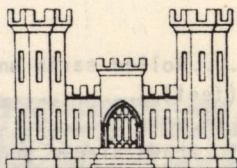


PROPOSED DATA

LUCKY PEAK DAM
BOISE RIVER
IDAHO



CORPS OF ENGINEERS, U.S. ARMY
OFFICE OF THE DISTRICT ENGINEER
WALLA WALLA DISTRICT
WALLA WALLA, WASHINGTON
JANUARY 1952



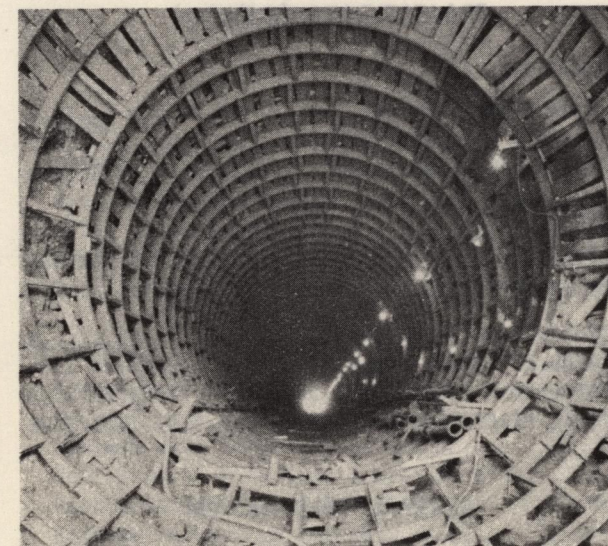
General view of dam under construction, looking upstream.

THE TUNNEL

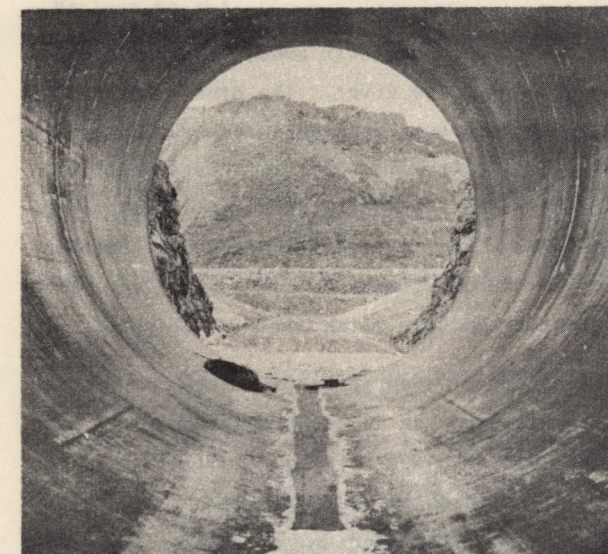
Specifications for construction of Lucky Peak Dam stipulated that there would be a permanent tunnel to bypass the waters of the Boise River. A diversion tunnel with a bore 30 feet in diameter and with inlet and outlet channels was driven through a hill for a distance of 1365 feet. The walls of this tunnel were of highly altered basalt that air-slacked badly. Reinforcement was necessary to prevent sloughing. The above was lined with a steel liner of 23-foot inside diameter, and the space between the basalt walls and the steel was filled with concrete.



Outline and center line of the diversion tunnel painted on the outlet heading, preparatory to commencing the long bore.



Picture of the 1365-foot bore, with daylight at the far end. Taken from the inlet portal station.



Looking toward outlet channel. Steel liner in place, job complete.

PROJECT DATA

GENERAL

Stream.....Boise River
River mile above mouth.....64.5
Miles above Boise, Idaho.....10.2
Drainage area, square miles.....2,650
Cost (estimated).....\$22,000,000

RESERVOIR

Normal pool elevation (m.s.l.).....3,060
Minimum pool elevation (m.s.l.).....2,905
Maximum pool elevation (m.s.l.).....3,072
Pool area at elevation 3,060 (acres)....2,850
Usable storage (acre-feet).....280,000
Highway relocation (miles).....21.3

DAM

Type.....Rolled earth and gravel fill
Crest length (feet).....1,700
Top elevation (m.s.l.).....3,078
Maximum height, above stream bed.....328
Embankment (cubic yards).....5,900,000

SPILLWAY

Type.....Uncontrolled, with unlined channel
Length of Crest (feet).....600
Crest elevation (m.s.l.).....3,060
Spillway design discharge (c.f.s.).....93,300
Excavation (cubic yards).....247,500
Concrete (cubic yards).....12,400

OUTLET WORKS

Type.....Steel-lined pressure tunnel
Diameter of conduit (feet).....23
Length of conduit (feet).....1,365
Capacity at min.pool elevation(c.f.s.).17,000
Capacity at norm.pool elevation(c.f.s.).30,000
Type of energy dissipator.....flip bucket
Design discharge of flip bucket.....30,000
Type of regulating gates.....slide gates
No.and size of regulating gates..6-5'3"x10'0"

PROJECT DATA (Cont'd)

RELOCATIONS

State Highway (miles).....13.1
County & farm roads (miles).....8.2
Telephone & power lines.....20.5

POWER

Provision has been made in design of the dam for installation of power in the future.

CONSTRUCTION TIME (years).....4
SCHEDULED COMPLETION DATE.....March 1954
SCHEDULED % COMPLETION..January 1, 1952.....38
ACTUAL PERCENTAGE COMPLETION.....29

GENERAL INFORMATION

Lucky Peak Dam and Reservoir was authorized in 1946 by the 2nd Session of the 79th Congress, for flood control and other water uses. It is being constructed under supervision of the District Engineer, Walla Walla District, Corps of Engineers. This dam will become the third major dam on the Boise River. The other two, Arrowrock and Anderson Ranch, were constructed by the Bureau of Reclamation. A joint operational plan for the three reservoirs is being formulated by the Corps of Engineers and the Bureau of Reclamation, in coordination with the Boise River Board of Control and the Boise River Watermaster.

The coordinated operation of the three reservoirs will provide on a forecast basis as much as 983,000 acre-feet of flood control space for control of floods of the Boise River. All reservoirs will be refilled by the end of the flood season, thus insuring adequate water for irrigation. In this manner, Lucky Peak with its multi-

GENERAL INFORMATION (Cont'd)

purpose features will provide more complete protection for the Boise River Valley and aid in further development of this prosperous agricultural area, which extends for a distance of about 60 miles westerly from the dam.

The Boise River Valley floor varies in width from 2 to 6 miles. Bordering the valley floor on both sides are bench lands which extend many miles to the foothills. The valley supports a population of approximately 100,000 persons. These inhabitants are largely dependent on the agricultural production of some 342,000 acres of land irrigated by the waters of the Boise River. The city of Boise, Capital of the State of Idaho, lies near the head of the valley, and including its immediate environs, has an estimated present-day population of about 35,000 persons.

In its lower 60 miles, the Boise River is characterized by a meandering channel, shifting gravel bars, low and eroding banks, and generally inadequate channel capacity. Damaging floods, ranging from 6500 second-feet to 50,000 second-feet in peak discharge and usually caused by melting snow, occur almost annually. The potential flood plain varies from one to three miles in width which includes some 56,000 acres of highly productive agricultural lands and 1780 acres of urban and suburban areas. There have been limited works undertaken in the past by Federal, State, and local agencies, and in recent years numerous local remedial works of emergency character have been constructed by the Corps of Engineers.

RECREATIONAL FEATURES OF THE RESERVOIR

The impounded water of Lucky Peak Reservoir will afford opportunity for such sports as boating, swimming and fishing. There will be many reaches of bordering shoreland which will afford opportunity for hunting, picnicking and hiking. The project is located within 10 miles of Boise (population 35,000) and within convenient travel distance for a population of more than 130,000 people now without suitable opportunities for water-associated recreational diversions. Preliminary studies indicate that this reservoir with its recreational features will serve primarily as a local day-use pleasure spot, with boating as its chief attraction. A heavy recreation use is anticipated.

Four areas on the reservoir have been suggested for concentrated public use. These include: A general use area near the spillway; a boat-launching and roadside picnicking area above the mouth of Mores Creek; a principal overload area on the right bank of Mores Creek near the highway bridge; and an overlook area on the right bank near the dam.

