

A Dam Fine Day

By Dan Keppen

Executive Director

Family Farm Alliance

What is the most significant structure that has ever been built in the United States?

My vote, hands down, is Hoover Dam, the U.S. Bureau of Reclamation's most magnificent structure, and the first of the world's truly great dams.

Last week, after participating in a public workshop hosted by Reclamation in Las Vegas, a few friends and I were treated to a rare, behind-the-scenes tour of the nearby dam, a long-time wish of mine. It was an afternoon that I will never forget.

Our escorts on this adventure were not your typical tour guides. Tim Ulrich is Reclamation's area manager, and his office straddles the Arizona-Nevada state line, located at the downstream base of the dam. Our other guide was Bob Johnson, Reclamation's director for the Lower Colorado Region.

Hoover Dam is perhaps the most recognizable concrete gravity arch dam in the world. It is 726.4 feet in height from bedrock to the roadway, and 1,244 feet between the canyon walls at its widest point. There is enough concrete in the dam to pave a three-inch thick, 18-foot wide highway from San Francisco to New York City.

We first approached the dam overlook from the west side of Boulder Canyon. Looking down at the dam and the cobalt waters of the Colorado River was dizzying and dazzling. For a few minutes, our group just observed in silence.

Bob escorted us into an elevator that took us from the sidewalk on the dam's south crest down, down, to Tim's office. Tim spent the next two hours with us as we toured the Arizona powerhouse, followed a tunnel into the canyon wall to view one of four penstocks (each 30 feet in diameter, big enough for a locomotive to pass through), and, for the highlight of the trip, ascended into the dam itself. At one point, about halfway up the height of the dam's interior, we were led into a narrow ventilation shaft that opens directly on the downstream face of the dam. Feeling a bit shaky, I stuck my camera at arm's length through the shutters at the end of the shaft and took a picture of the churning river and powerhouses, hundreds of feet below.

A few minutes later, we were led through a labyrinth of corridors to a platform located in the interior of the dam, at the junction of two very steep stair ladders slanting up and down hundreds of feet into the darkness. Standing in the midst of such a large structure, knowing that Lake Mead was stacked up hundreds of feet behind the concrete mass, was a bit unsettling. I couldn't imagine having to traverse that steep staircase for a living. We all felt some relief as we headed back to Tim's office to conclude our tour.

Awe is a word that comes to mind when you walk through this amazing facility, mostly because of the sheer magnitude of the place. Inside the Arizona powerhouse, my jaw dropped when I saw the ten giant generators, which were housed in a wing along the canyon wall that extends 650 feet (about two city blocks) with a roof over eight stories high. The generators themselves stand seven stories, and the main generator floor is another 30 feet above that.

The Hoover complex is considered to be one of the seven civil engineering wonders of the world, and the power and water that it provides are critical to the Southwest economy. However, the structure captures the eye of many because of its architectural beauty. The seamless white curve of the dam has formed the backdrop for hundreds of movies and TV shows. Things are pretty impressive inside, too, where the terrazzo floors still retain their cut and polish seventy years after they were installed.

The incredible condition of this facility and the marked durability of its performance, are a testament to the engineers who designed it and the Depression-era men who built it. Later generations of Reclamation employees deserve kudos for maintaining Hoover to its present mint-like condition.

Perhaps the most amazing thing to consider about Hoover Dam is that construction took less than five years, and was completed ahead of schedule and under budget, during the midst of the Great Depression.

In this day and age, the environmental permitting and litigation alone for such a project would probably take at least twice that time.

The reality is, today Hoover Dam probably would not even make it to the drawing board, since it's far more politically correct to tear down dams than build new ones. And it is infinitely easier for some to regard agriculture as "the reservoir" that will provide all the water necessary to meet growing urban and environmental needs. Water currently used for agriculture can be freed up for other uses by buying out farmers or forcing them to surrender their supplies through regulatory means. Best of all, this water can be "developed" without building dams, right?

But I digress. For a brief few hours in Boulder Canyon, I reveled in the fascination of witnessing one of the greatest construction achievements in history. All in all, it was truly a dam fine day.