

Iron Gate Dam, Seventh In Hydroelectric Series, Nears Completion

PAGE 4-A HERALD AND NEWS, Klamath Falls, Ore. Sunday, September 24, 1961

Construction of a seventh hydroelectric development on the Klamath River, this one at the bottom of the line and designed to regulate the downstream river flow for the benefit of fish life in the lower stretches of the stream, is moving nearer the last stages of the work.

Already at the "topping out" level is the building of the main embankment dam for the development, named Iron Gate for the locality in which it is located eight miles east of Hornbrook, Calif., off Highway 99.

Pacific Power and Light Company's largest single 1961 construction project, the dam and its spillway, the powerhouse and fish facilities are slated for completion in December.

Cost of the work is estimated at \$7,500,000.

An average of 250 men are on the job daily, most of them employees of Morrison-Knudsen Company, Inc., the Boise, Idaho contracting firm which has big jobs all over the world.

Piling and compacting of the earth, clay and rock going into the structure has edged close to its planned 173-foot height during the past week. It reaches 685 feet across at the crest and more than 1,000 feet thick at its base.

An estimated 1,000,000 cubic yards of material will have been placed in the dam by the fleet of trucks and haulers that make the construction scene a roaring, bustling center of activity. Some of the fill is dug from hillsides in what later will be the reservoir area.

Most of the rock that will provide a protective cover for the upstream and downstream face of the dam is coming from the spillway channel being cut in the solid rock west bank of the Klamath. Nearly completed is the installation of the 700-foot-long and 16-foot diameter steel tube through which water will be drawn from the reservoir to the powerhouse.

Made in Portland, and transported in sections that constituted the Southern Pacific Railway's largest loads over its Siskiyou Route, the tube will carry as much as 1,650 cubic feet of water per second at capacity.

John Boyle, PP&L vice president and designer of Iron Gate, reports the tube will have large valves at the powerhouse. These will provide control of the flow even though the electric generator is not operating. Because of these bypass facilities, the water can be diverted away from the turbine blades.

Operating schedules for the flow require a minimum discharge of 710 cubic feet per second to protect fishlife. There will be greater flows during certain months when additional water is needed to aid salmon and steelhead spawning. Although Pacific Power has indicated the fluctuations in the river level will be almost imperceptible to the eye, the changes to meet the seasonal discharge needs will be made at the rate of not more than three inches in any hour.

In addition to the large tube, a smaller pipe with a capacity of about 80 cubic feet per second has been installed in the dam. It will allow fisheries agencies to draw off cooler water when needed for the handling of migrating fish.

The intake for the fish-water pipe can be raised or lowered in the reservoir to obtain water of the proper temperature for holding and ripening salmon.

Work on the powerhouse has progressed to the stage where crews are preparing to install the turbine and then the generator. Already in place is the steel scroll-case, a snail shaped unit, which distributes falling water evenly against the blades of the turbine.

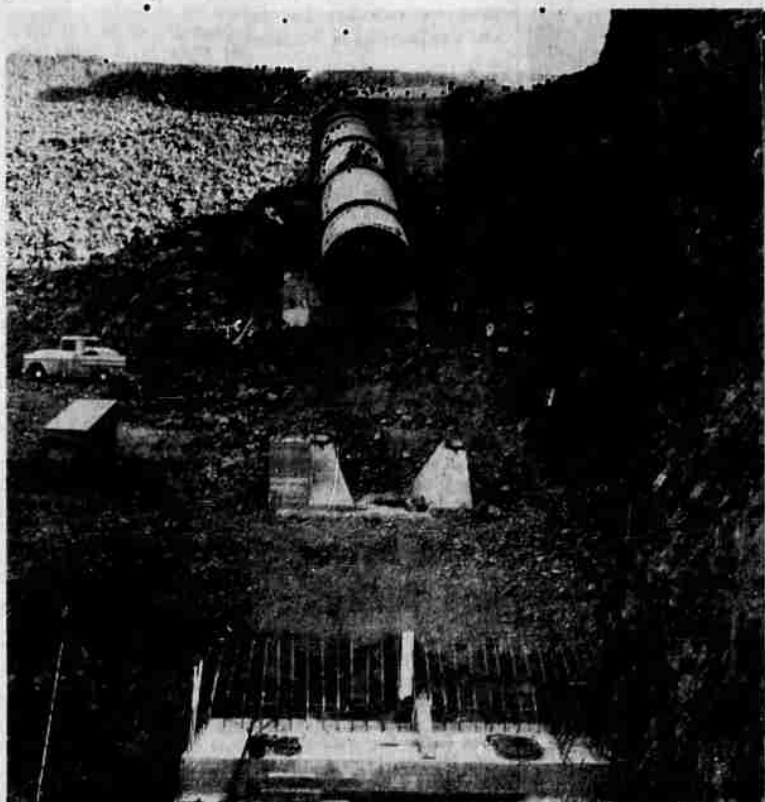
When the generator is operating it will be capable of adding 18,000 kilowatts of electricity to the Pacific Power system in Northern California and Southern Oregon. This is small by comparison with other generating plants, the company states, but is intended to make use of the amount of water Iron Gate will be able to release most of the time.

Immediately upstream from what will be the end of the Iron Gate Lake is Pacific Power's Copco No. 1 and No. 2 power plants with total capacity of 38,500 kilowatts. The four other developments higher on the Klamath have a total of 85,500 kilowatts of generating capacity.

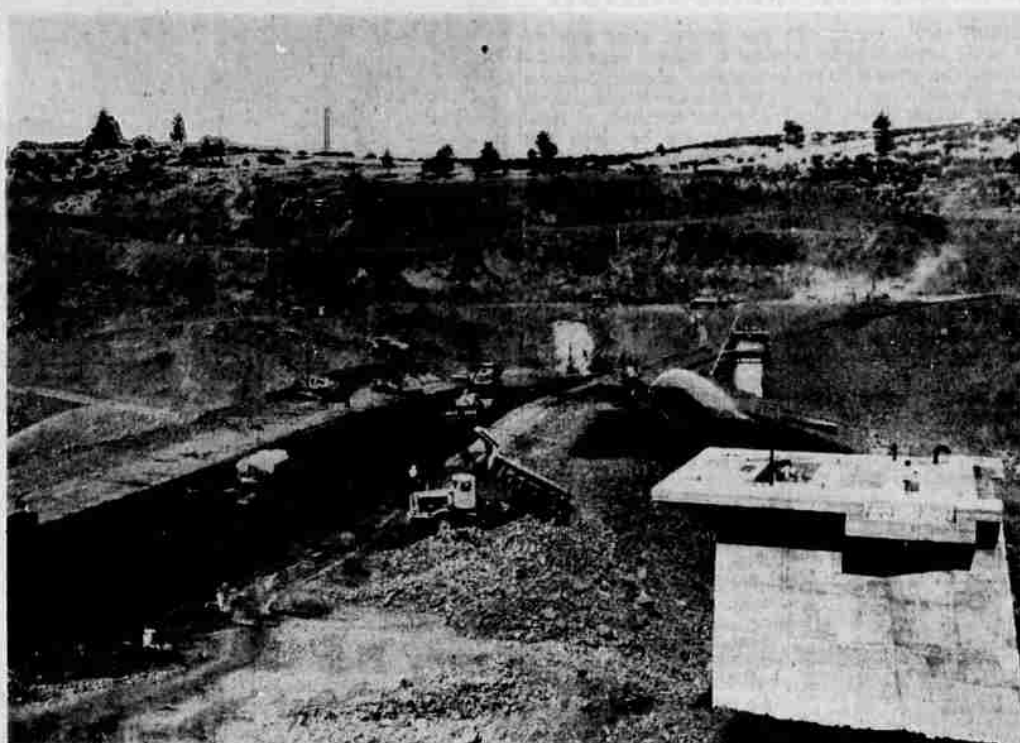
Four other sites on the river, for which PP&L has development license, ultimately will add another 200,000 kilowatts of capacity to the river for service to customers in the Copco division system.

HOSTS SENATORS

WASHINGTON (UPI) — President Kennedy invited Senate Democrats to the White House today for a coffee hour to thank them for support of his legislative program. He will play host to House Democrats Thursday at a similar party.



REGULATED FLOW — The Klamath River downstream flow will be regulated from Iron Gate dam by valves at the powerhouse and of the 16-foot diameter steel tube crews are installing at the Pacific Power and Light Company project. Minimum discharge below the plant will be 710 cubic feet per second. Except for natural-caused emergencies, the maximum discharge will be 1,650 cubic feet per second, the capacity of the 700-foot-long tube carrying water from the reservoir to the powerhouse. Fluctuations in river level will be controlled on a seasonal schedule limiting changes to three inches or less in any hour.



TOPPING OUT — The busy construction activity atop the 685-foot crest of Iron Gate Dam is captured in this view of the "topping out" stage of the work on the \$7,500,000 Pacific Power and Light Company development. Truck (foreground) has just dumped earth and rock. Dart belt across center of dam is compacted clay core which will

resist seepage of water from reservoir side (right) to downstream side of earthen structure. While trucks dump clay, earth and rock is wetted down by tank spray or hose. Background activity is centered in spillway cut along west bank.



GOING HIGHER — The Iron Gate dam on the Klamath River is within 20 feet of its full height in this view from downstream of the earthen mass under construction by Pacific Power and Light. Foreground activity includes pouring concrete for foundation for powerhouse and

turbine-generator. Assembly of steel sections for the 16-foot diameter penstock tube (right) to carry water from the reservoir to the powerhouse is nearing completion. Width of dam already fills the full 685 feet between rust-hued canyon walls that give site its picturesque name.



FROM THE TOP — The view downstream from the top of the 173-foot high Iron Gate dam shows the Klamath River cascading through tunnel mouth hidden at right and the large tube which later will carry water from the reservoir while regulating downstream flow of the river

for benefit of fishlife. Small pipe paralleling the 16-foot diameter tube will permit drawing off separate and cooler flow when needed for salmon-steelhead holding tanks and egg-taking facilities to be built below the dam.

According to statistics, 10,000 children are born annually with cleft lip and palate disorders.



INSPECTION TOUR — Progress at the Iron Gate dam recently was inspected by Pacific Power directors and officers who heard R. N. Beyer (right), resident engineer, describe work. Left to right are directors Arthur Fields, Portland, and Lyman Buting, Yakima, Wash., and PPL President D. R. McClung.

Fallout Shelters Spark New Hatfield-CD Battle

PORTLAND (AP) — Portland city officials and the governor's office are feuding again over methods of preparing to survive any enemy attack.

Gov. Mark O. Hatfield got things started earlier in the week when he said everyone in the state should build fallout shelters.

Friday, Portland Civil Defense Director Jack Lowe said this was wrong. He explained that since the city can be expected to be a target of attack, a blast shelter would be needed.

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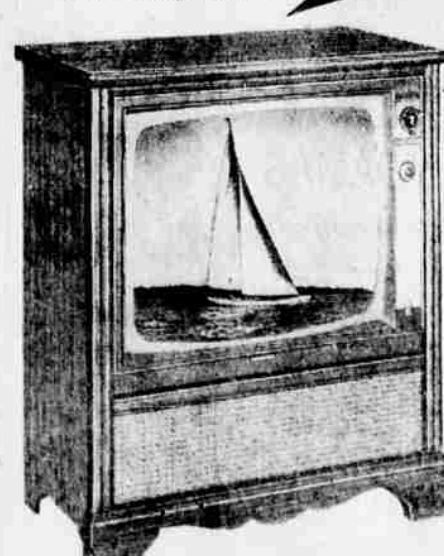
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