

CHIEF JOSEPH DAM

COLUMBIA RIVER
WASHINGTON STATE



CHIEF JOSEPH, THE WARRIOR

CORPS OF ENGINEERS
U. S. ARMY

SEATTLE DISTRICT 1 MAY 1953

PHYSICAL FACTS IN BRIEF

Type of Dam: Concrete, gravity, gate-controlled.
Length of Dam: Spillway, 922 ft.; abutments, 1,342 ft.; intake structure, 2,036 ft.; over-all total length of dam, 4,300 ft.

Height of Dam: Maximum above streambed, 205 ft.; maximum above foundation rock, 230 ft.

Gates: 19 tainter-type crest gates, 40'x49'1" (on the arc), operated by individual hoists.

Roadway on top of dam, 22 ft. wide, for project use.

Intake structure: Reinforced concrete; max. height, 140 ft.; length, 2036 ft.; place for 27 penstocks.

Powerhouse: Reinforced concrete; max. height, 150 ft. ultimate length, 2036 ft.--world's longest!

Power equipment: Initial installation, 16 turbines and 16 generators; second complement, 4 more units; ultimately, 7 more units, totalling 27 turbines of 100,000 horsepower each, and 27 generators of 64,000 kilowatts rated capacity each.

Rated power head, 165 ft. on the turbines.

First 3 generating units (total rating, 192,000 k.w.) placing power on line 1 Sept. 1955. One unit added each 3 months until 16 units (total rating, 1,024,000 k.w.) on line 1 Dec. 1958. Additional units will be added later.

Reservoir: Length, 51 miles; area, normal full pool, 7150 acres; storage, gross normal full pool, 480,000 acre-feet; storage, usable, 36,000 acre-feet.

Project's first construction contract awarded 29 June 1949. Two bridges, access highway, housing, intake-channel and right-abutment excavation, and first cofferdam completed within 2 years.

First concrete placed in main dam, 1 Sept. 1951.

Main dam to be completed by 1 August 1955.

First concrete in intake structure, 11 Sept. 1952.

Full intake structure, and first stage of powerhouse providing space for 17 generating units, to be completed 1 July 1956.

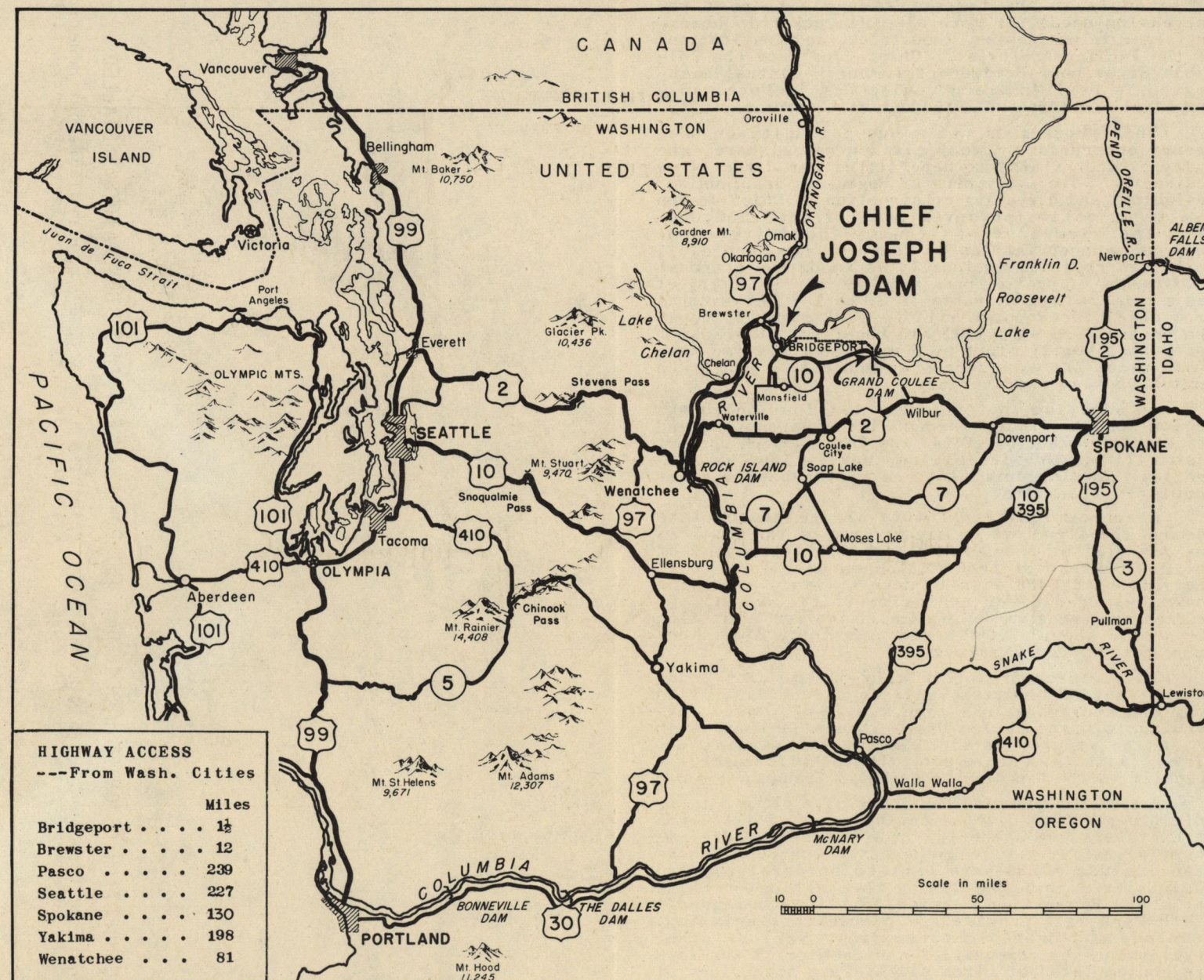
Total project excavation, 9 million cubic yards.

Total concrete to be placed: Main dam, 981,000 cu. yds.; powerhouse and intake structures, 800,000 cu. yds.

Total cement required: Main dam, 677,000 barrels; intake and powerhouse, 720,000 barrels.

Total reinforcing steel: Main dam, 4,705,000 pounds; intake and powerhouse, 37,100,000 pounds.

PROJECT LOCATION ON WASHINGTON STATE MAP



VISITORS ALWAYS WELCOME

This project belongs to the United States Government. Therefore, you always are welcome. However, for safety reasons while construction is in progress, visitors are not admitted to the work areas unless you are in a tour conducted by an official of the project. You will want to take pictures. Bring your camera along.

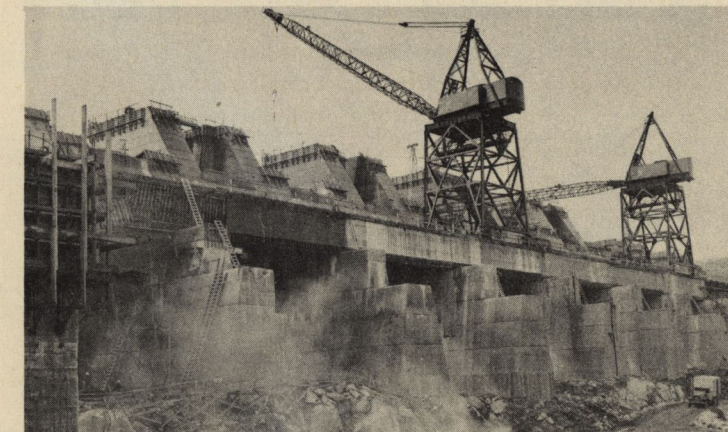
CONDUCTED-TOURS SERVICE

It is the desire of the Corps of Engineers to maintain a conducted-tours service at Chief Joseph Dam beginning Memorial Day, May 30, and continuing daily through Labor Day, Sept. 7. Assemble at the Visitors' Viewpoint (comfort station at hand) near the State highway at the west end of the project on the south side of the river. Tours 9 a.m. to 7 p.m.

POWER CAPACITY OF WESTERN DAMS

(Rated in Kilowatts)

Grand Coulee (completed).....	1,944,000
Chief Joseph (under construction).....	1,728,000
Hoover (Boulder) (completed).....	1,322,300
Priest Rapids (authorized).....	1,219,000
The Dalles (under construction).....	980,000
McNary (under construction).....	910,000
Libby (authorized).....	660,000
Bonneville (completed).....	518,400
Hungry Horse (completed).....	285,000
Rock Island (completed).....	245,000
Albeni Falls (under construction).....	42,600



Intake and Powerhouse 20 March 1953

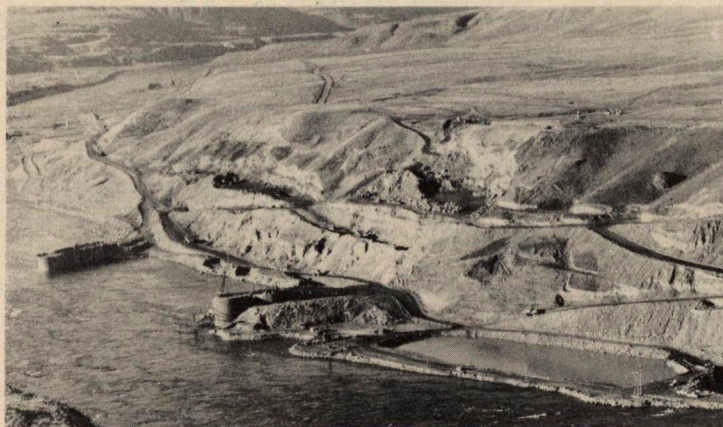
NAME HONORS INDIAN CHIEF

This great hydro-electric power project, owned by the people of the United States, has been given the honor by the Congress of perpetuating the memory of a leader in the pioneer days of the West. This man loved peace, but gained prominence as a valiant warrior and military strategist when he was forced to fight a five-month series of battles against Army troops of the people of the United States.

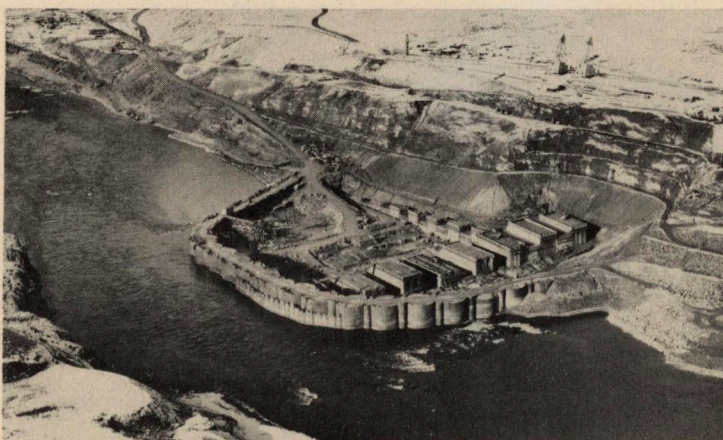
Chief Joseph of the Nez Perce Indians was reluctant to enter that fight, back in 1877. It was a running engagement, and the only one the Nez Perce tribe ever fought against the white man. It had a circuitous course traversing mountains, plains and valleys of Idaho, northwest Wyoming and western Montana. The warfare resulted from altercations between braves of Chief Joseph's tribe and the soldiers, following a series of invasions of the Nez Perce lands by white settlers moving westward into Oregon.

Chief Joseph's force finally was surrounded by Federal troops at Bear Paw, Montana, in September 1877, ending the long and bitter struggle. Chief Joseph died September 21, 1904, and was buried at Nespelem, Washington, on the Colville Indian Reservation, less than 35 miles, as the crow flies, from this "living" memorial.

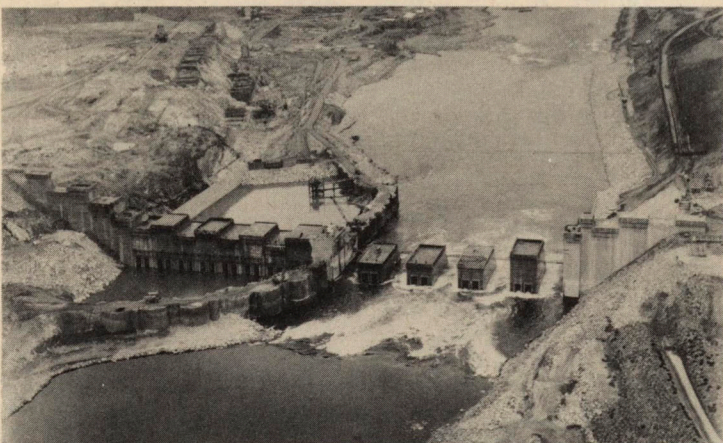
CONSTRUCTION PROGRESS



1 December 1950



1 December 1951



1 December 1952

PROJECT HAS MULTIPLE BENEFITS

Chief Joseph Dam is a great project rising ahead of schedule in the fervent struggle to meet the increasing needs for more electric power in homes, on farms, in businesses, industries, and institutions of the Pacific Northwest. Chief "Joe", on the Columbia River near Bridgeport in north-central Washington, is next to Grand Coulee Dam in both geographical location and rated ultimate power capacity.

This project is not a one-community or one-agency enterprise. Every citizen has a share, and every citizen stands to benefit, either directly or indirectly. The U.S. Corps of Engineers is planning, designing, and directing construction of Chief Joseph Dam at an estimated investment of \$193,250,000. From the viewpoint of economic benefits to be derived, appropriations by Congress for such civil works are regarded nationally as among the soundest investments of public funds ever made. This project has a benefit-to-cost ratio of 2½ to 1. The revenues from Chief "Joe" power will be sufficient to repay the entire fund outlay within the first 50 years of operation, but it might be a much shorter time than that, using the experiences at Bonneville and Grand Coulee Dams as a criterion.

In addition to its great contribution to the region and the Nation through its construction and its electric-power benefits, the Chief Joseph project also will provide irrigation, navigation, and recreation developments plus one of the West's great tourist attractions.

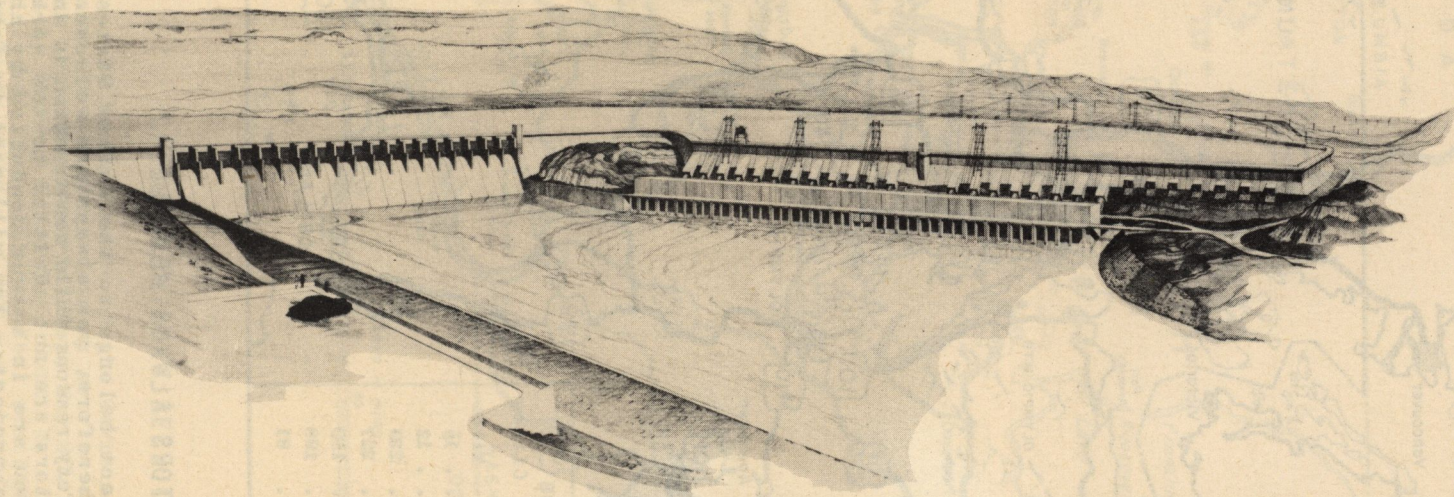
Accommodations for future irrigation outlets through the structure on either side of the river at the dam will be provided in response to request of the U.S. Bureau of reclamation on behalf of local irrigationists who wish to develop lands along the lower Okanogan River and below Chief Joseph Dam. Studies are under way on possibilities for irrigation service to about 15,000 acres by gravity diversions from the dam's reservoir.

This reservoir, officially named Rufus Woods Lake by act of Congress, will be a "pool" 51 miles long and averaging less than a half-mile wide, extending to Grand Coulee Dam. This will provide an extensive stretch of slack water for navigation, linking with Lake Roosevelt, the 151-mile reservoir reaching to the Canadian border from Grand Coulee Dam.

Recreation planning has a definite place in the multiple-resource development programs of the Corps of Engineers, by authority from Congress. Preliminary plans for public-use areas along Rufus Woods Lake include a 280-acre park to be developed and administered near the Dam by the Washington State Parks and Recreation Commission. This Bridgeport State Park will provide for picnicking, swimming, boating, and over-night camping. Various other developments by communities and commercial services are contemplated at other sites along both sides of the Lake.

Naturally, a project as large as Chief Joseph Dam is of great interest to people, business, agriculture, and industry in the Pacific Northwest. And inasmuch as the project is reached easily over main cross-State highways and airways, the Dam already is attracting many tourists from both in-State and out-of-State, and it will continue to attract them in great numbers. You are invited to join them!

For additional information about this or any other projects of the U.S. Corps of Engineers, please address us at 4735 E. Marginal Way, Seattle 4, Washington.



ARCHITECT'S CONCEPTION OF CHIEF JOSEPH DAM AND POWERHOUSE WITH 20 GENERATORS INSTALLED

One of the major units in the Corps of Engineers' development of Pacific Northwest water resources.

Primarily an electric-power project, but benefits will include irrigation, navigation, recreation.