

## **John Day Emergency Gantry Crane Replacement**

This project will replace the emergency intake gantry crane. The crane is a three hoist crane with a total capacity of 348 tons, with individual hoists rated at 175 tons. The crane operates on the powerhouse intake deck of the dam and is used to raise and lower gates and bulkheads in all weather conditions. The crane was placed into service in 1966. Most of the controls and parts are obsolete. Because it is located outside in the elements, it has the equivalent number of years of weathering which has resulted in component degradation and failure. Failure and degradation has been experienced across the full range of crane components - mechanical, electrical, control and structural. Along with the degradation there are a number of safety deficiencies with the crane and current crane operations.

There have been periods in the crane's history where it has received minimal maintenance, corrective actions and improvements. As the crane degraded and components began to fail, the components were repaired if possible or disabled and disconnected when repair was no longer feasible (generally due to parts availability). The anti-collision system, which prevents the crane from hitting the submerged travel screen (STS) crane or going off the end of the rails, has been disconnected for years. With the anti-collision system disabled, there have been at least four incidents where the crane has hit the STS crane, hit the trolley pole at the end of the track or traveled off of the rails. These incidents are costly in terms of repairs and delays. They also pose a safety risk to personnel in the area. The crane is also a critical piece of equipment if there is an emergency need to isolate a generating unit to prevent an over-speed condition. The inability to respond to an over-speed condition could result in a catastrophic failure. Replacing the crane will ensure compliance with the USACE Engineering Manual standard that all gates for a single unit can be closed simultaneously and within 10 minutes of initiation.