LEGISLATIVE ASSEMBLY OF THE NORTHWEST TERRITORIES

7TH COUNCIL, 46TH SESSION

TABLED DOCUMENT NO. 15-46

TABLED ON JANUARY 20, 1972

TD# 15-46
Tabled on Jan. 20, 1972

CHAPTER III

COMMUNITY BROADCASTING STATIONS

AND

NATIVE RADIO AMATEUR OPERATORS

by

T. D. STEWART
H. WALKER
J. T. CHROME

CHAPTER II

COMMUNITY BROADCASTING STATIONS AND NATIVE RADIO AMATEUR OPERATORS

INTRODUCTION

Native speakers at the Northern Communications Conference held at Yellowknife between September 9 and 11, 1970, expressed considerable interest in locally operated radio broadcast stations. These stations would broadcast information and entertainment by the native people themselves. A practical and economical solution to this problem was developed in 1967 by a team of three experts: Mr. T.D. Stewart (Department of Indian Affairs and Northern Development), Mr. H. Walker (Canadian Broadcasting Corporation), and Mr. J.T. Chrome (Department of Communications). Their work follows. Minor changes have been made to reflect cost increases in the 1967-70 period and to eliminate material of no direct interest to the Telecommission.

The Chapter is divided into three parts:

(1) The general conditions for the establishment of community radio stations;

(2) A proposal for community broadcasting stations; and

(3) A proposal for the training and encouragement of native people as radio amateurs providing a community service.

GENERAL CONDITIONS FOR THE ESTABLISHMENT OF COMMUNITY RADIO STATIONS

A. General Conditions

Certain conditions should be met before a decision is made to proceed with the establishment of a community radio broadcasting station in a particular community. They are:

1. Proposals to establish community radio stations should originate from the community itself.

2. The broadcasting licence for community radio stations should be held in the name of the local Community Council, wherever one exists, and Council should appoint a small board of residents to act as directors for the local station - to be responsible to the Council on all matters of station business, management, and programming.

3. Before government assistance is given for the establishment of a station, the community should meet certain (as yet unspecified) conditions in regard to:
   - proof of public support and enthusiasm for the project,
   - proof of the usefulness of the radio service to the community,
   - ability to pay operational costs,
   - willingness to provide appropriate labour to assist with installation,
   - assurance of continued capable and responsible management of this station,
   - agreement to provide certain general broadcasting services and program content,
   - proof that there is available (in the community) a suitable and adequate building and electrical power capacity, and (from Regional centres) technical services for installation, repair and maintenance.

4. On its part, the Government should

(a) specify the equipment, and assume responsibility for ordering, shipping, and installing it.

(b) absorb the initial equipment and installation costs, and certain other special costs noted below.

(c) assume certain other responsibilities (noted in Section B below) in regard to technical matters.

B. Some Technical, Financial, and Other Responsibilities which Need to be allocated

1. Initial

(a) Stimulation of initial enthusiasm for community radio stations and channelling of this enthusiasm into a formal proposal to establish a station.

(b) Notification - to all concerned Government agencies - of a community's initial proposal to establish a station.

(c) Collection from the community of the necessary detailed information required for filing the application for a broadcasting licence.

(d) If necessary, the making of arrangements to have a local association incorporated as a prerequisite to licensing.

(e) The supervision of site preparation.

2. Establishment of the Station

(a) The completion and presentation of the licence application (including the radio engineering report, and the technical brief) to the appropriate authorities.

(b) The ordering and installation of the equipment.

(c) The instruction of local volunteers in the operation and maintenance of the equipment.

(d) The provision of funds to cover costs of establishing station.

3. Operation of the Station

(a) The provision of continuing advice and consultation to Regional centres, on equipment repair, maintenance, and future additions.

(b) The undertaking of major repairs that are beyond local capacities, not including the cost of needed parts.

(c) The supplying of normal technical inspection services.

(d) The provision of some portion of program materials.

(e) The maintenance of direct and continuing contact with the station in order to supply supervision, support, and technical assistance with broadcasting matters (but not matters related to equipment repair and maintenance).

(f) The allocation of financial responsibility for operating the station.

C. Provisional Checklist of Items for Financial Consideration

Cost

1) Licence Fee
2) Site Preparation
3) Initial Equipment - Purchase and Freight
   - Installation (Labour)
   - Transport (Technicians)
4) Operating Costs - Heat, Electricity, Minor Repairs, Records Tapes, Capac Fees, etc.
5) Major Repairs and Installations
   - Parts
   - Labour
   Transport (Technicians)

D. Priorities for Government Assistance

Some of the important crieria which might be used in working out a priority list for establishing community radio stations are: the degree of local interest and support for the proposed station; the availability of CBC broadcasting services; population size; and social considerations. These factors are amplified below.

1. Community support and interest in establishing and maintaining a local station.

This is essentially a matter of how much a community wants a radio station as opposed to how much it may be considered to need it. Need can, for example, be more clearly ascertained by taking into account social factors in the community, the immediate or imminent availability of CBC services, and so on. Such an examination may clearly show a strong need for a local station, but unless the community is aware of this need and anxious to do something concrete about it, it is extremely unlikely that the station will get the sort of local participation that it requires to be successful. Accordingly, the degree of community interest in establishing and maintaining a local station should be a primary priority consideration - i.e. how much do they want it? The following communities have shown a very strong interest in operating a volunteer station: Cape Dorset, Great Whale River, Igloolik, Resolute Bay, and Baker Lake.

2. Availability of CBC Services

The availability of CBC Broadcast Services in a given community is the product of a number of factors - such as cost-per-listener, geographical isolation, size of population, amount of electrical interference, current or imminent availability of land-line circuits, or tropospheric scatter and microwave installations, and so on. While in practice it is not difficult to differentiate between communities' respective needs for service in terms of the amount of broadcast material that is currently or immediately available to them from outside sources, it is important for residents to understand that this factor will be taken into account by the government in ascribing higher or lower priority to applications for assistance in establishing stations, with preference being given to communities which otherwise would have little prospect of receiving CBC service.

3. Population

It is customary to use population size to determine priority in establishing radio and TV stations in southern Canada, i.e. larger communities receive installations before smaller communities. This principle might be modified in the North, to give communities in the mid-range a higher priority than both the smallest and the largest communities. Very small settlements are more likely to be abandoned by residents, as well as to be inaccessible, the cost-per-listener of a radio service is higher, and the practical problems are greater of simply getting enough volunteers to manage the operation. The largest communities, on the other hand, stand a much better chance of obtaining a regular CBC installation - or being included in a regional broadcasting plan.

4. Social Factors

Social conditions in a community are not taken into account - in southern Canada, at least - in determining whether or not to establish a radio or TV station. Nevertheless, in view of the powerful influence a community radio station can have in unifying and educating a community, it is considered that - in the North - social conditions are one of the most important indicators of need for a local broadcasting service, and should therefore be closely considered in determining priority. In practice, this would mean ascribing higher priority to communities with severe social problems, than to settlements where social conditions were more stable.

17. It plans to use the newly developed Single Sideband transmitters for the network. The SSB have a range of over 350 miles and could provide virtually uninterrupted contact among isolated Indian communities. Indian leaders who have taken over direction of the project have chosen six pilot backbone communities scattered along the entire length of the coast: Skidegate, New Aiyansh, Bella Bella, Alert Bay, Nanaimo, and Vancouver. They suggest that the Ministry of Transport radio station at Alert Bay, which is being phased out of operation, could provide a central coordinating station for the network. Some such centre will be needed to coordinate the distribution of visual materials which would be sent out in response to radio requests.

(a) Northern Ontario

18. Last winter a group of young Ojibway people in northwestern Ontario started a project called KENOMADIWIN whose purpose is to use radio as a means of community development. It plans to use a small mobile broadcasting van travelling between Indian communities to gather and record programs which will be broadcast to other towns and reserves in northwestern Ontario; thus providing a news service for Indians in the area. With the support of the Northwestern Ontario Project of the Company of Young Canadians, a Thunder Bay Communications Group was established. It applied to the Department of Communications for a certificate to establish low power AM broadcasting antennae at eleven sites in northwestern Ontario. The application was rejected because certain technical details required were not given, and because only the CBC and the Department of National Defence have been authorized to operate broadcasting stations with a power lower than 100 watts.

PROPOSAL

for

COMMUNITY BROADCASTING STATIONS

I. Technical Aspects of the Proposal

A. General Criteria - for purposes of discussion the following general criteria were adopted.

1. Audience to be Served

(a) Settlements requiring this type of local broadcasting facility are scattered throughout the North. Their size ranges upward to 200 families. The smallest size community to be served has not been stipulated since this is a matter of policy and priorities. Some suggestions for such a priority ranking are made in the appendix.

(b) The communities to be served have certain characteristics in common:

(i) Insufficient financial and technical capability to install a local radio station.

(ii) A preponderance of Eskimo, Indian or Metis residents.

(iii) Low level of academic education.

(iv) Language of common usage is Eskimo or Indian dialect: most residents have little or no comprehension of English.

(v) Socially, culturally, and geographically isolated.

(vi) A significant degree of "social atomism"; i.e. on the one hand residents generally have a confused and discontinuous conception of the larger Canadian culture - which appears to them as an "alien" culture in many respects; while on the other hand, linkages are weak between neighbour-and-neighbour, resident-and-

community, community-and-community, and community-and-nation

(vii) A significant degree of social disorganization, cultural dislocation, cultural conflicts, and inter-generational conflicts

(viii) Limited mobility (there is little likelihood of residents escaping their problems by physically removing themselves, or by moving upward in social class).

(ix) Small population - which makes it uneconomic to apply large-scale, locally-based ameliorative measures to relieve social problems.

2. Programming

(a) Local control of programming would be a prominent feature.

(b) Heavy emphasis would be placed upon use of local languages.

(c) All government departments active in the North would be encouraged to make use of local broadcasting stations to facilitate their operations, but this use would be kept within reasonable limits to ensure that the stations do not become - in the minds of local residents - "propaganda organs".

(d) The selling of advertising time by local stations might be considered as a source of revenue to help communities underwrite operating costs. The full implications of this need to be explored, of course, but possible advertisers are companies trading in the North (e.g. Hudson Bay Company, Eatons, local merchants, airlines, Skidoo, Bombardier, small arms companies, etc.) Encouragement by government departments could assist in this, and companies' expenditures would represent only a small part of their total advertising dollar.

(e) The C.B.C. would provide technical assistance in programming to encourage communities to undertake local productions which could be circulated to other communities.

3. Licencing

It was recognized that community radio stations will have to be operated under Private Commercial Broadcasting Station Licences. This is a statutory requirement. Stations which broadcast programs intended for reception by the public may only be operated under, and in accordance with this class of licence, irrespective of whether the station is operated on a non-commercial or commercial basis. There is no provision to exempt from licencing any transmitting device operated within the broadcast bands.

B. Technical Criteria

Community broadcasting stations should be:

1. Able to provide a reliable service.
2. Economical to install, maintain, and operate.
3. Simple enough to be run by volunteers.
4. If possible, sufficiently powerful to ensure reception in surrounding hunting-camps (in most cases, at least, and under [illegible])

(Revised 1972 figures) (L.R.M.)

C. Estimated Costs of Small AM & FM Broadcasting Station

	AM		FM	
	40 watt	250 watt	100 watt	250 watt
	DOLLARS *			
Transmitter and spare parts	2,000	7,500	6,000	8,500
Studio equipment	9,500	9,500	9,500	9,500
Antenna, Coupler & Ground System	3,000	10,000	2,000	2,000
TOTAL	$14,500	$27,000	$17,500	$20,000

* Adjusted to allow for increased costs in 1969-70 period.

Notes:

1. Studio equipment includes: voltage regulator, turntable, tape recorder, short-wave receiver (for re-broadcasting), microphones, tools, etc.
2. In all cases, furniture and a studio building are presumed to be available in the community. Generally, a reasonably soundproof room of about 10' x 15' would be required (preferably in the Community Centre).
3. Cost estimates of equipment (and subsequent evaluations of that equipment) are based on a survey of equipment now available on the market. It is, of course, quite possible - and might indeed be desirable - to request one or more manufacturers to design low-power transmitting systems especially for northern conditions, but this would necessitate paying them several thousand dollars development costs.
4. Antenna costs for FM stations (estimated at $1,500) are relatively low because FM requires no ground system. Even this estimate may be reduced substantially in specific instances, where local conditions make it possible to use a simpler antenna.

E. Predicted coverage of Small AM and FM Broadcasting Station

	AM			FM
	40 watt	100 watt	250 watt	250 watt
			(MILES)	
Minimum range	8	10	12	6
Maximum range	17	21	25	17

Notes:

1. Minimum and maximum coverage estimates are based on average conditions. Coverage might be considerably greater in flat or very gently rolling areas with fairly deep soil overlay (e.g. Aklavik) or over water (e.g. Igloolik) but might be even less in mountainous areas

(e.g. Pangnirtung). "Minimum range" represents the predicted reliable coverage, and the "maximum range" the expected satisfactory service for northern communities.

F. Technical Considerations

1. Type of Service - General

Amplitude modification (i.e. AM) broadcasting has been the standard type of broadcasting service for many years throughout Canada, but recently frequency modulation (i.e. FM) has been growing in popularity. It should be noted that much of FM's current popularity in the south is due to certain of its characteristics which fit the special requirements of crowded urban centres with congested transmission frequencies. Nevertheless, either FM or AM can give good service in northern communities, and the advantages and disadvantages of both types were therefore investigated.

2. Coverage

FM gives a powerful, uniform and noise-free transmission of limited range with fairly sharply-delineated geographical boundaries, and with little or no sky-wave propagation to interfere with signals in other urban areas. It is commonly used not only for high-quality broadcasting, but also for police, and mobile commercial communications (taxi companies, delivery services, and other service industries).

The coverage of both AM and FM broadcasts is, of course, a function of the power of the transmitter (e.g. 100 watt, 250 watt, 5 kilowatts, etc.) and the characteristics of the antenna system. There is, however, a limitation inherent in FM which has important implications for northern use. FM reception is much more heavily influenced than is AM by the topography of the potential reception area, i.e. FM reception - like TV reception - is limited pretty much to the horizon for a given antenna height (i.e. "line-of-sight"). In

mountainous countryside (e.g. Pangnirtung, Cape Dorset, Broughton Island) it is very doubtful if reception of FM broadcasts could be assured for many outlying camps that lie within the theoretical transmission range, but were "on the other side of the mountain".

3. Antenna and Ground Systems

AM stations use non-directional antennae where conditions permit, but more frequently they must use directional antennae in order that the broadcasts will reach those areas the stations are intended to serve, and to protect other stations broadcasting on related frequencies.

FM stations, on the other hand, are required to use only non-directional antennae (except in very special circumstances). The FM antenna has a "built-in bonus", however, in that it is simple - by minor modification - to achieve an effective radiated power that is considerably higher than the basic power of the transmitter. This, in turn, means greater coverage for the station.

FM stations have a distinct advantage over AM stations in regard to antenna and ground systems. Both types of station require a broadcasting antenna, of course, but the FM antenna is smaller, simpler to install, and cheaper. Moreover, an AM station requires- in addition to its antenna - that a ground system of radial wires be laid surrounding the antenna. This is expensive and troublesome to install and maintain even in the south. In the North it is immensely more difficult. FM, on the other hand, requires no such ground system.

4. Radio Engineering Reports

Every application for a Private Commercial Broadcasting Station Licence must be accompanied by a technical brief. This is a complex document, completed by a qualified radio engineer, who investigates local conditions, and the design of the proposed installation, to ascertain that protection requirements to other stations are met, and that the area the station is intended to serve will receive an adequate signal. This, of course, requires the engineer to visit the area. After the station has been authorized, a further document is

required before the station may broadcast. This certifies that the station's actual operation has been tested, and that it operates as it was designed to.

In the case of FM stations, this second document is a simple certificate, quickly and easily completed without the necessity for an engineer to measure the field strength of signals at certain points in the coverage area. The case of an AM station is significantly different. The document required here is a "Proof of Performance" which requires extensive instrument-tests to be made.

In practice, this difference means that the cost of preliminary engineering reports for an AM station in the North may be two or three times higher than those for a FM station, and that delays are much more likely to occur in actually starting an AM broadcasting service once it has been authorized, than is the case with a FM service.

5. Flexibility

In view of the rapid and considerable changes in social and economic condition which are taking place in the North, there is much to recommend a flexible type of broadcasting system that can lend itself readily to modification, expansion, and removal of a station to meet different conditions in various locations, and changing conditions in any one location.

Flexibility is a very real requirement considering the possibility of such unpredictable factors as population growth, shifts in residential locations, the effects of the encouragement that is being given to organized hunting (which takes hunters out in radial patterns to distant locations from a base in the settlement), and so on.

In this respect, FM broadcasting has an advantage over AM. The only way in which an AM broadcasting station can be expanded to provide greater coverage is to replace the transmitter with a more powerful one, or to increase the height of the antenna tower. The purchase and installation of more powerful equipment is expensive (see table) and problems are

raised of disposal of the replaced equipment, freighting it out, and so on. Increasing the height of an AM antenna tower is a very costly and complex undertaking. Extending the range of an FM station is, however, very much simpler and cheaper. It can be done by simply adding additional bays to the antenna, or by raising its supporting structure, to increase the antenna height (which is relatively cheap and easy in comparison to increasing the height of an AM tower).

6. Receivers

No statistics are available on the number and types of radio receivers in northern homes, but it is probably fair to say that the vast majority are AM standard band, short-wave, or a combination of both. Undoubtedly some families own FM receivers (either brought in with their household effects from the south, or purchased locally in sets that receive all bands) but FM receivers, as such, are not, of course, now in use in the North. Listening in the East is pretty well confined to short-wave broadcasts, with the exception of Churchill and Frobisher Bay where there are local AM stations. Western listeners have more AM broadcasting available to them, but it is likely that a good many listeners tune in to short-wave as well - particularly in Arctic areas.

The establishment of FM broadcasting stations would thus require nearly all residents to purchase new receivers. Suitable AM-FM receivers are now available in southern Canada for about $25 each (battery type) or $45 each (AC type). Owners of AM receivers could purchase FM converters for their sets for a somewhat smaller outlay.

The establishment of AM broadcasting stations, on the other hand, would require a smaller number of residents to purchase receivers, since many already own them. Those who did not could obtain reliable battery sets for as little as $15, or AC sets for about $25.

No matter which type of broadcast system is adopted, it is wise to encourage the use of small battery sets to ensure the reception of emergency messages by outlying camps, or by hunting parties. One way this could be facilitated without recourse to subsidy would be to encourage Community Councils or co-operatives to obtain access to manufacturers' discounts by consolidating individual purchase into large bulk orders.

7. Power, Protected Frequencies, and Design Considerations

AM broadcasting systems of three strengths (40 watts, 100 watts, and 250 watts) and an FM system of roughly equivalent power (250 watts) were compared. The costs and complexity of operation and maintenance of each type are pretty much the same, with freight costs for the AM system being somewhat higher. The ground system for the 40 watt AM station is somewhat cheaper to install than is the case for the larger AM stations. The main points of difference between the various systems are noted below.

(a) 40 watt AM System

This is, of course, the cheapest to purchase and install. It is essentially the same transmitter that is now used by the CBC for Low Power Relay Transmitters across the country. The Transmitter is readily procurable on relatively short notice from the manufacturer. In comparison with the 100 and 250 watt AM systems, it has three main shortcomings.

The least of these is its limited range. This is hardly significant.

A more important shortcoming is the fact that it cannot be given a "protected frequency" under the North American Regional Broadcasting Agreement. (The minimum power for a protected frequency is 100 watts). As a result, a 40 watt station might well have to change frequency from time to time as interference to or from powerful southern

station became intolerable. This is likely to occur more and more in the future, because of the growing number of stations regulated by the Agreement. Such changes of frequency are troublesome. They require an application to the Minister of Communications and the Canadian Radio-Television Commission, which is a time-consuming task.

An additional major shortcoming is the uncertain future of 40 watt AM LPRT's. The C.B.C. (which is the sole user of this equipment) is now experimenting with the possibility of replacing them with FM relay transmitters. If the experiment is successful, it is possible that a number of 40 watt AM LPRT's might become available for community radio stations to purchase as surplus, but the possibility of obtaining parts for them in the future would be quite difficult.

(b) 100 watt AM System

This is a suitable middle-range, and it can be assigned a protected frequency. Its major shortcoming is the fact that transmitters of this power are not now in production. The transmitter cost figures given in the Table are those provided by a manufacturer who designed the model for a market that has since dried up. He is prepared to renew production, but it is doubtful if the new final cost would be lower than that of the 250 watt system now available and, indeed, might even be more expensive.

(c) 250 watt AM System

This gives ample range, and can be ascribed a protected frequency. Its major shortcoming is, of course, its high initial cost. A second shortcoming, curiously, is that existing 250 watt systems are of fairly old-fashioned design (circa 1950). The equipment is adequate but their design does not include such recent developments as miniaturization, solid state circuits, and certain added features that - for example - are incorporated in the 100 watt AM and 250 watt FM models.

(d) 250 watt FM System

This has a relatively short range - which is more affected by topographical conditions. This is its main shortcoming. The problem of a protected frequency does not arise, however, since the Canada-USA FM Agreement and Related Working Arrangement specifies no minimum power for FM stations. Once assigned a channel, the station would receive protection from all stations on related channels. Transmitters are of modern design, and procurement of new equipment and parts does not constitute a problem.

G. Summary of Technical Considerations

1. Technical considerations narrow the choice down to two systems: 250 watt AM, or 250 watt FM. The matter of an unprotected frequency is too serious a disadvantage to qualify the 40 watt AM system, and the procurement difficulties (and possibly relatively high cost) disqualified the 100 watt AM system.
2. The comparative advantages of the 250 watt AM or FM systems are discussed below. The decision is that the 250 watt FM option is preferable.

(a) 250 watt AM system

i. Advantages

- ample range and power
- many residents now own AM receivers

ii. Disadvantages

- higher equipment and engineering costs
- difficulty of installing and maintaining an adequate ground system
- difficulty of increasing power as it becomes necessary
- somewhat outdated design

(b) 250 watt FM system

i. Advantages

- lower costs
- no ground system required
- cheap and easy to increase range
- modern design

ii. Disadvantages

- limited range
- requires nearly all residents to purchase new receivers.

H. Conclusions

1. Both the AM and the FM systems in the 250 watt range are readily procurable, relatively simple to operate and maintain and have protected frequencies. Nevertheless, if only one system is to be adopted - and there are obvious advantages to the use of one system - the 250 watt FM station would be the better choice.

2. There are many communities on Baffin Island, in the District of Keewatin, and on the Arctic Coast, which would meet the general requirements for establishing a service.

PROPOSAL FOR
ESKIMO AND INDIAN AMATEUR RADIO OPERATORS

This proposal considers the possibility of training native people to operate in the amateur service for the benefit of their community.

The Territorial Government might sponsor the selection, training, and equipping of interested young Indians and Eskimos who would then operate an amateur radio service in their own community, using the Eskimo or Indian language primarily. Participation of CBC and MOT and possibly other agencies in this program would, of course, be highly desirable. The service would be used for trading news between northern communities on family matters, community affairs, and subjects of general interest. In rough figures, the total cost per trainee is estimated at probably less than $1500 (including maintenance at $60 a week, transportation at an average $300 and transceiver at $600, but not including the instructor's time).

The proposal has a number of virtues. It offers a simple, powerful, and relatively inexpensive method of breaking down isolation by linking the North and the South, and by linking northern communities themselves. Furthermore, it accomplishes this objective primarily through the actions of individuals, who would simply be assisted by government "to get off the ground". It helps to build up a pool of potential telecommunications employees. It has the advantage of ready communication for emergencies, and it provides a worthwhile, broadening, and fruitful recreation for young persons throughout the North.

The proposal could be developed along the following lines. First, the program itself would be worked out in detail, and news about it circulated among northern communities. Interested young people would be encouraged to participate. They would be required to be enthusiastic, capable, and willing to be trained. They should also have fair proficiency in English, and be willing to operate the equipment

as a hobby. Finally, they should be prepared not only to offer their services to the community at large but also to encourage residents to use the service.

When 5 or 6 young people from different settlements had met these conditions, they would be provided (through the local school teacher) with simple and inexpensive Morse-key training equipment, and basic written instructions in using it. The candidates would be required to develop at home - before taking further technical training - a certain degree of mechanical proficiency with the Morse key. (In practice, Eskimo and Indian amateurs would transmit by voice in their own language, but ability to send and receive Morse Code is required of all amateur operators, but a change in licensing requirements for native people might be possible to waive the need for more training. By training at home on the key, their subsequent technical training outside the community is much shortened.)

Following this "pre-training", the Territorial Government could provide their transportation to a Ministry of Transport installation in a Regional centre in the North (such as Frobisher Bay or Yellowknife), and maintain them there for approximately three months training. Eskimo candidates could be trained by an Eskimo instructor seconded from the Ministry of Transport (who now have two working as radio operators). At the course, each trainee would be supplied (at government expense) with his own radio transceiver in kit form and taught to assemble it. On completion of the course he would be examined and - when granted a certificate - he would be returned to his community with his transceiver to operate on his own as a privately licensed radio amateur. Having built his own transceiver, he will be fully capable of maintaining it and repairing it when necessary, and as a result of the friendship he will already have established with the other trainees on his course (and with Ministry of Transport Regional staff) he will be keenly encouraged to maintain communication with them.

Newly-qualified amateur radio operators, during their first year of operation, are restricted by present regulations to frequencies above 50 megacycles when transmitting by voice. They may, of course, operate in

Morse Code at lower frequencies than 50 megacycles. This raises a problem. Transmissions at frequencies above 50 megacycles have a maximum range of about 30 miles. Thus, radio traffic in voice between settlements would not be possible during the amateur's first year. This is a fairly serious problem, since it means that, during the critical first year of operation when success hangs in the balance, not only may the enthusiasm of the amateur be dampened, but that of community residents as well, since the equipment cannot serve its important function of encouraging "gossiping" between residents of various settlements. Fortunately, the Minister of Communications has authority to exempt Eskimo and Indian amateur radio operators from the application of these regulations.