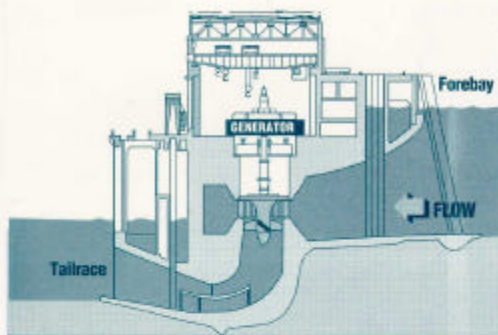




US Army Corps  
of Engineers®  
Portland District

# Comparing The Big Dams



**Bonneville**



**Hoover Dam**



**Grand Coulee**



<b>Operating Agency:</b>	US Army Corps	Bureau of Reclamation	Bureau of Reclamation
<b>Location:</b>	Oregon/Washington	Arizona/Nevada	Washington
<b>Year Placed in Service:</b>	1938	1936	1941
<b>Primary Function:</b>	Fish & Wildlife Hydropower Navigation Recreation Irrigation	Flood Control Regulate River Water Storage & Delivery Hydropower	Fish & Wildlife Flood Control Hydropower Recreation
<b>Head:</b> <i>(average distance water falls)</i>	18.3 m (60 ft)	164.6 m (540 ft)	100.6 m (330 ft)
<b>Height of Lake Above Sea Level:</b> <i>(mean sea level)</i>	23.2 m (76 ft)	372.3 m (1,221.4 ft)	393.2 m (1,290 ft)
<b>Length of Dam:</b>	1,055.5 m (3,463 ft) 3 Structures	379.2 m (1,244 ft) U-Shaped Structure	1,592.0 m (5,223 ft) Includes Spillway
<b>Concrete Content:</b>	1,485,800 cubic meters <i>(1,955,000 cubic yards)</i>	3,230,000 cubic meters <i>(4,250,000 cubic yards)</i>	9,101,000 cubic meters <i>(11,975,000 cubic yards)</i>
<b>Number of Power Plants:</b>	2	2	3 <i>(One pump generating plant)</i>
<b>Types of Turbines:</b>	Kaplan	Francis	Francis
<b>Number of Generators:</b> <i>(by power production rating)</i>	8 (66,500 kw each) 8 (54,000 kw each) 1 (51,000 kw each) *1 (43,500 kw each) 2 (13,500 kw each) 1 (43,500 kw each)	13 (130,000 kw each) 2 (127,000 kw each) 1 (68,500 kw each) 1 (61,500 kw each) 2 (2,500 kw each)	3 (700,000 kw each) 3 (600,000 kw each) 18 (125,000 kw each) *4 (53,000 kw each) *2 (50,000 kw each) 3 (10,000 kw each)
<b>Total Generators:</b>	21	19	33
<b>Total Generating Capacity:</b>	1,087.7 mw	2,080 mw	6,492 mw



# Columbia River Power Complex



Project	Bonneville	The Dalles	John Day	McNary	Priest Rapids	Wanapum	Rock Island	Rocky Reach	Wells	Chief Joseph	Grand Coulee
<b>Operating Agency</b>	US Army Corps	US Army Corps	US Army Corps	US Army Corps	Grant County PUD	Grant County PUD	Chelan County PUD	Chelan County PUD	Douglas County PUD	US Army Corps	Bureau of Reclamation
<b>Year in Service</b>	1938	1957	1968	1953	1959	1963	1933	1961	1967	1955	1941
<b>Number of Units</b>	21	22	16	14	10	10	18	11	10	27	33
<b>Generator Capacity: (megawatts)</b>											
<b>Present</b>	1,087.7	1,807.0	2,160.0	980.0	778.5	950.0	622.5	1,213.2	774.3	2,700.0	6,492.0
<b>Potential</b>	1,087.7	1,807	2,700	2,130	1,262	1,330	622.5	1,213.2	774.3	2,700	10,309
<b>Average Yearly Power Produced: (gigawatt hours)</b>	4,827	8,961	11,335	7,770	5,484	5,659	2,882	6,579	4,520	11,887	22,014
<b>Head through Powerhouse</b>	18.2 m (60 ft)	24.1 m (81 ft)	32.0 m (195 ft)	21.6 m (71 ft)	25.6 m (84 ft)	25.1 m (82.5 ft)	12.5 m (41 ft)	27.7 m (91 ft)	21.0 m (69 ft)	53.6 m (176 ft)	100.6 m (330 ft)
<b>Average Waterflow: (cubic feet per sec)</b>	184,900	179,500	174,000	171,600	120,200	120,000	120,000	116,400	114,200	109,800	109,500
<b>Normal Reservoir Elevation</b>	23.3 m 76.5 msl	48.7 m 160 msl	81.6 m 266 msl	103.6 m 340 msl	148.7 m 488 msl	174.1 m 571.5 msl	186.8 m 613 msl	215.4 m 707 msl	237.4 m 779 msl	291.3 m 956 msl	339.2 m 1290 msl
<b>Distance from Pacific Ocean</b>	234.1 km RM 145.5	308.1 km RM 191.5	346.9 km RM 215.8	469.8 km RM 292	638.9 km RM 397.1	669.0 km RM 415.8	729.5 km RM 453.4	761.1 km RM 473.0	828.8 km RM 515.1	875.5 km RM 541.1	959.9 km RM 596.6

**Totals: Total Number of Units = 192**

**Power Production Capacity**

Present = 19,565.2 mw  
Potential = 25,935.7 mw

**Yearly Power Produced**

Average = 91,918,000 mw  
Firm Year = 73,828,000 mw

**msl** = mean sea level  
**Head** = the distance water falls

**Megawatts (mw)** = million watts  
**Gigawatts (gw)** = billion watts