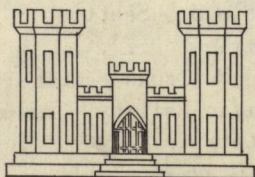


# McNARY DAM

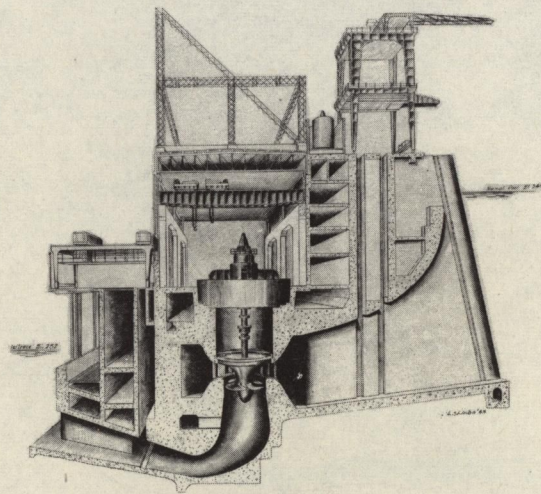
OREGON AND WASHINGTON



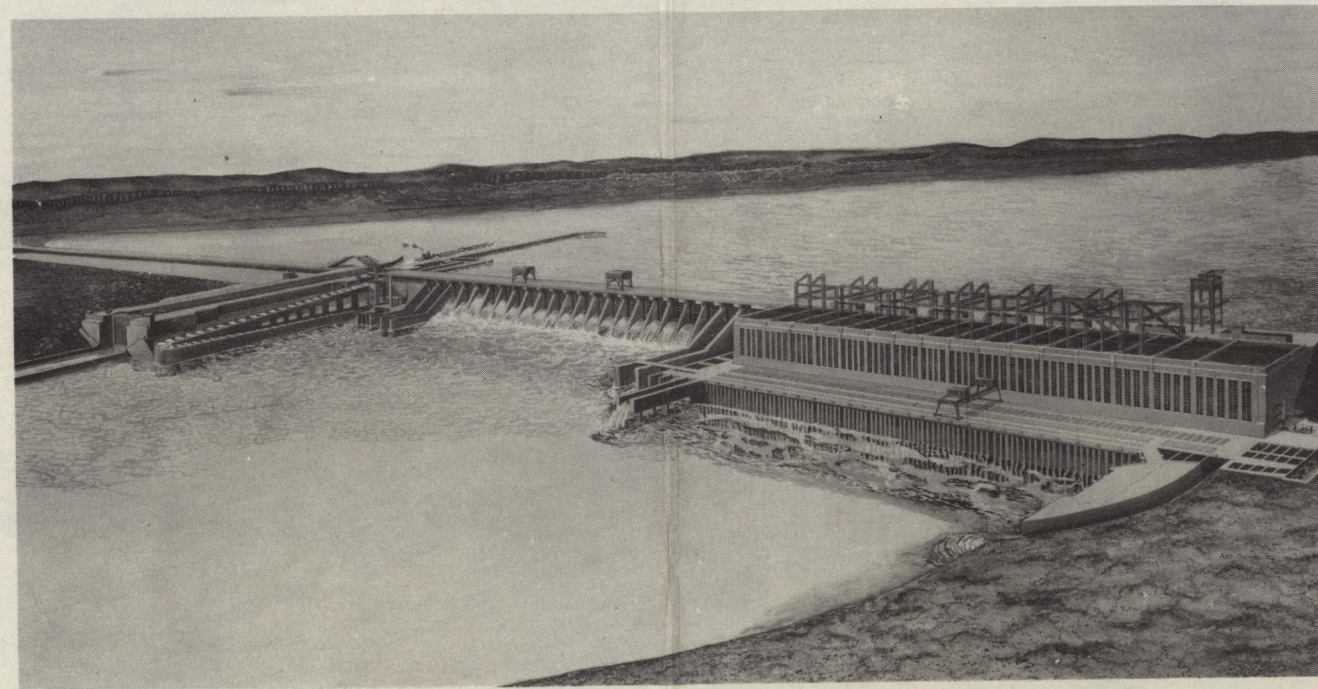
Construction Under Supervision  
of  
CORPS OF ENGINEERS  
U.S. ARMY

WALLA WALLA DISTRICT

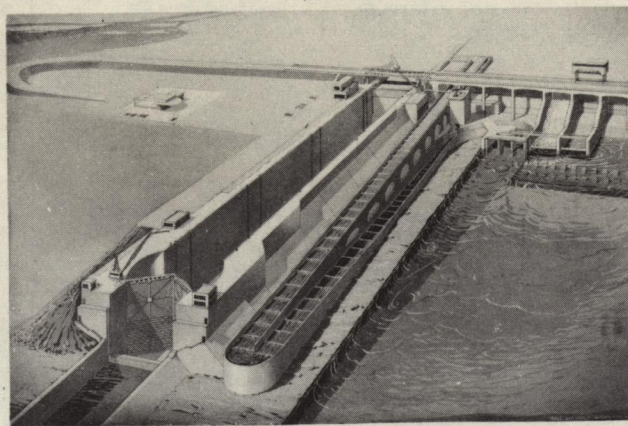




Typical cross section view of generating unit in powerhouse at McNary Dam



#### PUBLIC USE OF McNARY RESERVOIR



Navigation Lock & Washington Shore Fishways

The orderly development of recreational and other public-use resources of McNary Reservoir is provided for under a master plan for reservoir management and public use which has been 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. A public service building on the Oregon shore will provide visitors with a general view of the dam and reservoir and serve as a guide and information center.

A visitor's center is being provided in the powerhouse. Large soundproof viewing windows in the control room walls will allow visitors to watch operations. Aquarium windows in the Oregon shore fish ladder wall 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 lock wall or the visitors area in the lock 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 \$281,650,000. Construction was initiated in 1947 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, generating 980,000 kilowatts of power.

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.

Two fish ladders, one located at each end of the Dam, are 30 ft. wide and rise on a slope of one ft. in 20. A collection system across the downstream face of the powerhouse is designed to attract fish to the ladder on the Oregon shore. Also, a fish lock is included in the project and is located in the non-overflow section between the navigation lock and spillway.

McNary Dam reservoir provides slack water navigation for 70 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. At least 244,000 acres of land in Oregon and Washington are situated favorably for future 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 . . . . . 61  
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 - lowest  
foundation to deck - feet. . . . .187  
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 floor 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

PROJECT DATA (Con't)

Powerhouse

Length - feet. . . . .1,422  
Number of power units. . . . . 14  
Turbines . . . . . Automatic adjustable  
blade propeller  
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

