(d) The question of load factor

In power sales there are two different measures of quantity that have to be considered: "capacity", which is the rate at which the electrical energy can be drawn at any one time and which is measured in "kilowatts", and the "energy" itself, which is the amount of work that can be done over a period of time and which is normally measured in "kilowatt hours" or "kilowatt years". The electrical requirements in a system are highly variable at different times of the day and different seasons of the year, depending on the "work" the system has to do in homes, factories and all places using power. If the "energy" has to be taken at a constant rate, with little or no flexibility, it is not as useful and valuable as if the rate of use can be varied. The ratio between the average rate of use and the maximum rate at which the supplier contracts to provide it is the "load factor". If the energy can be drawn only at a constant rate, the average rate and the maximum rate are the same; the ratio is 1:1 and the load factor is 100 per cent. There is no flexibility at all in such a situation. If the average rate of use is at a level of 60 kilowatts, but the power can be taken at times up to the rate of 100 kilowatts, the ratio is 60:100 and the load factor is 60 per cent.

Under the Treaty Canada's downstream benefits are calculated in both "capacity" (kilowatts) and "energy" (kilowatt hours). The "load factor" at which our entitlement is produced over the period of sale is approximately 48 per cent, averaged over the 30-year period of sale.

(e) The inclusion of the flood control payments

In the United States one agency (the United States Government) pays the flood control payments to which Canada is entitled and another (the association of utilities being formed to buy our downstream power) pays for the power. From the United States point of view it is therefore reasonable to consider the payment for power quite apart from the payment for flood control. In Canada, a single agency in British Columbia will receive the entire amounts paid in return for its service of operating the Treaty storages in Canada. From the Canadian point of view it is thus reasonable to consider the payment as a whole.

The above factors explain the differences in a number of figures that have been given out concerning payments under the Treaty arrangements. One example is the apparent disparity between statements in the United States that the Canadian power entitlement was bought at a price of "3.75 mills" and statements in Canada that the yield to Canada is "5.3 mills". The reconciliation of these two figures is as follows:-