

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

FOR NPS USE ONLY

7.18.  
DATA SHEET

NATIONAL REGISTER OF HISTORIC PLACES  
INVENTORY -- NOMINATION FORM

RECEIVED

JUL 18 1978

DATE ENTERED

OCT 18 1978

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS  
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

**1** NAME

HISTORIC

Enloe Dam and Powerplant

AND/OR COMMON

Similkameen Dam, Oroville Power Project

LOCATION

STREET & NUMBER

About 4 miles ~~W~~W. of Oroville

NOT FOR PUBLICATION

CITY, TOWN

CONGRESSIONAL DISTRICT

SE 1/4 of sec. 13, T. 40N., R. 26 E. VICINITY OF 5th - Congr. T. S. Foley

STATE

Washington

CODE  
53

COUNTY  
Okanogan

CODE  
047

CLASSIFICATION

CATEGORY

\_\_\_DISTRICT

BUILDING(S)

STRUCTURE

\_\_\_SITE

\_\_\_OBJECT

OWNERSHIP

\_\_\_PUBLIC

\_\_\_PRIVATE

\_\_\_BOTH

PUBLIC ACQUISITION

\_\_\_IN PROCESS

BEING CONSIDERED

STATUS

\_\_\_OCCUPIED

UNOCCUPIED

\_\_\_WORK IN PROGRESS

ACCESSIBLE

YES: RESTRICTED

\_\_\_YES: UNRESTRICTED

\_\_\_NO

PRESENT USE

\_\_\_AGRICULTURE

\_\_\_COMMERCIAL

\_\_\_EDUCATIONAL

\_\_\_ENTERTAINMENT

\_\_\_GOVERNMENT

\_\_\_INDUSTRIAL

\_\_\_MILITARY

\_\_\_MUSEUM

\_\_\_PARK

\_\_\_PRIVATE RESIDENCE

\_\_\_RELIGIOUS

\_\_\_SCIENTIFIC

\_\_\_TRANSPORTATION

\_\_\_OTHER:

OWNER OF PROPERTY

NAME

Okanogan County P.U.D. No.1

STREET & NUMBER

P.O. Box 912

CITY, TOWN

Okanogan,

VICINITY OF

STATE

Washington

LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,  
REGISTRY OF DEEDS, ETC.

County Assessor's Office

STREET & NUMBER

Box 152 - 149 3rd North

CITY, TOWN

Okanogan

STATE

Washington

**6** REPRESENTATION IN EXISTING SURVEYS

TITLE

Washington State Inventory of Historic Places

DATE

Estimated 1-75

\_\_\_FEDERAL  STATE \_\_\_COUNTY \_\_\_LOCAL

DEPOSITORY FOR  
SURVEY RECORDS

Office of Archeology and Historic Preservation

CITY, TOWN

111 21st Avenue West

Olympia

STATE

Washington

## 7 DESCRIPTION

CONDITION		CHECK ONE	CHECK ONE
<input type="checkbox"/> EXCELLENT	<input checked="" type="checkbox"/> DETERIORATED	<input checked="" type="checkbox"/> UNALTERED	<input checked="" type="checkbox"/> ORIGINAL SITE
<input type="checkbox"/> GOOD	<input type="checkbox"/> RUINS	<input type="checkbox"/> ALTERED	<input type="checkbox"/> MOVED DATE _____
<input type="checkbox"/> FAIR	<input type="checkbox"/> UNEXPOSED		

### DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

Enloe Dam is located at River Mile 8.8 on the Similkameen River in north-central Washington. The powerplant is on the right riverbank about 850 feet downstream from the dam. A graded gravel road leads to the area of the left dam abutment. The powerplant is accessible by a small wooden suspension footbridge extending over 200 feet across the river, although the footbridge gate is locked by Public Utility District No. 1 of the Okanogan County, owner of the property.

The dam is in a rather narrow section of river canyon. It is a concrete arch-gravity type structure, about 54 feet high above streambed, with a crest length of about 290 feet; the radius of the arch is some 200 feet. The dam is about 6 feet wide at the top and over 41 feet wide at the base; the upstream face of the structure is vertical. Over 9,700 cubic yards of concrete are embodied in the structure. The spillway is an unregulated flow type with a crest width of 276 feet. The elevation of the spillway crest is 1,044 feet m.s.l. When the structure was operational, flashboards were occasionally installed along the top of the spillway. This permitted raising the reservoir surface some 5 feet during low flow periods. Flashboard supports consist of 6 inch diameter pipes embedded 1 foot deep on 4 foot centers.

The outlet works and control structures are on the right side of the dam and consist of two steel pipes 7 feet in diameter with vertical slide gates and wooden trashracks. Hoisting facilities for the slide gates are on the top of the dam. Two wood stave pipes 7 feet in diameter lead from the dam along the right canyon side some 743 feet down to two elevated wood surge tanks. The taller of the tanks is over 32 feet high and 17 feet in diameter while the other is over 25 feet high and 24-1/2 feet in diameter. From the surge tanks, two 7 foot diameter steel penstocks lead down to two horizontal turbine-generator units (each 1,600 kw) housed inside the machine room of the powerplant.

The powerplant is some 83 feet long and 40 feet wide. Its foundation is concrete, the walls are red brick, and the roof is corrugated steel. The machine room section of the powerplant occupies about half of the floor area of the building and has both a high overhead area (41 feet in height) and several large windows for ventilation. Adjacent to the machine room and with a floor level 5 feet higher are the control room and transformer room, each some 21 feet in height. An outdoor switchyard about 20 feet in height is located adjacent to the powerplant. The switchyard has an irregular width and a length of some 29 feet.

The powerplant and power generation facilities within are in a state of disrepair. The windows of the building have been broken and the furniture inside is disarrayed. Poor accessibility has probably protected the structure from more serious vandalism. The dam outlet works, steel penstocks, and surge tanks appear to be in fairly good condition. Although the left woodstave pipe is in fairly good condition, a large section of the right woodstave pipe has collapsed. The dam appears to be deteriorating, with many minute crazing cracks and areas where concrete has spalled off to a depth of several inches.

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Although it is not known whether the dam and powerplant have been modified since original construction, neither appears to have been resurfaced or otherwise structurally improved in recent years.

# 8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input type="checkbox"/> TRANSPORTATION
<input type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		

SPECIFIC DATES Estimated 1920-59 Operational BUILDER/ARCHITECT

## STATEMENT OF SIGNIFICANCE

It appears that the Similkameen Power Company initiated rights to waters of the Similkameen River in 1905. Design plans for the dam and powerplant with one turbine-generator, surge tank, and woodstave pipe leading from the dam were formulated in 1916, and construction thereon was apparently accomplished sometime between 1916, and 1923 by the Okanogan Valley Power Company. Electrical Engineer C.F. Uden supervised surveys and designs for construction. The date 1920 is stamped into the top of the right dam abutment. The name "Enloe" is derived from the name of the president of the Okanogan Valley Power Company at the time of construction, Eugene Enloe. Some time after 1923 the second turbine-generator, woodstave pipe, and surge tank were constructed.

Construction of the dam, powerplant, and most of the related works was undoubtedly accomplished through utilization of the Great Northern Railroad line which parallels the right bank of the river in this area which otherwise lacked any other vehicular access until after 1924 when the present access road was built, together with the suspension footbridge.

Enloe Dam has been listed on the Inventory of Historic Places by the State of Washington. The Bureau of Reclamation, with the assistance of responsible agencies, organizations, and individuals, has examined in some detail the history of Enloe Dam and powerplant as part of its Oroville-Tonasket Unit Extension studies. On the basis of the limited information available and using the Advisory Council criteria outlined in Part 800.10 of the Federal Register of January 25, 1974, the Bureau has been unable to identify any highly significant architectural or engineering features embodied or associated with the dam and powerplant and related facilities. The present owner of the property has not operated the facilities for over 15 years and consequently the structures have lapsed into a state of increasing deterioration, (posing a significant safety problem as well as a continuing obstacle to anadromous fish spawning and rearing in over 40 miles of upstream areas).

The first white visitors to the arid Okanogan-Similkameen Valley were trappers and traders using Fort Okanogan as their rendezvous. Slowly the farmers and ranchers began to settle in the valleys; Hiram "Okanogan" Smith planting the first apple orchard in the Okanogan Valley near Osoyoos Lake in 1857, this being the forerunner of what is now the mainstay of the present day economy. Farming was slow to develop as the dry, arid climate severely limited crop types.

# 9 MAJOR BIBLIOGRAPHICAL REFERENCES

- Plans and sections drawing, Exhibit L -Dam and Power Station, Oroville power project on Similkameen River, Public Utility District No. 1 of Okanogan County, April 9, 1947.

(See continuation sheet)

# 10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY 3 acres (estimated)

UTM REFERENCES

*316-950*

A	<u>1,1</u>	<u>31,70,0,0</u>	<u>5,42,64,5,0</u>	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE

# 11 FORM PREPARED BY

NAME / TITLE

Rod Vissia, Regional Director, PN Region

November 12, 1974

ORGANIZATION

DATE

U.S. Bureau of Reclamation

STREET & NUMBER

TELEPHONE

Box 043 - 550 West Fort Street

FTS 208-342-2101

CITY OR TOWN

STATE

Boise

Idaho

# 12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL     

STATE X

LOCAL     

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

*Jeannie M. Welch* 7/12/78  
*S.H.P.O.*

TITLE

DATE

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I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

ATTEST: *William G. Hunter*  
 KEEPER OF THE NATIONAL REGISTER

DATE 7/18/78  
 KEEPER OF THE NATIONAL REGISTER  
 DATE Oct 17, 1978

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As in many places in the west, the discovery of gold brought the first real influx of white men and the first significant urban areas. Small boom towns sprang from the soil in all corners of the Okanogan River Basin. The most famous being Ruby, which became the first county seat of Okanogan County in 1883. The distinction was short-lived, for within 11 months the county seat was moved to Salmon City, now Conconully. The miners, as well as the gold, soon faded away and the boom towns declined in notoriety. The prospectors and miners were replaced with more and more dry land farmers and ranchers. In the spring, river boats, (paddle wheelers) plied their way up to the community of Riverside to discharge their cargo of settlers and supplies. In 1914 the boats were replaced by the Great Northern Railroad, bringing a new era to the Okanogan Valley area. Although the first successful irrigation project preceded the railroad by twenty-five years, the railroad afforded the farmers a reliable transportation system to move products out of the valley, thus making extensive irrigation projects economically possible. The railroad was followed by rapid expansion in irrigation projects and the assurance of a steady agricultural economy. Communities became more established and the regions settled into a steady pattern of growth. In the Similkameen Valley proper, the first "powerhouse" was installed in the early 1900's by an elderly German settler named Kruger. He placed a small waterwheel on a shaft which he lowered into the current of the Similkameen. The power produced by a small generator furnished electricity for the mining town of Golden six miles to the south on Ellemeham Mountain near the shore of Wannacut Lake.

The Okanogan Valley Power and Light Company, which operated a small power plant on the Methow River at Pateros, in 1912, added an additional power source at the present-day Enlow Dam site near Oroville. The company built a wooden powerhouse on the north side of Similkameen Falls and blasted a water diversion channel to the power house from the solid rock of the river bed. The remains of the concrete foundation of the plant and the channel can still be seen below the dam. Metal rings that secured the head gates, which were operated by hand, are also visible when the river is low. The plant was operated solely by Charles Mitchell and his son Charles Jr. until about 1918 when Mace Reed Jr., a high school student from Oroville joined them to relieve their 12 hours on and 12 hours off schedule. In the beginning, a narrow saddle horse trail but no roads led to the plant site. When the Great Northern tracks were laid down on the south side of the river, the 3½ mile hike to the plant from Oroville was made via the tracks. This early plant furnished power to the Oroville-Tonasket area for homes and street lights, and to Golden and the surrounding mines. The poles which carried the line (to Golden) up the Similkameen Draw were still standing until very recently. The machinery in this first plant was a double-ended Pelton waterwheel. The exciter (generator) placed on the upper floor of the powerhouse was driven by a rawhide belt some two feet wide which was made from fifty-two cowhides.

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This plant continued in operation until 1922 when Eugene Enloe, owner of the Okanogan Valley Power and Light Company, completed construction of the Enloe Dam above the falls together with the brick power house on the south side of the river. The original plant was shut down and the operators transferred across the river, necessitating the use of a suspension bridge for access to the new plant. The dam greatly increased the power supply down river to Oroville-Tonasket as well as to Golden and this new source of power was eventually connected to the Enloe plant at Pateros to supplement the power supply for the Methow Valley. In 1923, a second generating unit was installed at the dam site when the Enloe system was purchased by the Washington Water Power Co.; a road was constructed from Oroville and three cottages overlooking the dam were built as residences for the operators. The Okanogan PUD which bought out the Washington Water Power Co. in 1942 shut down the generators at Enloe Dam on July 29, 1958 when Bonneville Power Administration transmission lines became operable in the area.

Enloe Dam, the 19th oldest dam out of 666 dams in the State of Washington precedes other concrete dam construction in Okanogan County by five years. Gravel for construction of the dam was hydraulically sluiced from Ellemeham Mountain which rises south of the dam. The wash passed over steel plates sized for the various gravels needed and dropped through the plates into series of flumes to be carried to the construction area. Cement was shipped in box cars over the Great Northern line to a siding south of the river where concrete for the dam was mixed. The dam was constructed in sections as there was no way to divert the rivers course until the penstocks were complete at the south end of the dam. Brick for the powerhouse came from the local Oroville brick yard.

The Enloe Dam structure is significant as an early source of energy in the Okanogan-Similkameen Valley area that contributed extensively to the socio-economic growth of the Okanogan Valley--the incipient development of mining and the expansion of agriculture. Apples which are the chief agricultural product today are shipped to all areas of the United States and some are exported to foreign markets. Alfalfa and forage crops rank next to orchards in importance in the cropping pattern and this area has become one of Washington's leading producers of feeder cattle.

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2. Traverse map, Okanogan Valley Power Company, November 20, 1916.
3. Contour map of dam and power stations, Okanogan Valley Power Company, November 20, 1916.
4. Sections and profiles of dam and pipeline, Exhibit J (3) - Power Project on Similkameen River, Okanogan Valley Power Company, 1916.
5. Excavation plans for penstock saddle and surge tank foundation, Oroville Station, Okanogan Valley Power Company - The Washington Water Power Company, January 29, 1924.
6. Vicinity map, Oroville Power Station, Okanogan Valley Power Company - The Washington Water Power Company, January 29, 1924.
7. Map and profile of road, Oroville Station, Okanogan Valley Power Company - The Washington Water Power Company, January 29, 1924.
8. Plan and detail of dam, Okanogan Valley Power Company, July 31, 1919 (?).
9. Exhibit K, Sheet 2, Detail of Power Station (?), Oroville Power Project on Similkameen River, Public Utility District No. 1 of Okanogan County, undated.
10. Letter from Historic Preservation Officer, State of Washington, October 18, 1974.

Bibliography

Oroville-Tonasket Unit Extension  
Okanogan-Similkameen Divison  
Chief Joseph Dam Project, Washington  
Bureau of Reclamation  
Department of the Interior

Personal Communication  
Mr. and Mrs. Arnold Frazier  
Resident Operators - Enloe Dam  
1926-1959