

licity and educational program, however, have been very helpful in reducing this resistance.

It is my intention to describe briefly some of the construction techniques, some of the means taken to encourage greater use of them, and some of the economics of the whole matter; and then to endeavor to answer any questions that you may have.

I am going to hit highlights from here on.

On the construction techniques I think the point is that we could not afford the luxury of closing down from a 3 to 5 months' period in many parts of the country. We simply had to do something to carry on.

However, upwards of a third of those claiming unemployment insurance benefits under the Canadian social security program during the winter months were classified as construction workers.

Previously many construction workers laid off in the winter took seasonal work in the lumbering industry et cetera, or lived on the premium wage rates they had earned as construction workers.

Work in our lumber camps, however, has also tended to become year around and specialized and winter jobs are not available as in the past. Many construction workers needed income in the winter months and even those that were not too anxious in this regard were eligible for unemployment insurance benefits if construction employment was not available to them.

Finally, new materials and equipment greatly facilitated working in the wintertime, compared to a generation ago. The combination of these three main factors—aided by incentives and publicity—has led to a steady and significant increase in the application of wintertime construction techniques to the point where more work is actually put in place during the winter months than during the whole year a decade or two ago.

The two main principles for wintertime construction are preplanning and protection. Careful preplanning is, of course, necessary for efficient construction on the basis that if you get the building enclosed before extreme winter then you can work all winter.

Initially enclosures were made with canvas tarpaulins or plywood but more recently polyethylene has been widely used because of its low cost and ability to transmit solar radiation, thus reducing both lighting and heating charges.

Enclosures are designed to fit the job and range in size from a small lean-to around a house to huge structures such as the one used this past winter at a power project on the Nelson River in northern Manitoba.

This shelter encloses an area 580 feet by 120 feet to a height of 140 feet. Within this enclosure 750 men work in their shirtsleeves constructing a generating station while temperatures outside drop to  $-40^{\circ}\text{F}$  or lower.

Heated, ready-mix concrete is one of the things that has helped, along with a wide range of components which reduce on-site assembly and construction time.

Montreal received many visitors last year in connection with Expo 67. Most of the pavilions were built during the winter season. We built two, the Australian and Kodak ones, and they were built right through the winter.