NOTES RE: MATERIAL FOR MEN'S CLUB - AUGUST 16, 1962

INTRODUCTION:

EARLY HISTORY:

The use of radio as a means of communication within the forested area of Sask. is by no means new - probably started in about 1932.

Mr. S.H. Roberts - former Director of forests has credit for first conceiving the idea.

Initial equipment consisted of six Marconi ship transmitters. Small amount of equipment was manufactured by the Dept. until in 1936 we had 22 sets.

This equipment was designed for radiotelegraph service only and required the services of a skilled operator.

These circumstances prevailed uhtil the advent of World War II when all skilled operating personnel enlisted in the services and the Dept. in order to carry on with the protection of forests was faced with the problem of initiating the use of radio telephone equipment which could be used effectively and efficiently by inexperienced personnel.

First Radio Engineer in charge was Mr. D. Ghisholm from about 1932 - 1935, followed by R.J. Baker 1935 - 1938, and by J.S. Coombes 1938 - 1940 and by the writer 1940 to date.

RADIO NETWORK:

Since the early days the size and scope of the radio network has been increased from year to year until the system now blankets virtually all of the Province. While there are some sixty or seventy sets inuuse in the area generally known as the prairies, the bulk of the equipment is concentrated in the forested area which, indidentally, comprises some 2/3 of the Province. It is interesting to note that Provincial Forests cover some 87,000,000 acres, or 136,000 square miles. Many people feel that Prince Albert is situated in the more northerly portion of the Province while in actual fact it is located some 70 or 80 miles South of the centre of the Province.

From a communication point of view this vast area is broken down into eight

districts or sub-areas. Each district is equipped with a key or control station which is in turn is manned by a radio operator or operators. The key stations are located at Uranium City, Stoney Rapids, Cree Lake, La Ronge, Buffalo Narrows, Meadow Lake, Hudson Bay and Prince Albert. Our station for the Prince Albert area is located some six miles North of the City on the #2 Highway.

The area served by a key station is again broken down into smaller areas which form Conservation Officer's Districts. All C/O's headquarters, towers, patrol cabins, vehicles, and field crews are radio equippped. This provides communication between points within his district, between adjoining districts, also between points in each district and the key station. The key station is connected by telephone to Regional Headquarters, consequently communication is available between field stations and Regional Headquarters through the facilities provided at the respective key stations.

Facilities are available at the key stations to connect into local telephone circuits which enables telephone subscribers to contact remote points in the North through the combination of radio and telephone. The area of coverage is naturally expanded through the use of long distance telephone facilities.

A number of radio channels are available at each key station which provide not only for local coverage as previously described but for intercommunication between key stations. Hence, a message originating at any point on the network may be transmitted to any other point on the network. Virtually all settlements in the Northern portion of the Province are equipppd and the entire facilites of the network are open to the public at a nominal charge.

We have arrangements with bothe the Canadian National and Canadian Pacific Telegraph Companies covering the exchange of traffic. Consequently message for the North originating at telegraph points are forwarded to Prince Albert then transmitted to their destination by radio. Likewise messages originating in the North are forwarded to Prince Albert where they are transferred to the Telegraph Companies.for furtherance to their destination.

As a result of the operation of the communications system a number of public services are provided. Eg: Weather reports are collected daily from a number of selected stations

and the data is telphoned to the Dept. of Transport Meteorological Office in Prince Albert where it is made available to all pilots and the general public.

Reports are collected weekly throughout the summer from a number of Conservation Officers who are stationed in resort areas. This data is funnelled into Prince Albert where it is made available to the Dept. of Industry and Information for the publication of their weekly report on road and lake conditions etc.

Two radio beacons located at Cree Lake and Stoney Rapids are available to all Aircraft flying in these area on request. The emergency use of one our radio channels is granted to any aircraft flying in Norther Saskatchewan, this ofcourse assists us in improving the safety factor of such operations.

Flight plans are likewise handled on behalf of all aircraft operating in the North.

EQUIPMENT RENTALS:

Within the past few years the Dept. has made available for rental to the public at cost, a total of 155 radio sets of various types. Any individual or organization may rent this equipment provided they have an urgent need for communication and that the equipment is actually used and operated in Northern Saskatchewan. This service is used extensively by trappers, mining companies, tourist camp operators, drilling crews, and lumber camp operators. Communication is provided to the nearest key station who in turn relays the messages to and from "the outside".

USE OF COMMUNICATIONS NETWORK:

All Branches of the Department of Natural Resources are provided with communication facilities. This comprises some 60% of all traffic handled. In addition the Provincial Departments of Education, Social Welfare, Public Health, Co-ops, Agriculture, and Highways use the system extensively in connection with their Northern operations. The Timber Board, Saskatchewan Government Airways and the Saskatchewan Power Corporation, also use the service. Federal Government Departments and Agencies such as the Dept. of Indian Affairs, Dept. of Mines and Topographical Surveys and the R.C.M.P. are frequent customers. Last, and certainly not least the general public.

I can remember th[illegible]ward the conclusion of the 1936-37 Fiscal Year, there was

rejoicing among communication personnel over the fact that 1000 messages had been handled. This figure has grown year by year until during the 1961-62 Fiscal Year we handled a total of 136,108 written messages. The Prince Albert Staion was the busiest having handled 49,665 of this total. I should also point out that these were written messages, for which we assume responsibility and it is estimated that at least an equal number of verbal messages were handled.

EQUIPMENT:

All equipment is use throughout the network is built and serviced at our Radio Workshop located at the Prince Albert Airport. The resons for constructing our own equipment are twofold:

(1) It is considerably cheaper than buying commercial equipment.

(2) We feel that the homemade equipment is probably more adaptable to Northern conditions, and in the initial design all controls are kept to an absolute minimum which enables the equipment to be installed and operated by inexperienced personnel.

As of March 31st this year we had a total of 798 two-way sets. In addition there were 106 pieces of auxilliary equipment. The two-way sets can be broken down roughly into seven major types as follows:

SLIDE*

There are 27 type 10 transmitters hwich are used at our key stations or at very isolated locations in the North whhch the use of smaller sets would not cover the distances involved. These are permant installations which cannot readily be moved from place to place Note of interest- Caboose installations on Otosquen and Hanson Lake Roads - Distances on high frequencies 5-600 miles - on low frequencies 150 to 200 miles.

SLIDE*

There are 304 type 8B Sets. This is the "work horse" of the Department. It is used in a variety of places and for a variety of purposes. Eg: Some Conservation Officer's Headquarters, some look-out towers, patrol cabins, field crews, fire suppression crews, for semi-permanent installations in vehicles, and in boats on the larger lakes. It is semi-portable and has a range of about 75 miles.

SLIDE* 8B IN

SLIDE*

We have 59 type 6V sets, these are used mainly in look-out towers and have a range of about 100 miles. One novel feature of these sets is that the transmitter operates from a six volt wet battery, which in turn is recharged by means of a wind driven generator.

2 SLIDES OF WINDCHARGERS MOUNTED ON TOWERS.

SLIDE*

There 186 installations in vehicles and here our mobile equipment is utilized. The range of the equipment when used with the 12 ft. vertical antenna is about 75 miles Single channel and 3 channel models; Used by all Conservation Officers, Supervisor's vehicles semi-trailer units used for transporting bulldozers to fires, fire supply trucks etc.

SLIDE of Ansgar Aschim - note not necessary to get out of truck, ordinarily used while in motion.

SLIDE*

There are 52 TYPE II sets in use. This equipment operates from commercial power, and is frequently used at Conservation Officers Headquarters, and at semi isolated points in the North where the distances involved do not permit the use of smaller equipment. Range on high frequencies, 2-300 miles on low frequencies about 150 miles.

SLIDE* (12/AC)

There are two types of aircraft equipment in use. The one being illustrated here is light weight set for use in smaller aircraft. Its range is about 75 miles on low frequencies, and there are 14 in use.

SLIDE* (12/24)

This is a heavier type of set for use in larger aircraft. Its range is about 125 miles on the lower frequencies.and there are a total of 17 in use.

SLIDE* TYPE 7 OUT OF CASE

This is a walkie talkie type of portable weighing about 17 lbs. complete with internal batteries and accessories and has a range of about 25 miles when used with the telescopic whip antenna, and about 75 miles when used with a regular long wire antenna. There are a total of 131 of these sets in regular use.

SLIDE* TYPE 7 IN CARRYING CASE

This type of set is used very extensively on fires, and by all bush crews.

SLIDE* TYPE 7 IN USE

Another item of possible interest, the airbourne public address system. Describe method of mounting speakers in extra door, - method of coverage by

SLIDES (2)

flying in a circle. Uses - to organize settlers to fight fires in areas adjoining the forests, warning campers and picnicers to be careful with camp fires etc.

Film of workshop and P.A. Radio Station.

PERSONNEL:

RADIO TELEPHONE OPERATORS:

Two at Prince Albert and La Ronge, one at Buffalo Narrows, Cree Lake, Stoney Rapids, Uranium City, Meadow Lake, and Hudson Bay. Total 10.

RELIEF OPERATORS - Holidays sickness etc. 2.

RADIO TELEGRAPH OPERATORS - PA. and LA RONGE 2.

RADIO TECHNICIANS	9
SUPERVISING TECHNICIAN	1
OFFICE STAFF	3
MYSELF	1
TOTAL	28