

Hoover dam argumentative essay



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The Hoover Dam Hoover Dam, also known as Boulder Dam, is a concrete dam built in the Black Canyon of the Colorado River.

It was built on the border between the states of Arizona and Nevada and it also crosses the border between two time zones, the Pacific Time Zone and the Mountain Time Zone. When it was completed in 1935, it was the world's largest electric power producing facility and the world's largest concrete structure. The dam is located about 30 miles southeast of Las Vegas. It is named after Herbert Hoover, who played a key role in its construction, first as the Secretary of Commerce and then as the President of the United.

Construction of the dam started in 1931 and was finished in 1935, which was more than two years ahead of schedule. After many years after construction, Hoover Dam was officially called a national historical landmark in 1985.

Behind the dam lies Lake Mead. This is the reservoir created behind the dam and was named after Elwood Mead, who oversaw the construction of the dam. The Start of the DamA commission was formed in 1922 with a representative from each of the southern states and one from the government. The federal representative was Herbert Hoover who was Secretary of Commerce at the time. In January of 1922, Hoover met with the governors from Arizona, Nevada, California, Colorado, Utah, New Mexico and Wyoming to work out an arrangement for dividing the water of the Colorado River. This resulted in the Colorado River Compact which was signed on November 24th, 1922.

The compact divided the river in to two halves; an upper basin and a lower basin. The states within each region were the ones who decided how the

water would be divided. This agreement, known as the Hoover Compromise, is what sparked the idea for the Boulder Dam Project. The first attempt to get Congressional approval for construction of Boulder Canyon Project was in 1922. Two bills were introduced to the House of Representatives and to the Senate.

These bills were introduced by Congressman Phil Swing and Senator Hiram Johnson. It was known as the Swing-Johnson bills. The bills failed to get enough votes but were revised and resubmitted several times afterwards. Eventually the House and the Senate approved the bill and sent it to the President for approval. On December 21st, 1928, President Calvin Coolidge signed the bill approving the Boulder Canyon Project. The initial date for construction was made in July 1930, which by that time Herbert Hoover had become President.

The original plans had the site for the dam in Boulder Canyon, so the project was known as the Boulder Canyon Project. The dam site was later moved down the river eight miles to Black Canyon, but they decided to keep the original name for the project. The contract to make the Boulder dam was awarded to Six Companies, Inc. on March 11th, 1931, a combination of Morrison-Knudsen Company of Boise, Idaho; Utah Construction Company of Ogden, Utah; Pacific Bridge Company of Portland, Oregon; Henry J.

Kaiser & W. A. Bechtel Company of Oakland, California; MacDonald & Kahn Ltd. of Los Angeles; and the J. F. Shea Company of Portland, Oregon (Hoover Dam).

The Union Carbide Corporation was also involved with the project but they were only contracted to help with curing the concrete. Six Companies, Inc. as also hired to build a town called Boulder City for dam workers, but the start date for the dam was pushed forward in order to create more jobs in response to the Great Depression. Because of this the town was not ready when the first dam workers arrived. During the first summer of the construction, workers and their families were assigned to a temporary camp, which was later called Ragtown by the workers, while Six Companies continued to work on the Boulder City.

Workers upset with the camp in combination with dangerous working conditions at the dam site formed a strike on August 8th, 1931. Six Companies responded by sending in a riot squad with weapons like guns and clubs, and the riot quickly came to an end. But because of the strike it obvious to Six Companies that they needed to speed up the construction of Boulder City, and by the spring of 1932 the workers had left the camp sites and moved into Boulder City. To ensure that the job was finished promptly, gambling, drinking and prostitution were not permitted in Boulder City during the construction. To this day Boulder City is the only place in Nevada where gambling is not allowed. Boulder City also didn't sell until 1969 Construction of the Dam To keep the construction site from flooding, two coffer dams were created.

Construction of the upper coffer dam began in September 1932, even though the river had not yet been diverted. After the Arizona tunnels were completed and the river diverted, work on the dam was able to be done much faster. Once the coffer dams were in place and the construction site

was drained, excavation for the dam foundation began. Work on the foundation excavations was completed in June 1933.

During excavations for the foundation, it was estimated that 1, 500, 000 yd³ of material was removed from the site. In order to divert the river's flow around the construction site, four diversion tunnels were drilled through the walls of the canyon. Two of them were on the Nevada side and two on the Arizona side. These tunnels were dug out 56 feet in diameter.

Their combined length was nearly 16, 000 feet which is a little more than three miles. Tunneling began at the Nevada side of the canyon in May 1931. Shortly after, work began on two similar tunnels in the Arizona canyon wall. In March 1932, work began on lining the tunnels with concrete.

The concrete lining was 3 feet thick, making the finished tunnel diameter to 50 ft. Before construction began on the dam itself, the loose rock from the canyon walls needed to be removed. The men whose job it was removed this rock were called high scalers. While hanging from the top of the canyon with ropes, the high scalers climbed down the canyon walls and removed the loose rock with tools like jackhammers and dynamite. The first concrete was laid into the dam on June 6th, 1933. Since no structure of the size of the Hoover Dam had been constructed, many of the procedures and techniques used in construction of the dam had never been used before.

Since concrete heats up and contracts as it cures, uneven cooling and contraction of the concrete presented a serious problem. The Bureau of Reclamation engineers figured out that if the dam were built with a single, continuous pour, the concrete would have taken 125 years to cool. If it

wasn't done that way stresses on the dam would have caused it to crack and crumble. To fix this problem the dam was put together in a series of interlocking trapezoid shaped columns.

To ensure its integrity each pour was no more than six inches deep. Also because of this depth it was extremely unlikely that construction workers would accidentally be buried alive in the concrete. To help the concrete cool, each form contained cooling coils of 1 inch steel pipe. Water from the river was circulated through these pipes to help cool the curing concrete.

After this, chilled water from a refrigeration plant from the lower cofferdam was pushed through the coils to cool the concrete even more. After each layer had cooled enough, the cooling coils were cut off and covered. The concrete is still curing today and growing in strength as time goes on. There was enough concrete used in the construction of the dam to pave a two-lane highway from San Francisco to New York. There were 112 deaths that occurred during the construction of the Hoover Dam. There are different tales as to how many people died while working on the dam and who was the first and last person to die.

One of the more popular stories says that the first person to die in the construction of Hoover Dam was J. G. Tierney. Tierney was a surveyor who reportedly drowned while looking for an ideal spot for the dam.

Ironically, his son, Patrick W. Tierney, was the last man to die working on the dam. He died 13 years later on the same day his father died. Reports state that 96 of the deaths occurred during construction at the site. But those don't take into account a surveyor that died prior while looking for a

potential location for the dam and these statistics also do not include other deaths during construction such as heart attack, heat stroke, or carbon monoxide poisoning.

The Power of the Hoover Dam Inside the Hoover Dam are seventeen turbine-generators that generate a maximum of 2, 074 megawatts of hydroelectric power. Building for the powerhouse was carried out at the same time as the excavation for the dam foundation. Excavation for the U-shaped structure located at the toe of the dam started in November 1933. Generators at the Dam's Hoover Power plant began transmitting electricity from the Colorado River to Los Angeles, California which is 266 miles away on October 26th, 1936. More power generating units were added through 1961.

Water flows from Lake Mead through the gradually-narrowing tunnels to the powerhouse and reaches a speed of about 85 miles per hour by the time it reaches the turbines. All of the water of the Colorado River passes through the turbines. The spillways in the front of the dam are rarely used.

Hydroelectric power plants are able to vary the amount of power they make depending on the demand for electricity. The Architecture of the Dam The initial plans for the finished face of both the dam and the power plant consisted of a simple wall of concrete topped with a balustrade and a powerhouse that looked like an industrial warehouse. This initial design was criticized by many as being too plain and unremarkable for such a huge milestone, so Los Angeles-based architect Gordon B.

Kaufmann was brought in to redesign the exteriors of the dam. Kaufmann updated the look of the buildings, and applied an elegant style to the entire

project, with sculptured turrets rising from the dam face and clock faces on the intake towers set for Nevada and Arizona time, in the Pacific and Mountain Time zones. But because Arizona does not use daylight saving time, the two clocks show the same time for most of the year. Just Passing Through The Hoover Dam is also used as a crossing over the Colorado River for U. S.

Route 93. The two lane road that approaches the dam is narrow and has many dangerous turns. Also after the September 11th, 2001 terrorist attacks, there were significant security concerns. Because of the attack, the Hoover Dam Bypass project was sped up to improve track flow. The Hoover Dam Bypass is to be completed in the year 2010 and will divert US 93 traffic about 1, 500 feet downstream of the dam.

The dam will still be used as a crossing. The bypass will be a composite steel and concrete arch bridge, and will be named the Mike O'Callaghan-Pat Tillman Memorial Bridge. Traffic across Hoover Dam at the moment is restricted. Some types of vehicles such as RVs, covered bed trucks and SUV's are inspected before they are allowed to cross the dam.

Some vehicles like semi-trailer trucks, buses carrying luggage, and enclosed-box trucks over 40 feet are not allowed on the bridge at all. This traffic is diverted south to a Colorado River crossing. Where Does the Energy Go? The energy produced by the dam is divided up among three states; Arizona, California, and Nevada. The energy generated from the dam is divided as such (Table from Hoover Dam). AreaPercentage Arizona18. 9527% Nevada23.

3706% Metropolitan Water District of Southern California
28. 5393% Burbank, CA
0. 5876% Glendale, CA
1. 5874% Pasadena, CA
1.

3629% Los Angeles, CA
15. 4229% Southern California Edison Co.
5. 5377% Azusa, CA
0.

1104% Anaheim, CA
1. 1487% Banning, CA
0. 0442% Colton, CA
0. 0884% Riverside, CA
0.

8615% Vernon, CA
0. 6185% Boulder City, NV
1. 7672% Other Interesting facts (Hoover Dam)
• Construction period: April 20th, 1931 - March 1st, 1936
• Construction cost: \$49 million. This would be about \$676 million today
• Deaths attributed to construction: 112; 96 of them were at the construction site
• Dam height: 726. 4 ft.

this makes it the second highest dam in the United States only to the Oroville Dam
• Dam length: 1244 ft
• Dam thickness: 660 ft at its base; 45 ft thick at its crest.
• Concrete: 4. 36 million yd?
• Electric Power produced from the water turbines: 2, 080 megawatts
• Traffic across the dam: 13, 000 to 16, 000 people each day, according to the Federal Highway Administration
• Lake Mead (full)
o Area: 157, 900 acres, backing up 110 miles behind the dam.
Volume: 28, 537, 000 acre feet at an elevation of 1, 221.

4 feet.
• With 8 to 10 million visitors each year, including visitors to the Hoover Dam, the Lake Mead National Recreation Area is the fifth busiest U. S. national park.

The Story Behind the Name The dam, originally planned for a location in Boulder Canyon, was relocated to Black Canyon for a better construction
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site, but was still known as the Boulder Dam project. Work on the project started on July 7th, 1930. On the official beginning of the project on September 17th, 1930, President Hoover's Secretary of the Interior Ray L. Wilbur, said that the new dam on the Colorado River would no longer be named Boulder Dam but instead be named Hoover Dam to honor the then President of the United States. Wilbur wanted to follow long-standing tradition of naming important dams after the president who was in office when they were built, which is why we have the Wilson Dam and the Coolidge Dam.

Also, Hoover was campaigning for re-election and wanted credit for creating jobs during the depression. A Congressional Act of February 14th, 1931 finally made the name Hoover Dam official. In 1932, Hoover lost the race for the presidency to Franklin Delano Roosevelt and failed to be reelected. In his memoirs, Hoover wrote about stopping by to see the construction of the dam at night, on his way back to Washington after his loss.

He wrote, " It does give me extraordinary pleasure to see the great dream I have so long held taking form in actual reality of stone and cement. It is now ten years since I became chairman of the Colorado River Commission.... This dam is the greatest engineering work of its character ever attempted by the hand of man.

He went to conclude by saying, " I hope to be present at its final completion as a bystander. Even so I shall feel a special personal satisfaction. " (Hoover Dam) When Roosevelt took over the office on March 4th, 1933, he had Harold Ickes with him who replaced Ray Lyman Wilbur as Secretary of the

Interior. Ickes wasted no time in removing Hoover's name from the Boulder Canyon Project. On May 8th, 1933, Ickes issued a letter to the Bureau of Reclamation, which was in charge of the dam, saying, " I have your reference to the text for the pamphlet descriptive of the Boulder Canyon Project for use at the Century of Progress Exposition.

I would be glad if you will refer to the dam as Boulder Dam in this pamphlet as well as in correspondence and other references to the dam as you may have occasion to make in the future. "(Hoover Dam) This change in the name of the dam did not happen right away, but over the several years, the title of Hoover Dam in all documents and tourist and other promotional materials were removed and changed to Boulder Dam. After Roosevelt died in 1945 and Harold Ickes had retired from his position in 1946, California Congressman Jack Anderson made a bill to restore the name Hoover Dam. Anderson's resolution passed on March 6th and on April 30th, 1947, President Harry S. Truman signed the law which stated: " ...the name of Hoover Dam is hereby restored to the dam on the Colorado River in Black Canyon constructed under the authority of the Boulder Canyon Project Act ... Any law, regulation, document, or record of the United States in which such dam is designated or referred to under the name of Boulder Dam shall be held to refer to such dam under and by the name of Hoover Dam.

(Hoover Dam) Afterwards, Hoover wrote in his journal " Responding to a suggestion from Hiram Johnson, and with his characteristic attitude, Secretary Ickes changed the name of the dam. The hint in the above address that I should like to be present did not secure me an invitation to the dedication ceremonies conducted by President Roosevelt. I have never

regarded the name as important. The important thing is a gigantic engineering accomplishment that will bring happiness to millions of people. In 1947, the Congress, by practically unanimous action, restored the name Hoover Dam — to Mr. Ickes intense indignation.

" (Hoover Dam) Work Cited Building Hoover Dam: An oral history of the Great Depression, Lee, RA. Journal of the West; Fall 2003. Vol. 42, Issue 4; p.

101-101 Construction of Hoover Dam, United States, Bureau of Reclamation

Hoover Dam From Wikipedia; http://en.wikipedia.org/wiki/Hoover_Dam.

Hoover Dam and Boulder City, by Marion V. Allen.

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