



## A Dam Good Job by Whiting

### Features and Benefits

Precise load control capability of the hoist motion

Meet new customer and federal safety requirements

On-site work and project management

**Industry Group:** Crane Manufacturers Association of America (CMAA)



### Application Overview

Whiting modernized two (2) 70 ton Gate House cranes and one (1) 150 ton Powerhouse crane which service a hydroelectric power plant located southwest of St Louis, MO. The modernizations were in order to meet new stringent owner operational policies and the Federal Emergency Management Agency's (FEMA) National Dam Safety Program. Although original factory installed crane controls (circa 1930's) were in good condition, modernization considerations called for replacing the existing motors and controls to meet new operational requirements.

### Problem

FEMA required installation of a new control system with precise hoist load control capability to help prevent damage to the spill gates. The gates became frozen in place over time, resulting in extreme lifting force which thereby snapped the gate pivot bearing and distorted the gate structure.

FEMA also required an onboard 40KW backup propane-fueled generator for supplying power to the cranes if primary power is lost.

### Solution

Whiting Corporation, joined by Whiting Services, Inc., installed new motors and VFD controls for the hoist, bridge and trolley motions. These new drive systems provided the necessary load control to achieve all load limiting requirements.

Other safety and control system upgrades included: radio/cab modes allowing single or dual motion functions; an anemometer (wind speed indicator) alarm; anti-collision, hard-wired festoons; ground level emergency stop stations; and new 1000 watt metal halide area lights for night time work activities.

Whiting reviewed the original engineering drawings and calculations in order to provide viable solutions. Other enhancements included: eliminating the original single motor bridge drive along with over 80 feet of line shaft; bevel gear reducer; and support bearings in favor of compact, twin drive motor reducers at the wheels.



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