

GRANT COUNTY, WASH.

Specialized Crane

Repairs Dam

When inspectors discovered cracked thrust washers in the trunnion assemblies of Priest Rapids Dam in eastern Washington, they realized that each corroded assembly from the 22 spillway gates would need to be rehabilitated, and the bronze alloy materials would need to be replaced. (The dam provides flood control and fish passage through spillway gates into the Columbia River).

"To say the least, the process was very complicated," said



Dave Wood, president of Wheco Corp., Pasco, Wash., which finished the job this past February under budget and

more than 18 months ahead of the late 2005 finish date the state had projected. (The two-year completion time was actually less than one year because repairs were stopped each April to October to allow the district to spill water for fish passage, which is mandatory by the Washington Department of Fish and Wildlife.)

How did Wheco do it?

The company designed and manufactured a five-ton, four-legged, radio-controlled crane to travel up and down the spillway using electric-over-hydraulic power and reposition at each gate. The project required a versatile crane, explains Wood, that we could "strategically place it at different points and still accommodate traffic that uses the roadway across the dam"

With a footprint fitted to the dam, the crane was designed to reach about 60 feet, from the top of the spillway to the gate's trunnion. Using this gantry made the extraction of the trunnion assemblies easier than with a conventional crane (which would have blocked the road several hours a day.) Instead, it allowed traffic to pass unimpeded on the one-lane road over the dam. "Closing the road to work on the dam wouldn't have worked because it would shut down access to Wanapum Indian Village," Wood said.

As Wheco extracted each of the trunnion assemblies, it transported them to its repair shop for disassembly and component replacement. After the corrosion resistant materials and components were re-assembled and the trunnion materials rehabilitated, the 700-pound assemblies were trucked back to the dam for replacement.