



Shotcrete Benefits

- Eliminated need for formwork
- Enabled access to restricted space and difficult-to-reach areas



The repaired bays utilize stanchions and flashboards to control flow.



The dam was built in the early 1900s, and the rehab was completed in just over two months.



Deteriorating concrete was removed, then replaced with new concrete using the shotcrete method.

Dimensions & Features

- Rehabilitation of 21 spillway bays
- Removed loose concrete with high-pressure (15,000 psi) power washing
- New concrete placed using the shotcrete method

Overview

After 100 years of operation, Holter Dam on the Missouri River was in need of some rehabilitation work.

NorthWestern Energy operates the dam's four-unit hydroelectric plant with a total generating capacity of 53 megawatts and hired Dome Technology to revitalize the spillway bridge.

The 1918 dam required rehabilitation of 21 of the spillway's bays, all of them with stanchions and flashboards controlling the flow. Dome Technology was tasked with repairing the concrete surfaces of the bridge structure.

"A lot of the existing concrete on the spillway bridge had experienced weathering and deterioration over the 100 years of use—that dam gets severe temperatures, wind, waves, and weather," said NorthWestern Energy senior engineer BJ Cope.

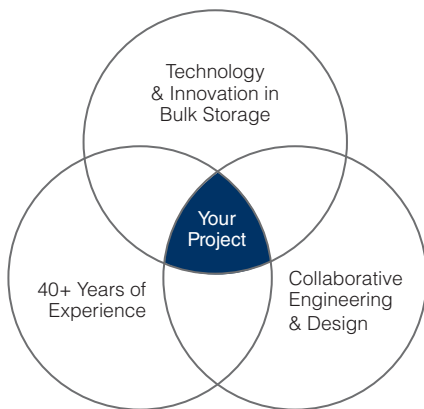
NorthWestern continually schedules projects like this to address acute issues and extend the useful life of its hydro facilities.

"With Holter, like our other facilities, we don't have a projected or anticipated end of life. We just hope to continue to maximize and extend the benefits this asset provides to the company, our shareholders, and the customers of Montana," Cope said.

The contract was signed in mid-summer, and work began the first of August with the goal of completion by November. Dome Technology's six-man crew wrapped up work the first week of October, thanks largely to a team with decades of experience in shotcrete.

Working on a dam can be dangerous, and establishing a solid plan beforehand is key to safety and efficiency, said project manager Jason Craig.

"For nearly four decades we've relied on a collaborative approach with companies—they're in the driver seat, and we help navigate. In every project Dome Technology incorporates innovative technology to maximize system performance with an economical solution," Bradley Bateman, CEO, Dome Technology.



Read more about this project at link.dometechnology.com/16138