

Hook Canyon Pump Storage Project (FERC P-12707)

Facts from the PAD and SD1

The project will generate 3,245 GWh annually and has a generating capacity of 1,120 MW. It will consume an estimated 4,057 GWh to recharge the reservoir (**pump the water up**) for a net energy loss of 811MWh annually.

Upper Reservoir

- Dam will be 270 ft. high (*water will be approx. 240 ft. deep when at 19,510 AF capacity*)
- Maximum storage capacity of 21,857 acre feet of water
- Useable storage is 19,510 acre feet. Max. available volume is 15,400 AF
- Hydraulic head is 940 ft. at max reservoir elevation and 825 ft. at minimum elevation
- Surface area of 225 acres
- Proposed 20 ft. of water as a temperature buffer to minimize temperature impacts to Bear Lake

Emergency spillway will be excavated to the south to flow down South Eden Canyon

- Max. capacity 2000 cfs
- 30 ft. wide on a 5 degree slope

Access to reservoir and emergency spillway is via South Eden road and a new 3.5 mi. long road

Powerhouse

- Underground
- 14 reversible pump turbines

Operation

- 10 hours of power generation (8 normal + 2 hrs. of reserve)
- Flow rate at each turbine is between 1,265 cfs and 1,786 cfs (*max. for 14 would be 25,004 cfs*)
- Average flow rate is 18,636 cfs
- 15,400 acre feet will be exchanged daily
- Estimated daily fluctuation of Bear Lake is 2.64 to 3.18 inches

Construction

- A 40 ft. diameter vertical shaft 700 ft. long from the bottom of the reservoir
- Connecting to a 40 ft. diameter tunnel 3000 ft. long ending at the powerhouse
- Then a 2500 ft. long 30 ft. diameter tailrace tube to discharge the water into Bear Lake

Transmission Lines

- Two 8-acre surface switchyards/substations; one near the power plant; far end of the transmission line.
- 9 miles of 230 kv transmission lines connecting in Idaho to PacifiCorp's existing grid