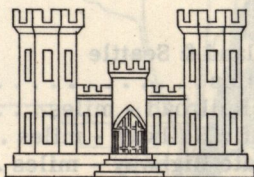


McNARY DAM

OREGON AND WASHINGTON



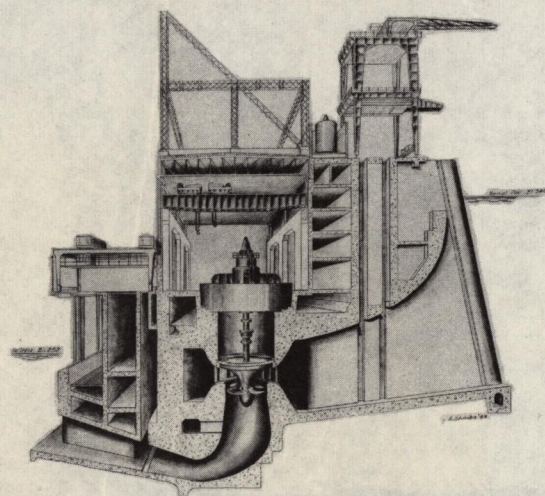
Construction Under Supervision

of

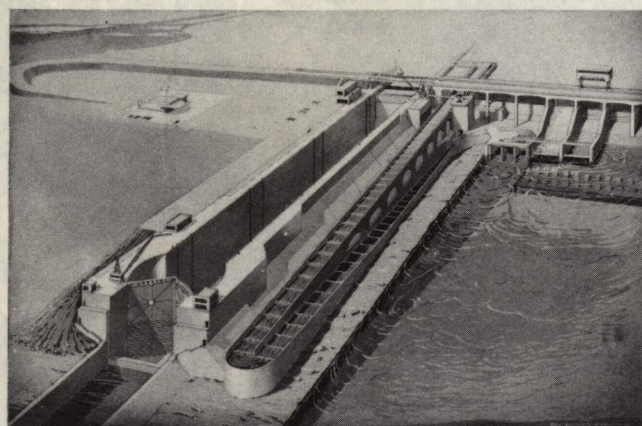
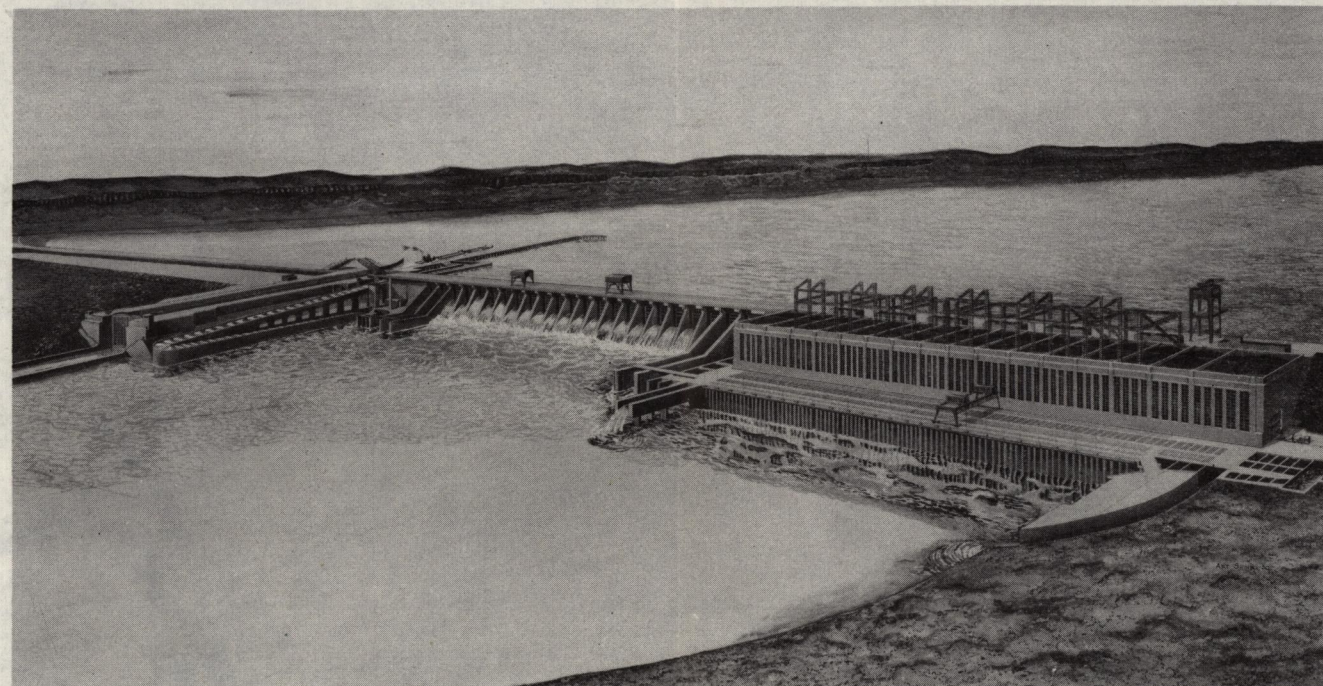
CORPS OF ENGINEERS

U.S. ARMY

WALLA WALLA DISTRICT



Typical cross section view of generating unit in powerhouse at McNary Dam



Navigation Lock & Washington Shore Fishways

PUBLIC USE OF McNARY RESERVOIR

The orderly development of recreational and other public-use resources of McNary Reservoir will be provided for under a master plan for reservoir management and public use which is being studied by the Corps of Engineers. Under this plan, state and local governmental agencies and local groups are encouraged to participate in developing, maintaining and operating recreational facilities. Recreational opportunities which will accrue to the public include boating, fishing, lakeshore picnicking and sightseeing at the dam. An overlook building on the Oregon shore will provide visitors with a general view of the dam and reservoir. An

inspection gallery will be provided in the generator room with large soundproof viewing windows in the control room walls to allow visitors to watch operations. A transparent section in the Oregon shore fish ladder will enable the public to watch fish ascending the ladder. A darkened room for the observer will provide the view without disturbing the fish. On the Washington shore the navigation lock and its operation may be viewed from the visitors gallery in the control building. Vehicular access to the reservoir at convenient locations and right of access to the shoreline by the pedestrian public will be maintained.

GENERAL INFORMATION

McNARY PROJECT

McNary Lock and Dam is one unit of the main control plan for comprehensive development of the water resources of the Columbia River and its tributaries. It is located 292 miles above the mouth of the river, 190 driving miles east of Portland, Oregon, on U. S. Highway 730.

This multi-purpose project provides for navigation and power with incidental irrigation and recreation benefits. The project cost is estimated at approximately \$28,650,000. Construction was initiated in 1948 and the first power installation of two units is scheduled for late in 1953 with additional units to be installed until the ultimate capacity of 14 is reached.

The dam includes a gate-controlled spillway 1310 feet long, a powerhouse 1422 feet long, and with the earth abutments has a combined total length of 7400 feet.

The navigation lock is 86 feet wide, 675 feet long and will provide the world's highest single lift of 92 feet.

A fish ladder, 30 feet wide and rising on a slope of one foot in 20, is located on each shore. Also, a fish lock is included in the project and is located in the non-overflow section between the navigation lock and spillway. A collection system across the downstream face of the powerhouse is designed to attract fish to the ladder on the Oregon shore.

McNary Dam reservoir provides slack water navigation for 67 miles in the Columbia River and lower Snake River. Relocation of 82 miles of railroad and 24 miles of state highways, as well as other utilities, was required by the improvement. About 16 miles of levees provide protection to low areas where justified.

Benefits to irrigation consist in part of lowered pumping costs. Approximately 400,000 acres of land in Oregon and Washington have been found feasible for irrigation from the reservoir.

McNARY LOCK AND DAM

PROJECT DATA

General

Stream Columbia River
Drainage area - square
miles 214,000
Overall length of dam - feet 7,400
Maximum height - headwater
to tailwater - feet 92

Reservoir

Normal pool elevation - feet 340
Length normal pool - miles 59
Normal pool area - acres 37,900
Levee construction - miles 16

Relocations

Spokane, Portland & Seattle
Railway - miles 35
Union Pacific Railroad - miles 33
Northern Pacific Railway - miles 14
Washington State Highway - miles 17
Oregon State Highway - miles 7
County roads - miles 20

Spillway Dam

Length - feet 1,310
Spillway crest elevation - feet 291
Deck elevation - feet 361
Maximum height - foundation to
deck - feet 158
Number of split-leaf type gates 22
Size of gates - feet 50 by 53

Navigation Lock

Type Single lift
Maximum lift - feet 92
Net clear length - feet 675
Width - feet 86
Depth over miter sill - feet 12
Filling system Wall culverts
and ports
Upstream gate height - feet 23
Downstream gate height - feet 106
Length of upstream guard
wall - feet 1,400
Length of downstream guard
wall - feet 1,500

Powerhouse

Length - feet 1,422
Number of power units 14
Turbines Automatic adjustable
blade propellor
Revolutions per minute 85.7
Horsepower 111,300
Generator capacity - kilowatts 70,000
Installed capacity - 14 units -
kilowatts 980,000

Abutment Embankments

Length, Washington shore - feet 1,620
Length, Oregon shore - feet 2,500
Crest elevation - feet 365
Width of crest - feet 30

Fish Facilities

Ladders 2
Width - feet 30
Slope 1 on 20
Fish lock - single 1
Size of chamber - feet 20 by 30

Scheduled Completion Date

December 1956

HIGHWAY DISTANCES

TO McNARY DAM

Portland 190
Spokane 193
Pasco 42
Walla Walla 54
Pendleton 35
Yakima 129
Seattle 270

