Physical Data

The Dam

Type: Arch gravity

Height: 726.4 feet (221.3 meters)

Crest length: 1244 feet (379.2 meters)

Crest width: 45 feet (13.7 meters)

Base Width: 660 feet (201.2 meters)

Volume of concrete: 3.25 million cubic yards (2.6 million cubic meters)

The Powerplant

Commercial generating units: 17

Station service units (to run dam and powerplant): 2

Nameplate capacity: 2080 megawatts (including station service)

Length (each wing): 650 feet (198 meters)

Width (each wing): 55 feet (16.8 meters)

Height (each wing): 75 feet (22.8 meters)

Lake Mead

Shoreline: 550 miles (885 kilometers)

Capacity: 28,254,000 acre-feet (34.85 billion cubic meters)

Maximum depth: 498 feet (151.4 meters)

Surface Area: 156,800 acres (63,455 hectares)

Length when full: 110 miles (177 kilometers)

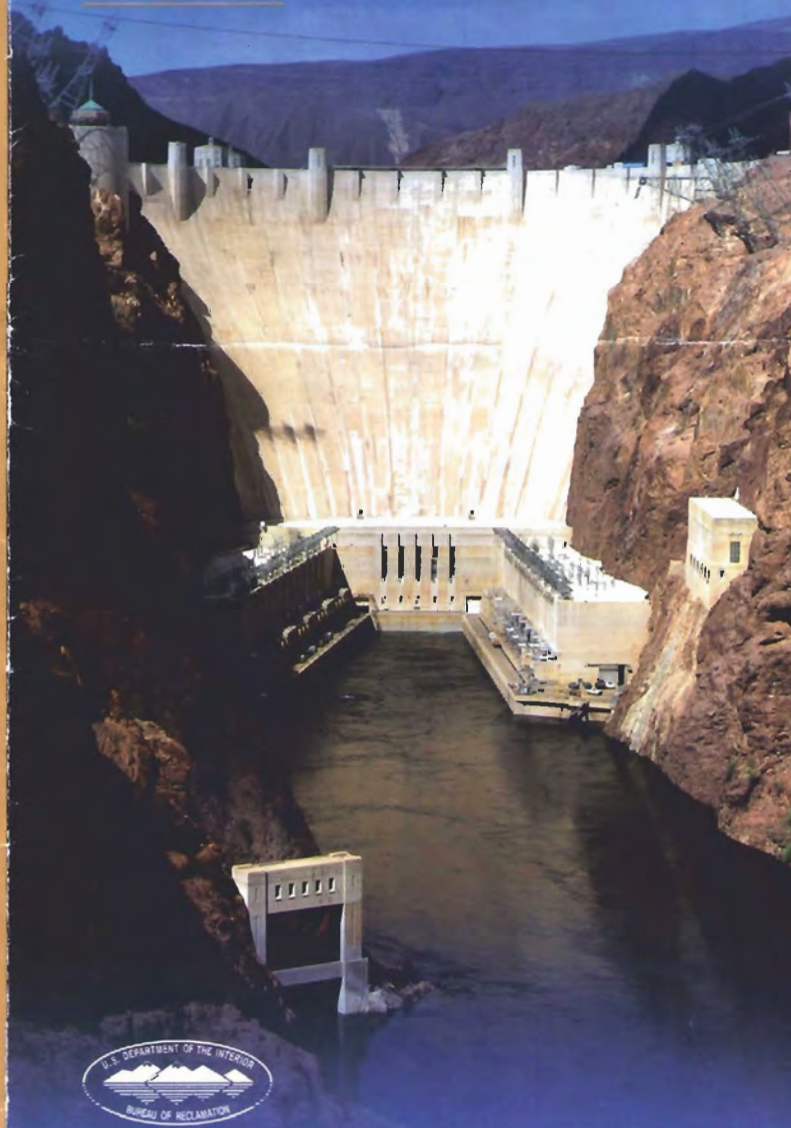
All figures are for the reservoir at the top of conservation storage - elevation 1219.6 feet MSL (368.7 meters)

RECLAMATION

Managing Water in the West

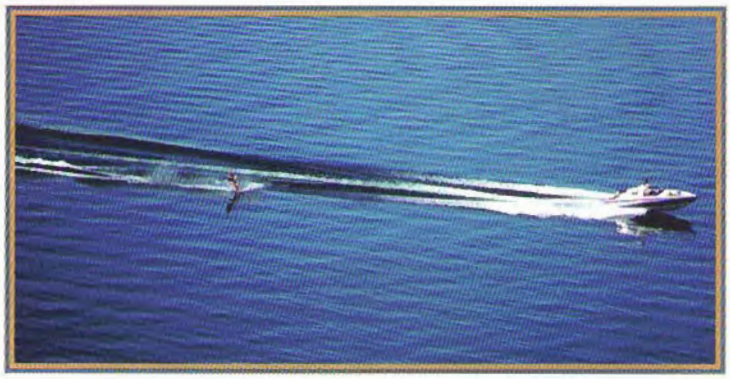
HOOVER DAM

English



U.S. Department of the Interior
Bureau of Reclamation

users; Arizona contractors receive 19 percent, and Nevada users get 25 percent. Revenues from the sale of this power pay for the operation and maintenance of the powerplant, as well as replacement of many of its aging parts.



Recreation, although a by-product, constitutes a major use of the lakes and controlled flows created by Hoover and other dams on the lower Colorado River today. The lake and surrounding area are administered by the National Park Service as part of the Lake Mead National Recreation Area, which also includes Lake Mohave downstream from Hoover Dam. This has become one of America's most popular recreation areas, with a 12-month season that attracts more than nine million visitors each year for swimming, boating, fishing, and other water-related sports.

Several wildlife refuges and backwaters have been developed along the lower river to replace habitat lost with construction of dams. River water is provided to these facilities, which create important habitat for native and introduced species. The river is also operated to the extent possible to protect native fish species and help them recover in population.

THE HOOVER DAM "MYSTIQUE"

More than half a century has passed since Hoover Dam rose from the bed of the Colorado River, but there appears to be no end to peoples's fascination with this awe-inspiring achievement. Although more modern dams are taller or generate more power, Hoover continues to lure millions of visitors from across the nation a around the world.

This man-made wonder has also provided a unique setting for film makers and producers through the years, and continues to draw national and local film, public te evision and advertising companies attempting to explai its essence and magnificence or use it as a product back drop. The ongoing world-wide exposure of the dam co tinues to bring an increasing number of sightseers to to it and its powerplant. Yearly visitor totals now exceed one million, and on some busy days, over 5,000 people take the tour.

Bureau of Reclamation guides conduct Hoover Dam tours daily except Christmas and Thanksgiving Days. visitor center that opened in 1995 features audiovisual and theater presentations, and interactive multi-media exhibits. An overlook on top of the visitor center provides an awe-inspiring view of the dam, Lake Mead, a Black Canyon below the dam.

FOR MORE INFORMATION :

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1-702-494-2517
www.usbr.gov/lc/hooverdam

MISSION

The Bureau of Reclamation's mission is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

January 2006

BEFORE HOOVER DAM

For millions of years, the Colorado River flowed along a 1400-mile course from Colorado's Rocky Mountains to the Gulf of California, carrying water through the arid lands of the American West. As early as 600 A.D. humans worked to harness its water for their use, and in the years of Western settlement, growing populations came to rely increasingly on its waters for sustenance.

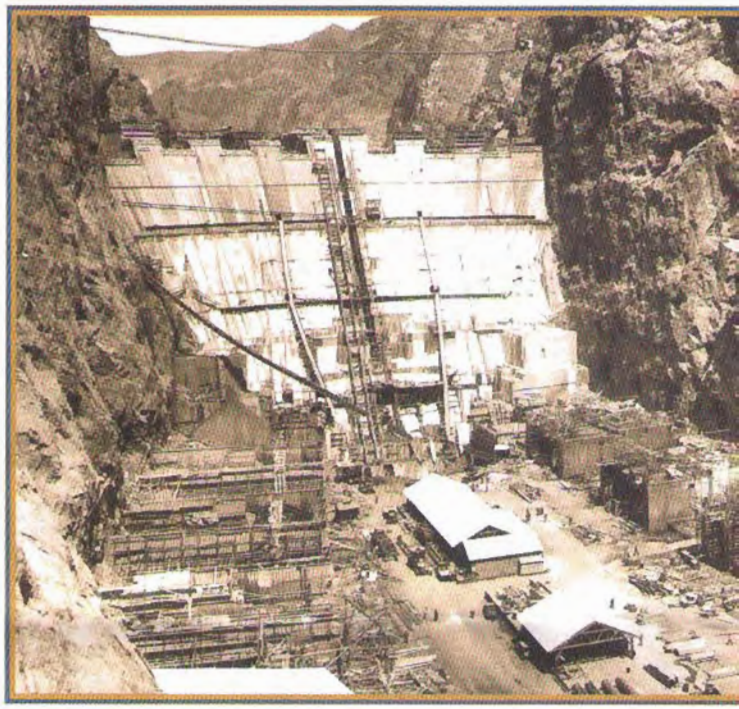
In the 1800s and early 1900s, the river often flooded low-lying farmland and communities in the spring and early summer as it surged with water from melting snow. In late summer and early fall, it often dried to a trickle, too low to divert. To protect the low-lying lands from flooding, and to assure a stable, year-round water supply, the river needed to be controlled.

But before the river could be managed, its waters had to be equitably divided among the seven states it serves. In 1922, a representative from each state and the federal government met for this purpose and created the Colorado River Compact. Signed in November 1922, this agreement divided the Colorado River Basin into an upper and lower half, and gave half of the river's annual estimated flow to each basin. Division of each basin's apportionment was left to the states in that basin. (Mexico did not receive a guaranteed apportionment until the execution of the Mexican Water Treaty in 1944.)

AN ENGINEERING WONDER

The Compact paved the way for the construction of several storage dams and delivery facilities on the Colorado River, and in 1928, Congress passed the Boulder Canyon Project Act, authorizing construction of Hoover Dam.

Construction of Hoover Dam began in 1931, and the last concrete was poured in 1935. Even with the remote location and some of the harshest working conditions, the government's contractor - Six Companies Inc. - completed the project two years ahead of schedule and well under budget.



Hoover Dam was without precedent, the greatest dam of its day, and it still is a world-renowned structure. Located in Black Canyon near Las Vegas, Nevada, the dam is a National Historic Landmark, National Historic Civil Engineering Landmark, and one of America's Seven Modern Civil Engineering Wonders. In 1999, it was named the number five construction achievement of the 20th century. Technical innovations developed during the dam's construction transformed several traditional engineering methods, setting a precedent for future large construction projects.

President Franklin D. Roosevelt dedicated the dam on September 30, 1935. The powerplant wings were completed in 1936, and the first generator began operation in October of that year. The 17th and final generator went into commercial operation in 1961. Hoover Dam's reservoir, Lake Mead, is America's largest man-made reservoir. Named for Reclamation Commissioner Dr. Elwood

Mead, it can store 28.5 million acre-feet (9.2 trillion gallons!) of water, or nearly two years of the river's average annual flow. (An acre-foot of water would cover a football field to a depth of one foot.)

Hoover Dam is named for Herbert Hoover, the 31st President of the United States. (It has also been called Boulder Dam; the name Hoover Dam was made permanent by Congress in 1947.) President Hoover strongly supported construction of a high concrete dam on the Colorado River to control its flows, provide irrigation water to nearby farmlands, and provide a dependable supply of water for southern California communities. He advocated that the Boulder Canyon Project be self-supporting, financed entirely through the sale of hydroelectric power generated at the dam. To this day, the operation and maintenance of the facility continue to be solely supported with revenues from power sales.

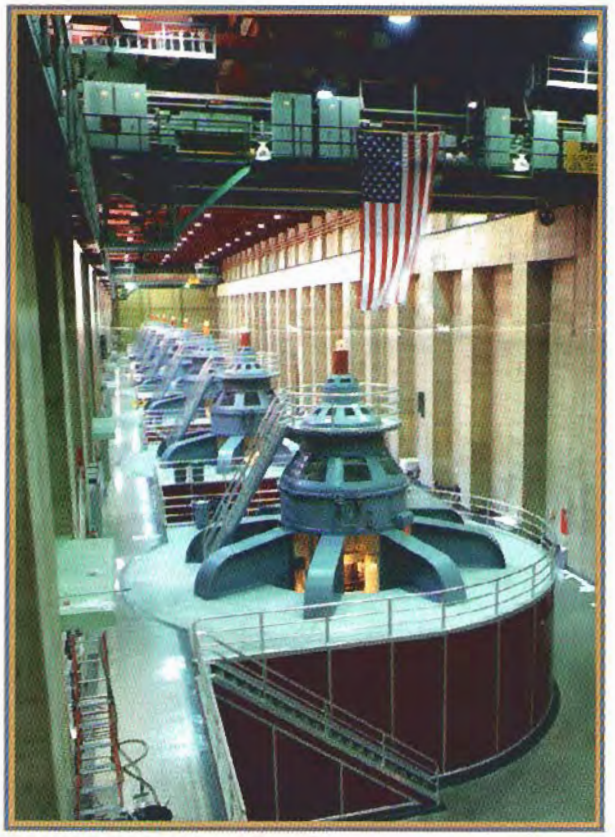
MULTI-PURPOSE BENEFITS

The Boulder Canyon Project Act authorized Hoover Dam for: "flood control; improvement of navigation and regulation of the Colorado River; storage and delivery of Colorado River waters for reclamation of public lands and other beneficial uses exclusively within the United States; and hydroelectric power production." The water storage and river control provided by Hoover and downstream projects enable residents of the Southwest to use the waters of the lower river for many purposes:

Irrigation of more than one million acres of some of America's richest crop lands and nearly half a million acres in Mexico. These lands grow a wide variety of fruits, vegetables, cotton and hay throughout the year, generating millions of dollars for local economies.

Meeting the domestic water needs of more than 20 million people in Las Vegas, Los Angeles, San Diego, Phoenix, Tucson, and other southwestern cities, towns and Indian communities in Arizona, Nevada, and California.

Generation of low-cost hydroelectric power for use in Nevada, Arizona, and California. Hoover Dam alone generates more than 4 billion kilowatt-hours a year - enough to serve 1.3 million people. From 1939 to 1949, Hoover Powerplant was the world's largest hydroelectric installation. Between 1982 and 1993, the powerplant was uprated, using funds advanced by the dam's power customers. The uprating increased the dam's rated capacity from 1.3 to just over 2.0 million kilowatts. Today, it is still one of the country's largest hydroelectric power facilities.



The Boulder Canyon Project's original $165 million cost has been repaid, with interest, to the Federal Treasury through the sale of Hoover Dam power. This energy is marketed by the Western Area Power Administration to 15 entities under contracts which expire in 2017. Most of this power, 56 percent, goes to southern California