



## Case Study

### Pressure Reducing Valve Helps Protect the Largest Hydroelectric Dam in United States

#### Background

The Grand Coulee Dam, the largest hydroelectric dam in the United States, has been delivering water and power to the western states since its construction was completed in 1941. Located on the Columbia River in Washington, this critical facility relies heavily on its fire suppression system to ensure safety and uninterrupted operations.

For over 30 years, a 6-inch OCV Model 127-3 pressure reducing valve played a crucial role in the fire suppression system at the dam's Left Powerhouse. Until the 1980s, the valve had been reliably safeguarding the transformers. But, after three decades of service, officials at the Bureau of Reclamation decided it was time for a replacement. Instead of overhauling the dam's aging plumbing system, they opted to replace the valve with an identical model from OCV Control Valves, to maintain consistency and performance.

#### Challenges     Minimizing downtime during valve replacement

Safety regulations prohibit the running of generating units without fire protection on the transformers. So, hydropower production had to be halted during the valve replacement process. Ensuring swift, efficient installation was critical to minimize shutdown time while maintaining safety for the dam and its surrounding areas.

#### Solution     Pre-set pressure reducing valve for quick installation

To expedite the replacement process, our team pre-set and tested the new valve to the required pressure before shipping it to the customer, ensuring that it would be ready for immediate installation. The Bureau of Reclamation team replaced the valve in less than one day, with just two hydro mechanics completing the task.

We also provided a duplicate valve as a precautionary measure to ensure continued safety and reliability. Both valves were delivered in three to four weeks, meeting the tight project timeline.



#### Results     Safety and reliability maintained with minimal disruption

The new OCV pressure reducing valve was installed with minimal downtime, leaving the Left Powerhouse without power for only a short period.

Aquestia's commitment to customer service and precision engineering will ensure that the Grand Coulee Dam will be able to maintain its critical role in providing water and power to the region for years to come.

#### Customer Perspective

"The entire project was a success," says Ty Murray, one of the hydro mechanics at the Bureau of Reclamation. "Being able to receive an identical valve to the original enables us to keep the dam generating power, without additional upgrades."