

5. CHIEF JOSEPH DAM - RUFUS WOODS LAKE, WASHINGTON

CONDITION OF IMPROVEMENT, 30 SEPTEMBER 1979

EXISTING PROJECT: The project, authorized by the River and Harbor Act of 24 July 1946 and subsequent Acts, provides for a concrete gravity structure consisting of a 19-gate spillway and a 27 generator powerhouse. The powerhouse has sixteen 64,000 kilowatt and eleven 95,000 kilowatt generators with a nameplate capacity of 2,069,000 kilowatts. Actual plant output at pool elevation 946 is 2,325,000 kilowatts.

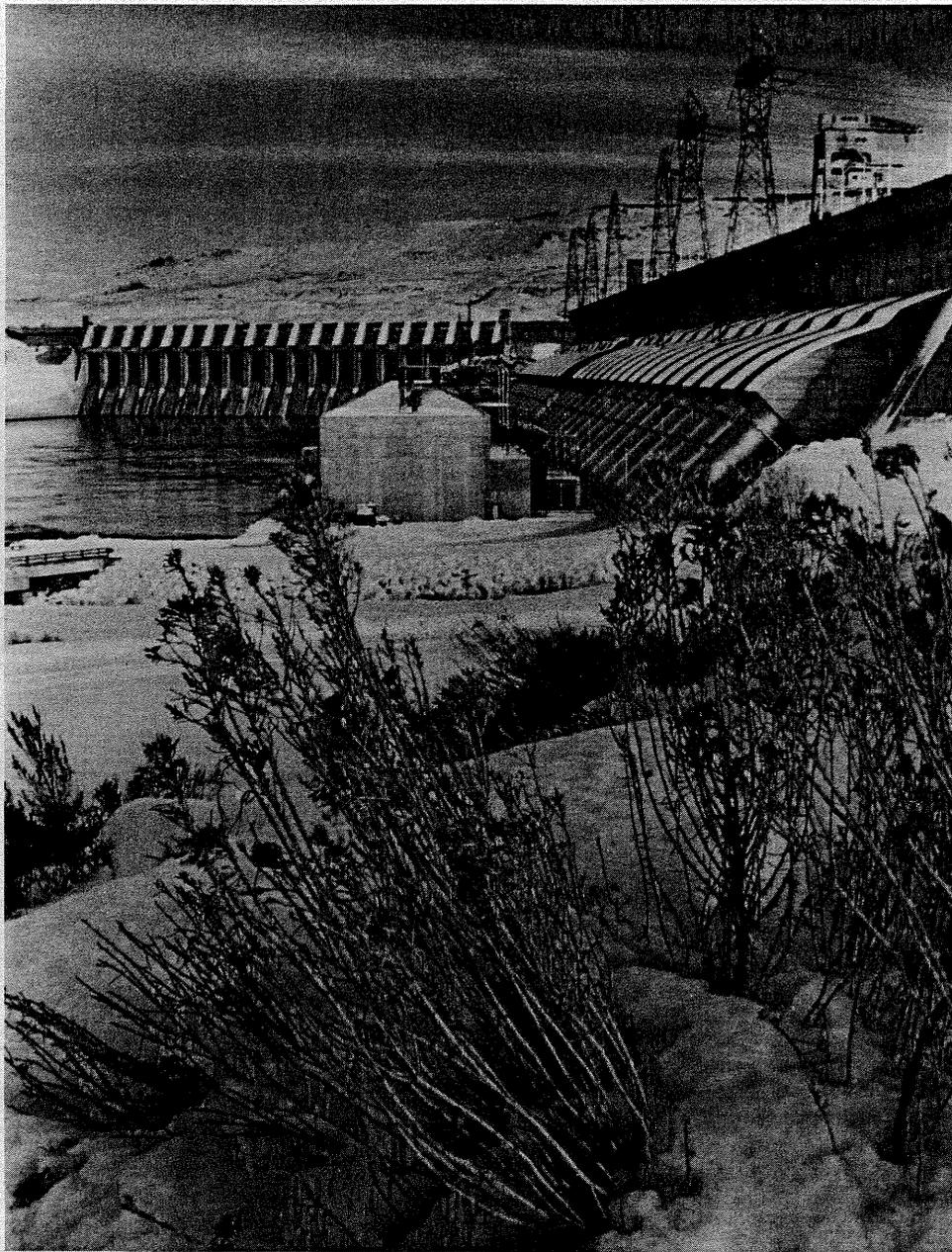
PROGRESS OF WORK: The initial project was completed in fiscal year 1961 with the last of the original 16 generators being placed in service 27 September 1958. Construction of the powerhouse for generators #17-#27 started in 1974 with generator #27 going on line in May 1979. A ten-foot pool raise to elevation 956 in 1980 will provide an estimated plant output of 2,450,000 kilowatts.

Design memos are completed for land restoration; paving project roads and utilities; expansion of Bridgeport State Park, Phase I and II; trash rake for intake structure; debris boom; and project signs. Work is continuing on design memos for visitor center facilities; wildlife mitigation; security, shop and storage facilities; and modification of administration building.

Construction contract work is continuing on structural modification of the dam, Douglas County road relocation, powerhouse extension, ancestral burial relocations, cultural resources relocation, as well as real estate acquisition. Plans and specifications were completed for expansion of Bridgeport State Park, Phase I; transmission tower obstruction lights; project operations boat house, debris boom, and powerhouse air conditioning room modifications.

COST OF CONSTRUCTION: \$172,840,658, including \$144,338,252 regular funds for the first 16 units and \$28,502,406 for the 11 additional units, \$147,984 Code 710 funds, and \$58,000 Public Works Acceleration Act funds for recreation facilities. In addition, \$297,630 was expended for rehabilitation of stilling basin in 1966. The estimated cost of current construction is \$297,000,000 (full funding).

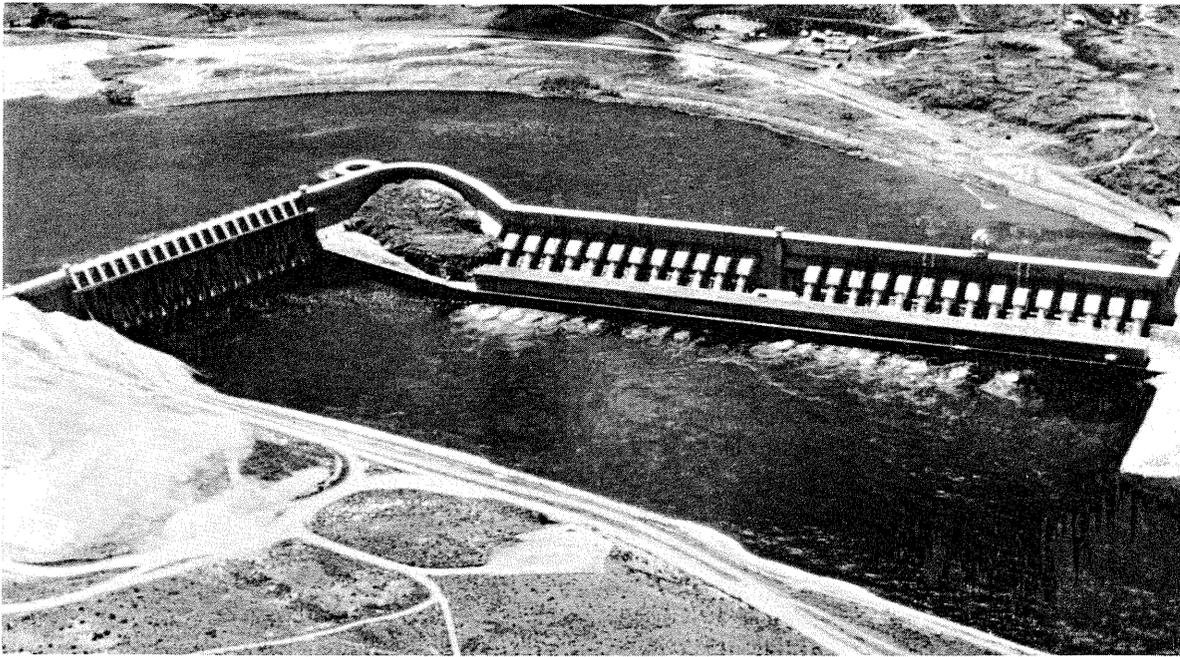
**CHIEF
JOSEPH
DAM
and
Rufus
Woods
Lake**



Columbia River

**SEATTLE DISTRICT
U. S. ARMY CORPS OF ENGINEERS**





CHIEF JOSEPH DAM

“L”- shaped Chief Joseph Dam is four-fifths of a mile long and stands 236 feet from bedrock to crest. Constructed on the Columbia River near Bridgeport, Washington, the dam created Rufus Woods Lake, which stretches 51 miles upstream to Grand Coulee Dam.

Designed and operated by the Army Corps of Engineers to produce power, the Chief Joseph Dam project is part of an extensive system of public and private hydropower plants that generate 75 to 80 percent of the electrical energy produced in the Pacific Northwest.

HISTORY - Congress, in the 1946 River and Harbor Act, authorized Chief Joseph Dam. Construction of the project with 16 turbine generators began in 1950 and was completed nine years later at a cost of \$145 million. Each of the 16 original generators has a maximum capacity of 80,000 kilowatts. Total maximum generating capacity of these units is 1,280,000 kilowatts.

NEW CONSTRUCTION - In 1973 construction began for installing 11 additional generating units, and raising the structural height of the spillway dam and powerhouse water intake and closure sections by 10 feet. Cost: \$277 million.

The 11 new units were placed in operation between 1977-1979. Each has a maximum generating capacity of 109,250 kilowatts. Total maximum capacity for the new units is 1,201,750 kilowatts.

The additional height of the dam allows raising the normal maximum level of Rufus Woods Lake from 946 to 956 feet above mean sea level (m.s.l.).

The 27 generator units in the powerhouse now have a total maximum generating capacity of 2,335,000 kilowatts at 946 feet mean sea level . When the reservoir surface level is raised, the greater distance of water drop (hydraulic head) to the turbines will increase total maximum generating capacity to 2,481,750 kilowatts at 956 feet m.s.l., a gain of 146,750 kilowatts.

BPA AND CORPS COORDINATION - The Corps' Reservoir Control Center and the U. S. Department of Energy's Bonneville Power Administration (BPA) in Portland, Oregon, coordinate operation of Chief Joseph and other dams in the Columbia River Basin, in order to produce the highest yield of hydroelectric energy production and meet irrigation, navigation, flood control, fisheries and recreation needs.

Electrical energy generated by the dam goes to BPA's distribution system. Linked by a grid of highvoltage transmission lines, the 300,000-square-mile area served by BPA includes Washington, Oregon, Idaho, western Montana, and parts of California, Wyoming, Utah, and Nevada. BPA markets the energy to public and private utilities for distribution to homes and industries.

Revenue from the sale of power produced at Chief Joseph dam goes to the U. S. Treasury to pay the cost of its construction and operation.

THE DAM - Chief Joseph Dam was named after an honored Nez Perce Indian Chief of the tribe's Wallowa band. A man of peace, Chief Joseph was also a skillful military strategist. After a series of battles with the U. S. Army, following encroachment of Nez Perce lands by settlers, his band was overpowered in 1877 near Bear Paw, Montana. Chief Joseph was required to live the remainder of his life on the Colville Indian Reservation, which borders most of the right shore of Rufus Woods Lake. He is buried near Nespelem, Washington, about 35 miles east of Chief Joseph Dam.

THE LAKE - Rufus Woods Lake was named for a former publisher of the Wenatchee Daily World, Wenatchee, Washington. Woods supported development of Grand Coulee, Chief Joseph and other dams and projects in the Columbia River Basin.

The 10-foot raise in the level of Rufus Woods Lake and higher discharges from Grand Coulee Dam due to recently increased power generating capacity there, will flood some 550 acres of wildlife habitat lands along the lake. The Corps is replacing these lands by about 950 acres divided into 16 sites. Work at these sites along the lake includes fencing selected acres to exclude domestic livestock, installing irrigation systems and planting shrubs and trees to increase carrying capacity of the habitat, and constructing and installing goose nesting islands and structures and perch poles for eagles and other raptors.

RECREATION - At Bridgeport State Park, two miles northeast of the dam, there are public camping, picnicking facilities, a boat ramp, and an adjacent nine-hole golf course. The Corps is enlarging the park to contain 70 additional picnic areas and overnight camping sites, a swimming beach, and a larger boat launch ramp.

Another public boat launch ramp is just downstream of Bridgeport on the left side of the river.

Brandts Landing and Box Canyon camping areas, upstream of the dam, are proposed as primitive boat-access-only camping areas.

Two public viewpoints overlook the project. One is southeast of Bridgeport off State Highway 17, and the other is on the north side of the river just downstream of the dam.