchising of such installations is left largely to the communities concerned. Thus local administrations have a considerably greater degree of direct control over the system and facilities with which they are to be provided than is the case in Canada.

The situation in the non-broadcast area of communications is well defined in the US to the extent that all inter-state activities are federally controlled, while all intra-state activities are the responsibility of local administrations. In Canada, the pattern is less distinct in that federal and provincial control over telecom activities is dependent upon whether a company's charter is of federal or provincial origin; typically, telco operations in British Columbia, Ontario and Quebec are federally controlled while all others are provincially administered.

For all practical purposes, no effective regulatory authority over interprovincial telco services exists in Canada, national long distance rates, etc. being administered by TCTS alone. Although US federal control over interstate services lacks perfection, the administrative mechanics involved would appear to be better adapted to the regulation of national telecommunications requirements.

### 3.3.7 Federal/Provincial Jurisdictional Inconsistencies

For the most part, US policies relating to the division of administrative powers between the state and federal governments are more homogenous than in Canada. Intra-state activities are state responsibilities, while interstate activities are subject to federal jurisdiction. In Canada, notable differences occur in the air transport, road transport and telecommunications industries.

Jurisdiction over telco activities in Canada is dependent on the level of government which issues the original company charter. Federally incorporated companies are federally controlled, while the provinces administer those operators functioning under provincial charters. The resulting pattern of administrative responsibility does not lend itself to the natural divisions which should exist between federal and provincial regulatory bodies. The result is that federal control over interprovincial telco activities is both limited and incomplete, while intra-provincial activities in some cases (BC, Ont. & Que.) are removed from the jurisdiction of the provincial areas in which they operate.

In the case of the road transport industry, control over inter-provincial operations is effectively a provincial responsibility. This has led to all manner of complications because an industry which is national in character is subject to the laws and regulatory provisions of ten separate provinces.

The air transport is wholly regulated at the federal level, limited or no recognition being accorded to the rights of provinces insofar as the administration of the purely intra-state aspects of air operations are concerned. As opposed to the situation in individual states, the provinces have no control over route certification, rates, etc of airlines functioning in intra-provincial commerce.

If the restructuring of the administrative responsibilities of the federal and provincial governments is the desirable solution, then radical changes in many areas will be necessary. The major problem will be that of redefining these responsibilities in a manner which will be acceptable to both levels of government.

The alternative solution is that of providing for greater federal-provincial co-operation in the formulation of all policy decisions; advocates exist for each viewpoint. Communications Minister Jeanne Sauvé suggests a single regulatory agency structured to guard both the national and provincial interests may be the solution to present differences with Quebec over cable television. Professor Langford (5) suggests that in the transport field, the Canadian Transport Commission might be advantageously reorganized away from a system based on modes, to one based on regions with provincial government nominees on the committee for their respective regions. The regional committee structure would be complemented by a further committee made up largely of federal nominees designed to handle national issues. Such an arrangement would allow the provinces continuous access to the federal decision making network; hence this would probably reduce the likelihood of periodic "spasms" of federal-provincial crisis and accommodation on transportation policy.

Whatever the ultimate outcome, present provincial pressures for a greater measure of control in various areas are unlikely to cease before these problems are resolved. Major redefinition of present responsibilities at the federal and provincial levels will be necessary.

#### 4.0 IDENTIFICATION OF INDUSTRY PARALLELS

#### 4.1 Air Transportation

##### 4.1.1 General

Major common carriers in the air industry maintain the backbone of the national air networks, are highly regulated and enjoy a maximum degree of protection for "route strengthening" purposes. Their situation closely parallels that of the major telecommunications common carriers who provide maintain the national telecommunications networks.

##### 4.1.2 Deregulation

A major area of concern today in the US air industry is the subject deregulation. The issue developed as the result of the feeling that Civil Aeronautical Board price setting and route protection of the larger certificated carriers resulted in abnormally high air costs. The Cannon-Kennedy Bill before Congress proposes to reduce CAB control over prices and route entry, and to force existing common carriers to compete more in the open market.

To this end, all existing airlines will be guaranteed automatic entry into at least one new route, for the first two years after the bill has been passed, and two routes a year thereafter. Other provisions include easier exit from unprofitable routes, the authority to raise fares by 5% and lower them from 35 to 50% without CAB approval, etc. Furthermore, the previous onus on new entries to demonstrate public need will be transferred to existing route carriers who will be required to show that additional competition is not in the public interest.

Arguments raised during the Common-Kennedy Bill debate parallel the long standing complaints in many circles that wire line common carrier networks need not be threatened by a greater degree of competition, and that telco rates would be substantially reduced in many areas where competitive activity is presently restricted. Present MCI Execunet activities are forcing the FCC to re-evaluate the question of whether or not long distance message toll services should remain wholly the preserve of the telco operators; and in Canada, essentially similar issues were being debated during the recent CN/CP interconnection hearings.

#### 4.1.3 US Commuter Operations

Commuter carriers operating aircraft with no more than 30 passenger seats are free to operate services over routes not specifically assigned to certificated carriers. Except for certain requirements with regard to insurance, and conformance with FAA safety regulations, they are exempt from route, rate, exit and entry controls.

The existence of the commuter demonstrates that there has been no shortage of persons willing to enter air transportation and undertake the risks involved; only a shortage of opportunity exists under existing regulations. This segment of the US air industry serves hundreds of markets throughout the country at fares which they select on the basis of their own assessment of market conditions. The industry has been characterized by a high rate of entry and exit, including a healthy number of business failures. The fact that so many firms have entered the business illustrates two important points (8):

- 1) that given free entry, a substantial number of entrepreneurs will enter air transportation, and
- 2) that entry will take place not only in lucrative markets, but also in small markets which have only a chance of supporting the operations of a single carrier.

Thus commuter activities have demonstrated the capability of the entrepreneur to function successfully in a highly competitive area of the air industry without route protection or subsidies. The commuter's contribution to US air activities has been instrumental in convincing many legislators that the continued existence of the major air networks will not be significantly affected by the introduction of a greater degree of competition.

Commuter carrier operations probably find their nearest parallel in the restricted common carrier activities in the Canadian telecommunications industry. Entry and operating conditions are similar.

#### 4.2 Road Transportation

##### 4.2.1 General

Road transport regulation is similar to that found in the air transport industry, however it is generally less restrictive in that a wider range of regulatory conditions exist. Typically intra-provincial trucking operations are unregulated in Alberta, in other areas exempt categories of various types exist which provide free entry and ready access to the industry for the entrepreneur. In most situations however, entry is controlled and operators are restricted both from the viewpoint of areas which may be served and the types of service which may be provided.

Larger trucking operations functioning on an interstate or inter-provincial basis may be compared with our major telecom common carriers. Route protection is provided to ensure the continued viability of the road transportation networks, and to enable operators to cross subsidize operations in smaller communities which they may be required to serve as an entry condition. Entry is difficult, particularly on the more competitive routes and the acquisition of existing operations is frequently the most practicable means of entry.

#### 4.2.2 Exemptions

As in the case of other industries, exemptions are particularly significant from the viewpoint of entry. Exempt commodity categories and certain types of service provide the entrepreneur with free entry opportunities; typically the carriage of farm produce, sand and gravel, construction materials etc. is unrestricted in many areas.

The regulatory requirements associated with non-exempt commodities can also be avoided by entrepreneurs who lease their facilities and services to a trucking operation licensed to carry the commodities concerned; alternately, the private operator may contract his services to a specific manufacturer, wholesaler or retailer without entry formalities. In the US it is estimated that only 40% of the trucking companies engaged in interstate transport are regulated by the I.C.C., the remaining 60% functioning under some form of exemption.

#### 4.2.3 Deregulation

Present moves in the US favor significant deregulation of interstate trucking operations for reasons similar to those which have been put forward in the case of the air industry (9). Licensed carriers object on the basis that their operations have the characteristics of an utility, although they may not be monopoly operations, per se. The US administration advocates easier entry, greater freedom for carriers to set their own rates, and doing away with the limiting powers of the rate bureaus (which establish rates on an industry-wide basis in each area).

A somewhat similar move on a much more limited scale was adopted by the Ontario legislature in March. Bill 21 proposes the removal of licensing requirements for truckers hauling nine different categories of commodities; under the new legislation, anyone with a vehicle will be allowed to carry the specified commodities, thus creating competition for the existing licensed carriers.

While deregulation creates a wider range of opportunities for the new entrant, it also raises certain problems. One important issue, particularly from a political viewpoint, is the effect that deregulation will have on services to the smaller communities (which are normally cross subsidized). Another is the problem created for those operators whose equity is tied up in the value of the operating licenses they hold; deregulation could make them valueless.

From the viewpoint of telecommunications, the implications of road transport deregulation are essentially the same as those which exist in the case of the air industry. Deregulation in both instances, is promoted by the feeling that a greater degree of competition will result in cost reduction to the public.

#### 4.2.4 Administrative Anomalies

The present administration of interprovincial road transportation by provincial agencies has created severe problems for the operators because of the lack of consistency between the regulations applicable in each provincial area. Present trans-Canada transport operators must conform with the rules, regulations and licensing requirements of ten provincial administrations.

In the US, interstate transport comes within the jurisdiction of a federal agency, the Interstate Commerce Commission. State administrations have jurisdiction over interstate vehicle licensing requirements, but none whatsoever over rates, routes and other aspects of regulatory control. As a result, the administration of interstate road transport is greatly simplified over that in Canada.

Implications from the viewpoint of telecommunications are the obviously undesirable effects which can result from endeavouring to regulate an industry, which is essentially national in character, from the local or provincial level.



### 4.3 Pipeline Transportation

#### 4.3.1 General

No commodity pipelines exist in Canada, largely because the potential applications which have arisen have lacked the need for sufficient throughput to make them economic. Only one such line under ICC jurisdiction is reported to exist in the US, a coal slurry installation owned and operated by the Southern Pacific Railway in the Mojave desert. Pipeline operations in Canada are limited to the transmission of oil and gas.

US pipeline administrative policies only require certification of public need in the case of gas line construction; in consequence it is possible to have competing US oil pipelines serving parallel routes. Canadian policies require public need certification for all types of pipeline construction projects.

#### 4.3.2 Entry

Entry into the pipeline industry is conditioned both by the fact that such installations are particularly capital intensive, and the fact that oil pipelines are generally owned and operated by consortiums made up of companies which use them. Even supposing that the potential entrant had the necessary capital to finance such projects, it is unlikely that he would be in a position to overcome political and other pressures brought to bear by multinational oil corporations wishing to take advantage of the profits accruing from the transmission facility itself. The situation is basically no different from that which obtains in the TCTS, where transcontinental telecommunications facilities are owned and operated by the major common carriers across the country.

In general there is less tendency toward vertical integration in the gas business. This is probably because distributors are separately franchised on an area by area basis, hence they are a less homogenous group than their oil distributing counterparts. Thus there is less likelihood for common financial interests to exist at the production and distribution ends of the business. Pipeline operators purchase gas gathered at the well head, and wholesale it to the distributor at the distribution point.

#### 4.4 Energy (Oil and Gas)

##### 4.4.1 General

At the present time hundreds of operators are engaged in the exploration for oil and gas. It is a highly competitive occupation, and at the moment the most dynamic sector of the energy business. Prospective land is the raw material of the industry, and its availability is essential to industry progress. Large tracts are still open for development in Canada and the US, both in the upland and offshore regions.

Entry is conditioned primarily by land availability, and subsequently upon exploration and development costs, taxation policies, and the ultimate prices for which the product can be legitimately sold. From the viewpoint of telecommunications parallels, the methods employed in determining land rights are of interest.

##### 4.4.2 Methods of Land Disposal

The dependency of the exploration and development activities of the energy industry on land resources finds a direct parallel in the dependency of the telecommunications industry on spectrum resources.

It is interesting to note the different manner in which selection is effected in each instance.

In the energy situation, the value of the land as a limited resource is recognized, and selection is most usually effected on the basis of the highest tendered offering for the leasing of the properties concerned. In the telecommunications situation, the value of the frequency resource is not acknowledged in a monetary manner in the same way, and the resource is disposed of for a relatively nominal annual fee.

A further point of interest worthy of note relates to the manner in which the "simultaneous" filing system is frequently used to dispose of some prospective oil and gas lands in the US. Interested parties are required to pay a nominal fee, and to submit formal application for advertised tracts within a given time frame. Selection of the successful applicant is subsequently determined by means of a public drawing; unsuccessful applicants forfeit their fee.

#### 4.5 Mining

The mineral resources of a province are the mandate of the province in which they are located, except in the case of uranium. Uranium prospecting is subject to licensing both by the Atomic Energy Control Board and the province. Licenses are generally required to prospect on Crown Land, claims must be staked and assessments made of ore discoveries. Claims are eventually converted to leases, usually as soon as the requisite amount of claim work has been accomplished.

From the viewpoint of resource considerations, a similar parallel exists between the land resources of the mineral industry, and the frequency resources of the telecommunications industry as demonstrated in the case of energy. Prospecting licenses permit the search for minerals within defined areas, just as telecom licenses permit the use

of radio within a particular region. Mining leases are issued only when a specified amount of claim work has been completed within a specified period; similarly telecommunications policies allow for the withdrawal of frequencies not put to useful purpose within a reasonable period of time.

## 5.0 LITERATURE REVIEWS

Literature reviews had three primary objectives. Firstly, to assist in acquiring an understanding of the general background associated with the structure of the various industries reviewed, and the methods used to administer them. Secondly, to assist in identifying the problems peculiar to each, and thirdly to assist in determining the views of specialists, in economics and other fields, who have made in-depth studies of the areas concerned.

Background material was largely derived from contacts, and complemented by information gathered from some trade magazines, newspaper items and business periodicals, and books. While trade magazines contributed to some extent in obtaining background data, they were not particularly productive from the viewpoint of the entry question; their subject matter is more generally concerned with the current problems of existing and well established companies. Periodicals of the Newsweek, and Business Week variety proved of greater assistance in certain areas because issues were treated from the viewpoint of readers not familiar with industry background.

The opinions of specialists in various fields have not been reported on separately; wherever these have significance to the study, the views are noted and their sources referenced in the text concerned. For the most part such views and opinions were derived from a number of specialized books, the more important of which are listed below:

1) "TRANSPORTATION POLICY: REGULATION, COMPETITION AND PUBLIC INTEREST"

This book was published in 1976 by the Center for Transportation Studies at the University of British Columbia in Vancouver. Edited by Ruppenthal and Stanbury, it comprises a collection of papers by different specialists who present a variety of viewpoints on the transport industry in Canada and the US. Four of the papers are briefly reviewed in Part 3 of the study under References T-6.1 to T-6.4

2) "REGULATION AND ENTRY: ENERGY, COMMUNICATIONS AND BANKING"

This is one of a series of publications put out by the Graduate School of Business Administration at Michigan State University. It was edited by Michael Klass and W.G. Shepherd who authored several sections along with others. It was published in 1976, and is briefly reviewed in Part 3 of the study under Reference C-5.

3) "TELECOMMUNICATIONS FOR CANADA"

This is a 1973 publication edited by HE English; it also comprises a number of papers written by various authorities in the telecommunications field. It presents a comprehensive survey of the telecommunications situation as it existed in 1973, and its future development.

3) "FEDERAL REGULATIONS RELEVANT TO THE STRUCTURAL DEVELOPMENT OF TELECOMMUNICATIONS INDUSTRIES"

This is US Department of Commerce publication PB275238 published in November of 1977; it was authored by RB Johnson of the Policy Research Division of the Office of Telecommunications. The report

discusses major federal telecommunications regulations and policies which have had a significant impact on the structural development of broadcast, common carrier, and cable television industries. It includes an historical treatment of the development and reasoning behind those regulations and policies, and the major judicial decisions which have interpreted them.

5) "THE CONTROL OF OIL"

Published by Vintage Books and written by John M. Blair, the book gives a good overview of the oil industry and the factors which govern it.

6) "COMPARATIVE STUDY OF CANADA/US RESOURCE PROGRAMS"

This study was published in 1975 by US Geological Survey. It examined and reviewed the various factors and influences which had a significant bearing on the structure and development of the mining industry on both sides of the border.

A more complete, though not exhaustive, bibliography of references used during the course of the study work is given in Appendix I to Part III of this report.

SUMMARY & POLICY OPTION REFERENCES

- (1) "Cablevision: A Handbook for Decision Making".  
by W.S. Baer (1974)
- (2) "Entering the Trucking Business: Some Questions and  
Answers"  
by: Interstate Commerce Commission, Washington, D.C.
- (3) Contact M-2
- (4) Contact E-7
- (5) Reference T-6.2
- (6) Contact T-7
- (7) References T-2 and T-5
- (8) Reference T-6.4
- (9) Reference T-1
- (10) "Telecommunications For Canada" (1973).  
by: H.E. English (pages 202-205)
- (11) "Regulation & Entry: Energy, Communications & Banking"  
(1976) Edited by Klass & Shepherd (page 102)
- (12) "Regulation & Entry: etc" (page 111)
- (13) "Regulation & Entry: etc"  
Page 152: "genuine open entry is fundamentally  
incompatible with conventional regulation"
- (14) Contact C-21
- (15) Contact C-20
  
- (C) Consultant's comment or opinion.

NOTE: Contact and reference reports are located in Part III.

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