

contractors, not only because of the formidable obstacles to construction, but also because of the difficulties of moving supplies and construction crews into many of the remote sites on this line. I should like to pay tribute to the Canadian commercial air carriers whose effective and whole-hearted co-operation was so essential to the successful development of this project.

LARGE-SCALE AIRLIFT

"In all, twenty-six Canadian airlines have taken part in support of the Mid-Canada building programme. Already they have achieved a most impressive record in moving passengers and material into northern sites under difficult, trying and, in many cases, previously unknown conditions and over unknown terrain.

"From the assembly point at Shefferville near Knob Lake more than 11,000 tons have been airlifted into various stations of the line. Nine thousand tons of material have been flown from Val d'Or to assembly points at Great Whale and Winisk. And more than 2,000 tons have been carried by air from supply points in the west to intermediate stations there. Some 25,000 passengers have been carried as well during this operation.

"In addition to this impressive record the R.C.A.F. has also made a substantial airlift contribution with planes and helicopters.

"Included in this great air armada were 19 different types of aircraft.

"By the time the Mid-Canada line is finished, more than fifteen million dollars will have been paid to commercial carriers for their part in this airlift.

"I cannot speak too highly of the importance of the airlift supplied by the members of your association and aviation companies generally, especially for the eastern and central part of the line where the sites are for the most part more remote and more forbidding than the western sites. All this achievement constitutes a bright chapter in your story. You can rightly feel proud and satisfied with your accomplishment, so important to the overall success of this tremendous project.

"You can feel, too, a sense of real satisfaction in having participated in probably the greatest single co-operative all-Canadian venture to roll back the frontiers of this country which has ever taken place.

"Because of the Mid-Canada project, vast little known areas of our north have been charted and opened up. Today planes are landing on distant lakes and on airstrips blasted out of rock which a few years ago were merely a part of the great unknown.

"The building and manning and operation of the Mid-Canada line will bring to life many areas of Canada dormant since almost the beginning of time. The log books of Mid-Canada stations will be, for many communities in Canada, the first pages of their future histories.

"And the immediate impact on the Canadian economy has not been inconsiderable. The construction of this system has called heavily upon the resources of ten general contractors, scores of sub-contractors and thousands of persons in the building trades. It has provided employment directly for upwards of 5,000 persons, and indirectly many thousands more in Canada's manufacturing and supply industries.

"Some three years ago when the Mid-Canada system was authorized, its cost was estimated at \$170 million. It now seems probable that, with rising costs and some problems which were not foreseen at that time, the final outlay will be of the order of \$200 million.

TREMENDOUS TASK

"The task has indeed been a tremendous one.

"When this great undertaking was first proposed, I, like many others was almost appalled by the magnitude and complexity of the job, the difficulties which must be faced, the problems which must be solved. The importance of the part to be played by aircraft was of course realized from the start.

"To begin with, most of the territory designated for the radar sites was uninhabited and inadequately mapped, if mapped at all, and detailed information about the topography of specific areas was a first requirement.

"To remedy this lack of knowledge the R.C.A.F.'s 408 Photographic Squadron was given the task of photographing a strip of territory forty miles wide right across Canada--a sizeable project in itself.

"Huge maps, accurately showing every hill, every lake, every contour, were then printed at a scale of one mile to the inch.

"This task was so big that it not only absorbed the map making capabilities of the Department of National Defence for one year and the aerial photographic and radar profiling capabilities of 408 Squadron for many months, but it also required considerable assistance from civilian aerial photographic agencies.

"The final location of each site in the early warning line was determined by detailed examination of these large scale maps and of on-the-spot surveys by ground parties which were landed by helicopter on frozen lakes in a movement known as Operation Rock Top One.

"Then the problems of supply and construction began. Materials were flown into lakehead sites by civilian aircraft for the construction of camps at the lakes and on the hill-top radar sites. It took three and one-half tons of material and three to four days to build each lakehead site. On the average, it required twenty round trips to transport material from the lakes to these sites.

"That was only the beginning. Then began the huge task of moving in building material and equipment for the whole system. Over the entire length of the Mid-Canada line a total of 200,000 tons was transported by ship, by