ANNEX B

DETERMINATION OF FLOOD CONTROL BENEFITS ATTRIBUTABLE TO CANADIAN STORAGE

The basic analysis of flood control requirements and benefits for the Columbia River Basin in the United States is contained in the report of the Division Engineer, United States Army, Engineer Division, North Pacific, dated June 20, 1958, entitled "Water Resources Development of the Columbia River Basin".

The requirements for flood control storage will be determined for both the Kootenay River and the Columbia River in Canada. The distribution of total basin requirements will conform to the average ratio of the contribution of each tributary during the floods of 1894, 1948 and 1956 for the control period at The Dalles, Oregon, to the total runoff at The Dalles for the same period. The total amount of Canadian storage credited with flood control benefits will be determined by the requirements for controlling a flood equivalent to the 1894 flood up to an amount 22 per cent greater than the distribution of total storage requirements to each tributary.

The Canadian storage so determined will be evaluated as to its effectiveness to control a flood equivalent to the 1894 flood to 800,000 cubic feet per second (cfs) and 600,000 cfs respectively at The Dalles. This will be done by multiplying the Canadian storage in acre feet used for this purpose under an assumed plan of operation for flood control by an "effectiveness factor" which is determined for each Canadian storage project by flood routing studies which have been agreed upon. The resultant figures will be the effective storage in acre feet and will be evaluated for benefits at United States $1.38 per acre foot, per annum for control to 800,000 cfs at The Dalles. Additional effective storage credited for control down to 600,000 cfs will be evaluated at United States $0.114 per acre foot.