

# Project Profile – McAlpine Locks and Dam

Client: US Army Corps of Engineers  
Project Description: Process Video Systems

McAlpine Locks and Dam is located near the Falls on the Ohio River at Louisville, Kentucky. The dam portion of the structure is unique as it stretches from bank to bank in the shape of the letter "Z". It is also the only project on the entire 981-mile stretch, of the Ohio river, that was located to provide passage around a natural barrier, (the falls). Do to its unique positioning and the consequential environmental conditions, the site has become a favorite for local fisherman. When the dams (tainer gates) are closed the waters directly beneath the dam become quite shallow tempting the fisherman to wade out. When the gates are raised to adjust the lock water height, persons in the river could be caught in the rush of water and carried downstream. An environmental closed circuit television system was engineered and installed by AES Systems that would allow the gate operator, located over a mile down river, to view these critical areas before raising the gates. It also allowed for visual identification of oncoming tows several miles before arrival. Signals from the upriver cameras are delivered to the control house by microwave transmission. Signals from the lock and down river cameras are transmitted by fiber optics.



## Equipment installed:

Monitoring equipment located in operations building on the lock:

- Matrix switching and control system
- Time Lapse recorder
- Pan/tilt/zoom control keyboard

Upper Dam:

- Remote matrix switcher
- Nitrogen pressurized cameras with remote controlled pan, tilt, zoom, and pre-sets
- 23G microwave link with data sub-carriers for camera, switcher, and PLC control

Lower Dam:

- Remote matrix switcher
- Nitrogen pressurized cameras with remote controlled pan, tilt, zoom, and pre-sets
- 23G microwave link with data sub-carriers for camera and switcher control

Lock:

- Nitrogen pressurized cameras with remote controlled pan, tilt, zoom, and pre-sets
- Fiber optic cable and video/data transceivers

