

DWORSHAK DAM AND RESERVOIR

Pertinent Data

1. AUTHORIZATION.

Detailed Planning, H.D. 403, 87th Congress
by 1958 Flood Control Act.
Construction by 1962 Flood Control Act

Authorizing Estimate	\$127,166,000
Present Estimate (1966)	231,000,000

2. STREAM.

North Fork Clearwater River

River Miles from Mouth (Confluence with Clearwater River)	1.9
Drainage Area, Square Miles	2,440

3. ANNUAL RUNOFF, acre-feet (1927 through 1958)

Minimum	2,157,000
Mean	4,082,000
Maximum	6,680,000

4. NATURAL RIVER FLOW, CFS

Minimum	250
Mean	5,638
Maximum Flood of Record	100,000
Standard Project Flood	120,000 inflow regulated to 45,000
Maximum Probable Flood	280,000

5. TAILWATER ELEVATIONS

800 cfs (minimum)	967.5
7,800 cfs (powerhouse capacity, initial, 1600 pool)	976
8,895 cfs (powerhouse capacity, initial, minimum pool)	977.0
15,600 cfs (powerhouse capacity, ultimate, 1600 pool)	980
17,790 cfs (powerhouse capacity, ultimate, minimum pool)	981.0
45,000 cfs (standard project flood, regulated)	990.0
100,000 cfs (maximum of record, unregulated)	1,002.0
280,000 cfs (maximum probable inflow regulated to 190,000 cfs outflow)	1,018.0

6. DIVERSION DURING CONSTRUCTION

Capacity at Pool Elevation 1026, cfs	44,000
Capacity at Pool Elevation 1075, cfs	68,000

7. RESERVOIR

Elevation, normal and maximum pool, msl	1,600
Elevation, minimum pool, msl	1,445
Gross capacity, acre-feet	3,453,000
Usable capacity (1,445 to 1,600) (flood control and power), acre-feet	2,000,000
Reservoir length, miles, 1600 elevation	53.6
Reservoir shoreline, miles	175
Reservoir area, acres, 1600 elevation	16,970
Reservoir area, acres, 1445 elevation	9,050
Reservoir width, maximum feet	9,000
Reservoir width, average, feet	1,800

8. PROJECT DESIGN DISCHARGE, CFS

At minimum pool elevation 1445:

Outlet Works	27,840
Powerhouse (50% initial capacity)	4,450
Total	32,290

At maximum pool elevation 1600:

Outlet Works	35,600
50% powerhouse capacity	3,900
Spillway	150,500
Total	190,000

9. NON-OVERFLOW SECTIONS (DAM)

Type	Concrete Gravity
Crest elevation, msl	1,613
Crest length, feet	3,287
Crest deck width, feet	44
Crest deck roadway, feet	26'-8"
Maximum structural height, feet	693
Maximum hydraulic height, feet	631
Concrete volume, cubic yards	6,450,000
Upstream slope	Vertical
Downstream slope	vertical to 1560 and 1.0 on 0.8 below
Elevators	3

10. SPILLWAY (ON DAM)

Type	gate controlled with stilling basin
Gates, tainter	two at 50 feet x 55 feet
Crest elevation, msl	1,545
Crane, 50 ton, each	1

11. OUTLET WORKS (Under Spillway)

Type	Conduit 12' x 17'
Gates, (tractor-emergency gate)	Tainter valve
Work point elevation, msl	1,350

12. TEMPORARY LOW LEVEL OUTLET (Under Spillway)

Type	Conduit 3'-6" O.D.
Gate	Slide Gate
Centerline elevation, msl	1,153

13. POWERHOUSE

Length (6 units and assembly bay), feet	425
Initial units (2 at 90,000 KW, 1 at 220,000 KW)	3
Ultimate Units (2 at 90,000 KW, 4 at 220,000 KW)	6
Plant Capacity, initial, KW (nameplate rating)	400,000
Plant Capacity, ultimate, KW (nameplate rating)	1,060,000
Type of turbines	Francis
Turbine rating, small units, HP	142,000
Turbine rating, large units, HP	346,000
Generator rating (Nameplate), small units KVA	94,737
Generator rating (Nameplate), large units KVA	231,579
Synchronous speed, small units, rpm	200
Synchronous speed, large units, rpm	128.6
Diameter of small penstock, feet	12
Diameter of large penstock, feet	19
Penstock intake elevation, small unit, msl	1,420.68
Penstock intake elevation, large units, msl	1,412.70
Distributor centerline elevation, small unit, msl	969
Distributor centerline elevation, large unit, msl	975
Spacing of small units, feet	47
Spacing of large units, feet	65
Maximum gross head, feet	632.5
Rated gross head, feet	560.0
Minimum gross head, feet	477.5
Bridge crane, 170-ton, each	1
Tailrace, 20-ton, each	1

14. FISH FACILITIES

Temporary 1967-1968	Collect - Trap - Haul Upstream
Temporary 1968-1971	Collect - Trap - Haul to Hatchery
Permanent 1971	Collect - Trap - Haul to Hatchery
Attraction water pumps, 255 cfs	3
Steelhead fish hatchery capacity, initial	6,000 adults
Steelhead fish hatchery capacity, ultimate	12,000 adults

15. LOG FACILITIES.

Reservoir log removal facility, type	marine railway
Public log dumps (near Larson Bar)	1
Permit log dumps	to 16

16. RECREATION.

Recreation activities will include:

Boating, water skiing, swimming, camping, picnicking, hiking,
hunting and fishing

Recreation sites on reservoir, total	19
Recreation sites, initial development	7

17. REAL ESTATE

Private ownership, acres	25,096
Public domain, acres	4,664
U. S. Forest Service, acres	4,351
State of Idaho, acres	8,947
Original streambed, acres	1,900

Total land required for project, acres	44,958
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18. GENERAL

Construction time, main dam	6 years
Close diversion - start filling	June 1971 - 1 year
Power-on-line	June 1972

NOTE:

The main construction contract for Dworshak Dam was awarded to the Dworshak Dam Constructors on 20 July 1966, in the amount of \$131,216,855.