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U. S. ARMY ENGINEER DIVISION, NORTH PACIFIC

Corps of Engineers 210 Custom House
Portland 9, Oregon
28 September 1957

## NOTICE OF PUBLIC HEARINGS

ON
COLUMBIA RIVER AND TRIBUTARIES

Pursuant to resolution adopted 28 July 1955 by the Committee on Public Works of the United States Senate, the Division Engineer has been directed to review the report on Columbia River and Tributaries published as House Document No. 531, 81st Congress, 2d Session. For your information the resolution reads as follows:
"Resolved by the Committee on Public Works of the United States Senate That the Board of Engineers for Rivers and Harbors, created under Section 3 of the River and Harbor Act, approved June 13, 1902, be, and is hereby, requested to review the report on the Columbia River and Tributaries published as House Document Numbered 531, Eighty-first Congress, Second Session, and other reports, with a view to determining the advisability of modifying the existing project in any way at this time particularly with regard to present requirements of flood control including consideration of flood storage in Canada; the present needs of navigation; a restudy of hydroelectric power potentialities as a part of a combined hydro-thermal system; and consideration of all related water uses."

A series of preliminary public hearings were held in July 1956 for the purpose of obtaining views and comments of those interested in water resource development.

In order that all interested parties may be afforded an opportunity to express their views concerning possible plans of water resource development, additional public hearings will be held by the respective District Engineers as follows:

| Date | Time | Location | Hearing to be Conducted by |
| :---: | :---: | :---: | :---: |
| 21 Oct 1957 | 9:30 AM | Auditorium | Colonel R.J.B. Page |
|  | \& | Student Union Bldg. | District Engineer |
|  | 7:30 PM | Montana State Univ. | Seattle District |
|  |  | Missoula, Moritana |  |


| Date | Time | Location Her | ing to be Conducted by |
| :---: | :---: | :---: | :---: |
| 23 Oct 1957 | 9:30 AM | Holiday Room <br> Columbia Hotel <br> Wenatchee, Wa shington | Colonel R.J.B. Page District Engineer Seattle District |
| 13 Nov 1957 | 9:30 AM | Spanish Room <br> Lewis and Clark Hotel <br> Lewiston, Idaho | Colonel Myron E. Page District Engineer Walla Walla District |
| 15 Nov 1957 | 9:30 AM | Auditorium <br> Interior Building <br> 1101 N. E. Lloyd Blvd. <br> Portland, Oregon | Colonel Jacks on Graham District Engineer Portland Distriot |

A resume of findings of the review study to date together with project information and approximate evaluations of several possible plans of water resource development are presented in the attached information bulletin for your advance information and consideration.

Oral statements will be heard but for accuracy of record all important facts and arguments should be submitted in writing, in quadruplicate. Written statements may be handed to the District Engineer conducting the public hearing or be mailed to him beforehand. Those wishing to present oral testimony should notify the District Engineer in charge preferably in advance of the meeting. In order to permit maximum participation, it is desired that each presentation from the floor not exoeed ten minutes. Persons having specific questions on the review studies as summarized in the bulletin and attachments are invited to correspond with or visit the appropriate District Engineer's office preferably in advance of the hearings.

For your information the addresses of the District Engineers are as follows:

District Engineer
U. S. Army Eagr. Dist., Seattle 4735 Fast Marginal Way Seattle 4, Washington

Distriat Engineer
U. S. Arwy Engr. Dist., Walla Walla Building 602, City-County Airport
Walla Walla, Washingtom

District Engineer
U. S. Army Engineer District, Portland

628 Pittook Block
Portland 5, Oregon

For Release:
October 23, 1968

For further information, contact:
John R. Ulrich
(503) 226-3361 Ext. 2648

# COMPUTER HELPS CORPS OF ENGINEERS SELECT 

DAM SITES, CONTROL FLOODS ON COLUMBIA RIVER

PORTLAND, Ore., Oct. 23 .... A computer has created a working model of the Columbia River that simulates the waterway's entire 1, 214-mile course from the Canadian Rockies to the sea.

From this mainstream in miniature, U.S. Army engineers calculate where and what kinds of dams should be built, when destructive floods are due and what the area's power and water needs will be in the years ahead.

The computer, an IBM System/360 Model 50, monitors the river and its tributaries from 100 stations in British Columbia, Washington, Oregon, Idaho, Montana and Wyoming. This precise data forms the basis for the mathematical model, which has been proved more than 90 per cent accurate when its forecasts are later compared with actual measurements of the Columbia.

The benefits of computer-based river research already are being felt in the Pacific Northwest.
"When we finish the water-control projects now under way -- in 1973 -we'll be able to guarantee that the Columbia River Basin would survive a flood equal to the worst ever recorded here -- in 1894-- without major damage or loss, " said Mark Nelson, chief of the reservoir control center of the Corps of Engineers' North Pacific Division.
"Much of the flood-control work we do depends on what the computer tells us."

Many factors are involved. Dams must be strategically located, with ample reservoir capacity behind them. Engineers must know in advance when the rivers will rise with snow melt and rain runoff.

These variables also must be considered in connection with the area's demand for electric power, produced at the dam sites almost as a by-product.

Before the computer era, river forecasters could look ahead only three or four days with accuracy. With the IBM system, they can predict what the river will be doing 45 days in advance.
"This gives us time to evacuate water from the flood ponds," Mr. Nelson explained, "and thereby make multi-purpose use of reservoirs for power, irrigation, navigation and recreation, as well as for flood control.
"We can release extra water when the river is at a normal height. Then, when the flood water begins to arrive, we can absorb much of it in the near-empty storage reservoirs. "

The intricate system of dams also means more irrigation water to farmers throughout the Northwest and ample supplies of drinking water during the dry summer months, as well as increased power supplies during the fall and winter.
"Without reservoir control, the Willamette River at Albany, Oregon, would receive less than one-half the water it now gets during an average summer," Mr. Nelson said. "The reservoirs allow us to store water during the spring that otherwise would be spilled and useless, then release it in the summer when the supply runs low."

From the network of collection points, data on river and reservoir flow and height are converted to IBM cards, then fed into the computer. Weather forecasts are added. The result is a simulation of the entire waterway that helps both power experts and flood-control specialists.
"From a water -control standpoint, this gives us a pretty good idea of what's going to happen," Mr. Nelson said. "With this kind of experimental model we can try things.
"For instance, with the computerized simulation we can determine in advance what would happen if we added two million acre-feet of storage at, say, the Smoky Range reservoir.
"It allows us to see what effect a project in British Columbia would have on the river level at Portland, a thousand miles away -- or at any point in between."

Power planners use the simulation in much the same way, determining in advance what impact a dam needed for electricity at a specified place would have on others already built. The computer estimates water flow through the projected dam, thus indicating how much power could be generated there. In addition, the system calculates stress on the proposed dam structure, shows how costs could be cut and helps engineers reroute highways and railroads around the dam site.

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