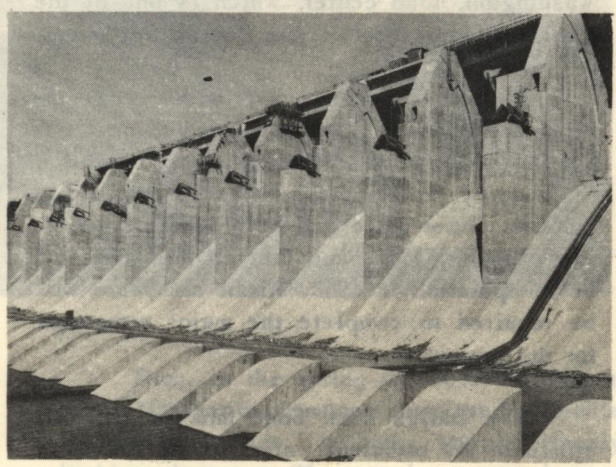
[Removed from U.S. Army. Corps of Engineers. Water resources development by the U.S. Army Corps of Engineers in Wash., 1953. p. 25]

The Dalles Dam
Columbia River
Washington and Oregon



The Dalles Spillway Dam Under Construction

Corps Of Engineers
U. S. Army
Portland District

Army-Port. Dist., Oreg.

FACTS ABOUT THE DALLES DAM

Authorized by the 1950 River and Harbor and Flood Control Act, The Dalles Dam is an important link in the proposed development of the Columbia River and the Pacific Northwest.

The principal functions of the project are improvement of the stream for navigation and the generation of hydro electric power at a site close to the Portland, Oregon - Vancouver, Washington, load center, which is one of the principal load centers of the Pacific Northwest.

The construction cost with 14 generating units installed, is estimated to be about $350,000,000. Dependent upon appropriation of funds by the Congress, it is estimated that the first power units will be placed in service in November, 1957, and that all 14 units will be in operation in 1960. About six years will be required to complete the major structures for the project.

The Dalles Dam, once and for all, will eliminate the turbulent waters of the Columbia River just above The Dalles, Oregon, which climax in Celilo Falls and have hindered navigation.

This multiple purpose project will provide a 25-mile slackwater pool for navigation to the proposed John Day Dam, provide needed power generating capacity to the Northwest power pool, reduce the pumping lift required for irrigation projects on lands along the reservoir when the pool is raised, and provide recreational possibilities of a type not now available to residents of the area. Without John Day Dam, The Dalles project will provide a 31-mile 160-foot elevation slackwater pool.

Construction of this new unit of the Corps of Engineers' comprehensive multiple-purpose plan of development for the Columbia River Basin within the United States was started in March of 1952.

Located at the head of the Bonneville Dam pool, 192.5 miles above the mouth of the Columbia River and approximately three miles east of The Dalles, Oregon, The Dalles Dam will consist of a single-lift barge lock, a concrete gravity overflow 23-gate spillway, a powerhouse with 14 main units installed initially, skeleton substructure for eight additional powerhouse units, a rock-fill closure section across the main river channel, fish passage facilities and necessary appurtenant structures.

At normal pool elevation 160 the reservoir will cover 11,000 acres.

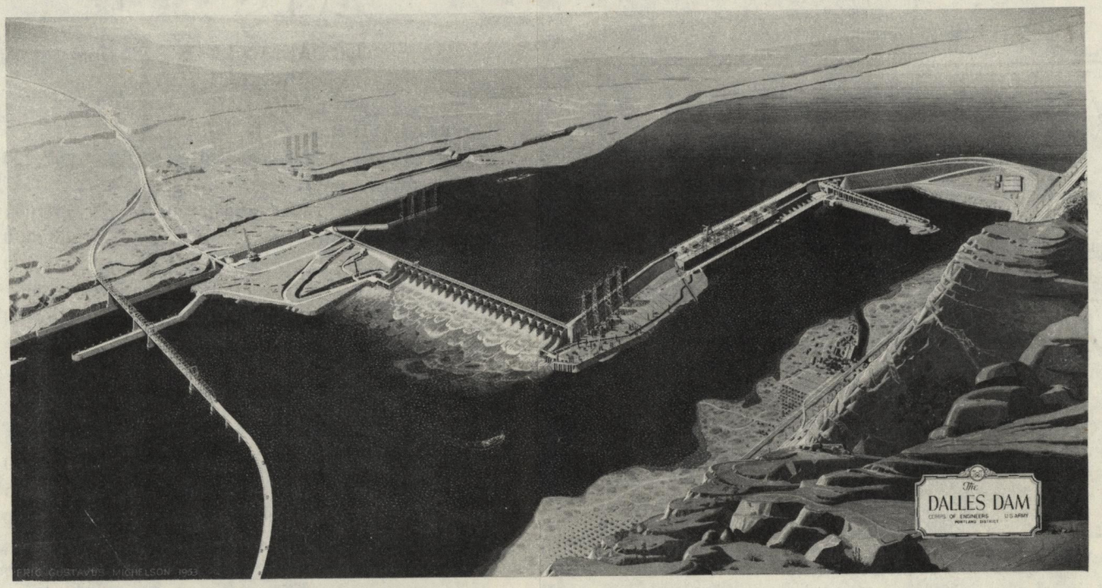
The single-lift navigation lock, located on the Washington shore, will be 86 feet by 675 feet in clear plan dimensions and will provide a minimum 15-foot depth of water over the sills at maximum drawdown of the reservoir pools.

Necessary guide and guard walls and approach channels to the lock will be provided. The gate-controlled spillway, with a crest elevation of 121, will be 1,370 feet long.

The initial power installation will consist of fourteen 78,000 and two 15,000 kilowatt units giving a total installed capacity of 1,122,000 kilowatts. The two 15,000 kilowatt units will provide the auxiliary water supply for the powerhouse fish collecting system.

With the stream flow regulation expected on completion of the Main Control Plan for the Columbia River Basin, two additional 78,000 kilowatt units may be added to raise the installed capacity to 1,278,000 kilowatts.

Additional units will be required in the more distant future as the Columbia River is further developed and space is provided for a possible ultimate installation of 22 main power units.



Fish handling facilities will be similar to those at Bonneville and McNary Dams. The major facilities will include complete gravity fish ladders at the north end of the spillway and at the east end of the powerhouse, a powerhouse fish-collecting system for attracting upstream migrants into a collection channel along the downstream face of the powerhouse, and a fish lock in conjunction with the east fish ladder for emergency and experimental use.

Although its potential power production now greatly overshadows all its other purposes future historians probably will want their readers to remember The Dalles Dam as the fourth stage of development of the Columbia River in the interest of navigation at Celilo Falls.

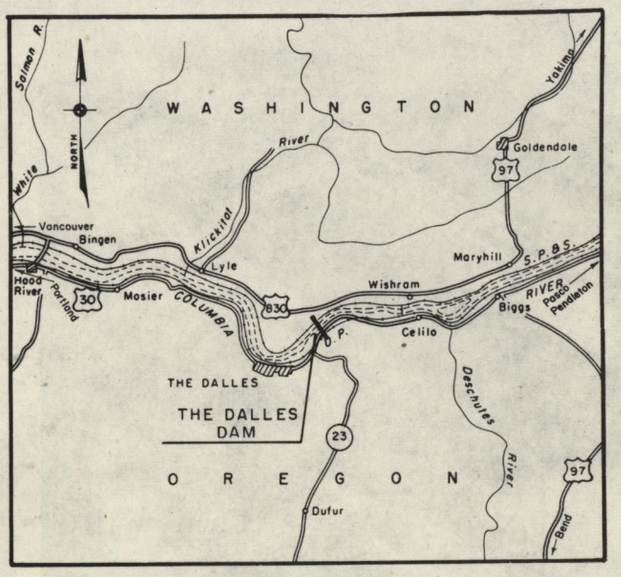
Prior to 1863 the link between boats operating on the upper river above Celilo, and those with their terminal at The Dalles, was an old wagon-road portage.

Then, in the spring of 1863, the Oregon Steam Navigation Company completed a 13-mile iron-railed portage line along what previously had been known as Thompson's portage, between The Dalles and Celilo on the Oregon shore.

The Dalles-Celilo railroad operated regularly and at a profit for a number of years. With the aid of a telegraph line, installed parallel to the track, the train could always be on hand to meet incoming boats to speed their cargo in either direction.

Increased traffic, especially on the upper river, soon justified the construction of The Dalles-Celilo Canal, which went into operation in 1915, at a cost of $4,840,000, just a little more than the initial appropriation for The Dalles Dam.

Today, the navigation project of 1915 is obsolete, but it will continue to function throughout most of the construction period of The Dalles Dam.



VICINITY MAP

SCALE IN MILES

10 5 0 10

HIGHWAY DISTANCES TO THE DALLES DAM FROM POINTS IN OREGON AND WASHINGTON

Portland, Oregon	88 miles
Bend, Oregon	138 miles
Umatilla, Oregon	94 miles
Pendleton, Oregon	125 miles
Pasco, Washington	140 miles
Walla Walla, Washington	152 miles
Yakima, Washington	100 miles
Vancouver, Washington	88 miles

5-10-55

THE DALLES LOCK AND DAM PROJECT DATA

RESERVOIR:

Drainage area, square miles	237,000
Storage in acre-feet:	
Pondage (5-foot drawdown)	53,000
Dead storage	264,000
Total	317,000
Pool Elevation - feet above mean sea level:	
Normal	160
Minimum	155

DAM:

Height of dam, maximum, in feet:	
Spillway	125
Powerhouse	200
Earth fill	285
Length of dam, feet	8,700
Spillway design capacity, cubic feet per second	2,290,000

NAVIGATION LOCK:

Type	single lift
Lift (Normal), feet	87.5
Clear plan dimensions, feet	86 by 675
Normal depth over sill, feet	20
Minimum depth over sill, feet	15

POWER FACILITIES:

Main Units:	
Size of units, kilowatts	78,000
Installation (Initial), number of units	14
Installation (Main Control Plan), number of units	16
Ultimate possible installation, number of units	22
Auxiliary Units:	
Size of units, kilowatts	13,500
Installation, number of units	2
Purpose - to provide auxiliary water supply for fish facilities and generation of power.	

POWER INSTALLATION:

Total Kilowatts:	
Initial	1,122,000
Intermediate (Main Control Plan)	1,278,000
Ultimate (Possible)	1,746,000

FISH FACILITIES:

Fish ladders	2
Fish lock	1

PROJECT VISITORS

Please remember that heavy equipment cannot be stopped or maneuvered as readily as your car, so it is dangerous to walk or drive into construction areas. If children are present, please see that they are supervised at all times. Your cooperation in observing safety regulations and using only the designated conveniences will be appreciated and will make your visit more enjoyable and safe, both for yourself and for the workmen.