

2265-9812

Hoover dam, Colorado river, present time

Tasking:

Move to the optimum position/location and describe the target focussed on in the photograph – the Hoover dam and describe in detail and sketch.



Additional feedback

www.usbr.gov/power/data/sites/hover/hover.html

Hoover Dam and powerplant was constructed for the purposes of controlling Colorado River floods, improving navigation and regulating the flow of the Colorado River, providing for storage and for the delivery of the stored waters thereof for reclamation of public lands and other beneficial uses exclusively within the United States, and generation of electrical energy as a means of making the project authorized a self-supporting and financially solvent undertaking.

Floodwaters of the Colorado River are impounded by Hoover Dam and released in response to downstream water orders. The quantity of water available for release through the powerplant is, in part, based upon the water orders. In a hydrologically normal year, 7.5 million acre feet are allotted among the lower basin States (.3 to Nevada, 2.8 to Arizona, and 4.4 to California) with an additional 1.5 million acre feet allotted to Mexico and system losses.

The powerplant consists of 17 main Francis turbine generators and two Pelton Waterwheel station service units (one for each plant wing). The total plant capacity is 2,079 MW.

Hoover Dam is a concrete thick-arch structure, 726.4 feet high and 1,244 feet long at the crest. The dam and appurtenant structures contain 4.4 million cubic yards of concrete. Hoover Dam and Powerplant was the first major concrete thick-arch dam constructed by Reclamation. Water for generation is conveyed through four penstocks from four intake structures immediately upstream and contiguous to the dam. Spillway structures use eight 16 foot by 100 foot drum gates which provide for an additional 16 vertical feet of storage capacity in Lake Mead, the reservoir impounded upstream of the dam. Lake Mead is the largest Reservoir in the United States with a total storage capacity of 29.8 million acre-feet.