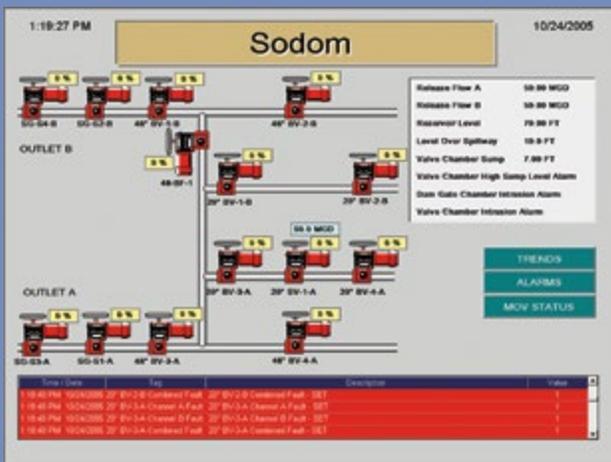




Customer Success Story

## New York Reservoirs and Dams Westchester County, NY

New Croton Dam in Westchester County, NY  
Holds up to 19 billion Gallons of Water



Main Control Screen at Sodom Dam

*“GENESIS32 is being used to help ensure a primary source of water for millions of people in New York City.”*

**Gabe Hauer**  
Advantech Corporation

### ICONICS Software Deployed

NYCDEP, through the suggestion of system integrator, Advantech Corporation, selected ICONICS’ GENESIS32 Web-enabled, OPC-integrated HMI/SCADA suite to perform the various control and monitoring tasks at each separate dam and reservoir location.

### Project Summary

The New York City Department of Environmental Protection began a project in the early 2000s to monitor and control water levels in a number of dam-reservoirs throughout the New Croton Aqueduct. Each reservoir/dam has its own separate control room, containing its own instrumentation and controls. Advantech was selected to provide autonomous PC-based automation of the water level monitoring and control and, in turn, recommended ICONICS’ industrial automation software.

The project involves communication with a series of valves and gates within the reservoirs, each connected to an actuator. NYCDEP mandated in its project specification that the actuators for the valves and gates communicate via MODBUS protocol. The agency also required that MODBUS communicate throughout each

### About New York Reservoirs and Dams

Over eight million residents and visitors of New York City depend upon a combination of tunnels, aqueducts, dams and reservoirs located throughout New York State for their water needs. Three separate systems comprise the water supply for the city, including the Catskill System, the Delaware River System and the Croton System. In recent years, the New York City Department of Environmental Protection (NYCDEP) has taken on a project to expand and modernize the Croton System, including the use of automated monitoring and control of dams and reservoirs within the Croton System, including Croton Dam, Croton Diverting Dam, Sodom Dam, Bog Dam and Middle Branch Dam.

reservoir/dam's control system in a loop, something for which MODBUS wasn't designed to do natively.

Two PLCs (Schneider Electric) are attached to each valve to connect into the looped system, and are networked via Ethernet to the GENESIS32 HMI/SCADA system. Advantech designed the system so the actuators could be controlled via each reservoir/dam's master station control.

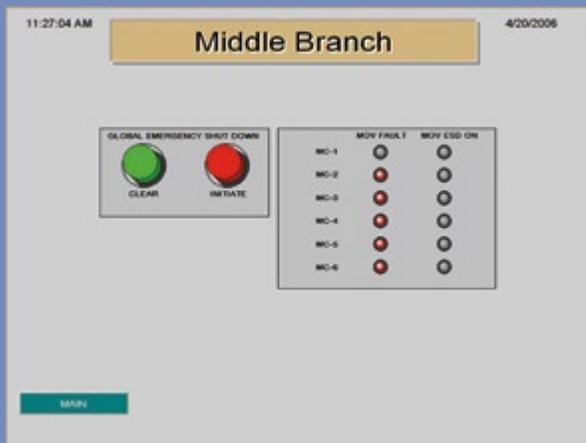
### Key Features

ICONICS' GENESIS32 HMI/SCADA is installed at each separate reservoir/dam control room on a dedicated function industrial PC. The software has been set to collect historical data and run without on-site interaction

### Benefits of the System

GENESIS32 met NYCDEP's requirements in modernizing its reservoir/dam monitoring and control due to:

- Integration with multiple communication protocols and technologies such as MODBUS and Ethernet
- Monitoring of standalone applications, such as remote water level control rooms
- PC-based HMI/SCADA (whether industrial or traditional) and integration with Microsoft operating systems and applications



*A Status Screen at Middle Branch Reservoir, Part of the Croton Water System in New York*



*Water from the New Croton Reservoir Travels 24 Miles Before Entering NYC Via the Bronx*

over set periods of time. It also ties in seamlessly with the PC's operating system (Windows XP) and database software (SQL Server). GENESIS32 can be monitored remotely, where operators can get detailed visualization of data related to:

- Valve Actuator Status
- Electric-related Activities
- Motor-related Activities
- Water Levels
- Water Pressure

### Conclusion

NYCDEP's Croton System reservoir/dam project is still ongoing, with GENESIS32 installed at six fully operational control room sites and two currently in process (as of May, 2009). ICONICS is honored to be selected in ensuring an adequate water supply for one of the most populous cities on Earth.