

IVC APPLICATION NOTE:

Hydro-Electric Dam Monitoring

After a large, multi-national power company acquired two hydro generation facilities on dams in upstate New York, it installed IVC video systems to achieve efficiencies in the management of the hydroelectric generating facilities.



The dams are about a half-mile apart on the same river. Given the relatively small size of the hydro facilities, 10-50 MW, the company put a priority on reducing operating costs. Cost savings and operating efficiencies were achieved by using IVC camera systems to monitor the facilities both on-site and remotely by staff located sixty miles away at a co-generation plant the company also operates.

Shortly after taking over the operation of the two hydro sites, the company installed an IVC, four-camera Relay Server at each site, and a total of seven video cameras. The Relay Servers and cameras were connected by fiber optic cable, and the connection to the outside world is through a T-1 line at one of the sites. The cameras included both indoor and outdoor pan-tilt with a high zoom lens, and fixed cameras. Outdoor cameras were positioned to view the river level, ice flows, and the trash racks that catch trees and limbs at the intakes. Cameras were also positioned to view critical equipment both indoors and outdoors including generators, turbines, and hydraulic power units. To take advantage of IVC's powerful zoom, gauges were turned in the direction of the camera so they could be read remotely. Sixty miles away, at the company's co-generation plant, authorized staff could view all cameras over the Internet by just using a browser and password access.

“Using the IVC cameras to monitor the dams and generating facilities is certainly an asset that has allowed us to operate at lower cost.”

The IVC camera system is being used locally at the hydro facilities on a 40 hour per week schedule where staff can quickly respond to alarms and view all aspects of the operation. On nights and weekends, monitoring of the facilities is taken over by the staff at the co-generation facility sixty miles away. In addition to the savings in staff at the hydro sites, the camera's ability provide high quality images that can be easily and accurately controlled remotely means that when operational up-sets occur, they can be evaluated and resolved without a trip to the site.

